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1.0 DESCRIPTION OF PROJECT AREA

As explained in **Attachment 1**, PPL Electric Utilities Corporation (“PPL Electric”) is seeking approval from the Pennsylvania Public Utility Commission (“PUC” or the “Commission”) to rebuild the existing single-circuit Breinigsville-Alburtis 500 kV Transmission Line to a double-circuit configuration (the “Project”). The Breinigsville-Alburtis 500 kV Transmission Line extends approximately 6 miles from the existing Breinigsville 500-138-69 kV substation (“Breinigsville substation”) in Upper Macungie Township, Lehigh County, to the existing Alburtis 500-230 kV substation (“Alburtis substation”) in Lower Macungie Township, Lehigh County (the “Project”).

The rebuilt double-circuit Breinigsville-Alburtis 500 kV Transmission Line will be on the same structure alignment and in the same right-of-way (“ROW”) as the existing single-circuit Breinigsville-Alburtis 500 kV Transmission Line. The Project will require the replacement of 27 existing structures and the installation of two new structures. The Project will be constructed entirely within the existing ROW or on PPL Electric’s Breinigsville and Alburtis substation properties. A network of existing access roads or temporary roads will be utilized during construction of the rebuilt transmission line. A detailed map of the proposed rebuilt double-circuit Breinigsville-Alburtis 500 kV Transmission Line and associated structures are provided in **Figure 3-1**.

From the Breinigsville substation, the Project travels in a southwesterly direction through agricultural fields before turning sharply to the southeast and proceeding primarily across agricultural fields and adjacent to forested lands, but also through several residential areas before reaching the Alburtis substation as shown in **Figure 3-1**. The ROW for the Project is further described below:

- From the Breinigsville substation, the rebuilt 500 kV line will extend southwest approximately 1,200 feet using 2 new H-frame structures (Map 1, Structures 28B and 28C in **Figure 3-1**). The 2 new H-frame structures will be located entirely on PPL Electric’s substation property.
- From Structure 28C, the rebuilt 500 kV line will traverse 1,000 feet across PPL Electric property and onto an existing 375-foot wide ROW to a new two-pole angle structure (Map 2,

Structure 27 in **Figure 3-1**) that will be located entirely within the existing ROW and in close proximity to the existing two-pole angle structure.

- At the new two-pole angle structure (Structure 27), the rebuilt 500 kV line turns sharply south within an existing 200-foot wide ROW and extends 480 feet to a replaced H-frame structure (Map 2, Structure 26 in **Figure 3-1**) and then proceeds 1,020 feet to a replaced two-pole angle structure (Map 2, Structure 25 in **Figure 3-1**). Both structures will be located entirely within the existing ROW and in close proximity to the existing structures.
- At the two-pole angle structure (Structure 25), the rebuilt 500 kV line turns sharply southwest using an existing 200-foot wide ROW and extends approximately 820 feet to a replaced H-frame structure (Map 3, Structure 24 in **Figure 3-1**) and then proceeds 1,000 feet to a replaced two-pole angle structure (Map 3, Structure 23 in **Figure 3-1**). Both structures will be located entirely within the existing ROW and in close proximity to the existing structures.
- At the two-pole angle structure (Structure 23), the rebuilt 500 kV line turns slightly east and continues approximately 15,200 feet, using an existing 200-foot wide ROW, to an H-frame structure (Map 10, Structure 11 in **Figure 3-1**) that will be replaced by a new two-pole structure. The intervening H-frame structures (Map 3 to Map 10, Structures 22-12 in **Figure 3-1**) will also be replaced with new H-frame structures. All of the replacement structures will be located entirely within the existing ROW and in close proximity to the existing structures.
- From the new two-pole structure (Structure 11), the new 500 kV line turns more east within an existing 200-foot wide ROW and extends approximately 1,200 feet to a replaced H-frame structure (Map 11, Structure 10 in **Figure 3-1**) and then proceeds 1,200 feet to an H-frame structure (Map 11, Structure 9 in **Figure 3-1**) that will be replaced by a new two-pole structure. Both structures will be located entirely within the existing ROW and in close proximity to the existing structure.
- From the new two-pole structure (Structure 9), the new 500 kV line continues southeast approximately 9,300 feet, using an existing 200 to 350-foot wide ROW, to a single monopole structure (Map 16, Structure 1 in **Figure 3-1**) located at the Alburdis substation that will be replaced by a new two-pole structure. The intervening H-frame structures (Map 15 to Map 16, Structures 8-2 in **Figure 3-1**) will also be replaced with new H-frame structures. All of

the replacement structures will be located entirely within the existing ROW or on PPL Electric-owned property and in close proximity to the existing structure.

2.0 LAND USE

PPL Electric evaluated the existing land uses on the PPL Electric owned properties, within the existing 200-foot wide right-of-way, and within 0.25 mile (1,320 feet) of the right-of-way. This broader area was reviewed to provide a sense of the landscape in which the Project is located. Land uses were determined based on the 2011 National Land Cover Data (“NLCD”).

Assessment of the data shows that agricultural areas are the dominant land use, accounting for over 50% of the review area, with the primary component being cultivated crops. Forested areas bordering the Project right-of-way accounts for 30% of the review area. Low to moderate density development and associated open space is noted across 20% the review area.

Impacts to land use are anticipated to be minimal because the Project will be constructed within existing rights-of-way or within portions of lands owned by PPL Electric around each of the substations. The Project will be accessed by using the surrounding state and secondary roads at locations where they intersect the right-of-way. A few temporary access roads will be necessary outside the right-of-way to reach several structure locations. Where temporary access roads outside the right of way are necessary, PPL will obtain additional land rights from the property owners, as needed. PPL Electric will use and update previously established access roads within the right-of-way for construction to the extent practical to further reduce interference with existing land uses.

State and Conserved Lands

During evaluation for State-owned lands, no impacts were identified along the right-of-way. The Lehigh County Conservation District Interactive Watershed Map was utilized to identify one (1) farm preserved through the Lehigh County Farmland Preservation Program that is crossed by the

Project right-of-way. Three existing structures are located on this preserved farmland that will be replaced in generally the same location. Impacts to these conserved lands are anticipated to be minimal.

Airports

The Lehigh Valley International Airport is located approximately 12.5 miles northeast of the Breinigsville substation. PPL Electric does not anticipate any interference with airport operations because the Project is located in an area where there are existing electrical facilities and because the seven replacement poles and three new poles will be a similar height as the existing facilities. However, PPL Electric will comply with any applicable requirements of the Federal Aviation Administration and the Pennsylvania Department of Transportation, Bureau of Aviation.

Cultural Resources

PPL Electric is in the initial stage of coordination with the Pennsylvania Historical and Museum Commission (“PHMC”) for the construction of the new 500 kV line. This coordination is required as part of the approval process necessary to construct the Project and will be completed in the near future.

Based upon the response provided by PHMC, PPL Electric will perform any reviews and field survey/sampling work required to avoid, minimize, and mitigate impacts to archaeological or historic architectural resources that may be located within the Project area.

3.0 ENVIRONMENTAL FACTORS

Environmental factors reviewed for the Project included unique natural features, soils, waterways, wetlands, 100-year floodplains, vegetation, and threatened and endangered species.

Unique Natural Features

No unique geological, scenic, or natural areas are located within the Project review area.

Soils

Erosion and sedimentation control plans will be developed and implemented for the Project that will minimize the displacement of soils. These plans will require prior approval from the local county conservation district. National Pollutant Discharge Elimination System (“NPDES”) permits will be obtained from the Pennsylvania Department of Environmental Protection (“PADEP”), as needed. Any conditions of the NPDES permit will be adhered to as part of the construction process. As such impacts to local soil resources are anticipated to be minimal.

Waterways

The existing Breinigsville-Alburtis 500 kV Transmission Line spans four (4) mapped waterways as it extends from the Breinigsville substation in the northwest to the Alburtis substation termination point in the southeast.

Breinig Run, Schaefer Run, Little Lehigh Creek, and Swabia Creek have a PADEP designated classification of High Quality-Cold Water Fishes (“HQ-CWF”), which is an anti-degradation special protection classification for surface waters having quality which exceeds levels necessary to support propagation of fish, shellfish, and wildlife. These streams also have a PADEP designated classification of Migratory Fisheries (“MF”), which is an anti-degradation special protection classification for surface waters which provide habitat for the passage, maintenance and propagation of anadromous and catadromous fishes and other fishes which move to or from flowing waters to complete their life cycles in other waters. Additionally, all of these streams are also classified as Wild Trout (Natural Reproduction) Streams, which are flowing waters in Pennsylvania that support naturally reproducing populations of trout. Little Lehigh Creek and Swabia Creek are Approved Trout Streams (stocked).

These streams currently are spanned by the existing single-circuit Breinigsville-Alburtis 500 kV Transmission Line and will be spanned by the Project. No permanent impacts to these streams are anticipated since no new culverts or bridges will be required. Construction activities will be conducted using a state approved erosion and sedimentation control plan to minimize the effects of stormwater runoff. PPL Electric will obtain all approvals and permits necessary for the construction of the Project and will comply with any conditions placed on those permits.

Wetlands

Based on review of the U.S. Fish and Wildlife Service’s (“USFWS”) National Wetlands Inventory (“NWI”), the existing Breinigsville-Alburtis 500 kV Transmission Line right-of-way crosses several wetland systems. These systems are characterized as palustrine emergent (“PEM”), palustrine forested (“PFO”), and palustrine open water (“POW”) wetlands.

The NWI only provides a general overview of the potential wetlands that may be located within an area. For federal and state permitting purposes, the wetlands and waterways within the Project area were delineated, surveyed, and illustrated according to regulatory standards. Five (5) wetlands were field identified within the Project right-of-way. All of these wetlands are classified as PEM wetlands.

PADEP Chapter 105 (Dam Safety and Waterway Management) regulations stipulate that wetlands located in or along the floodplain of a wild trout stream or waters listed as Exceptional Value (“EV”) and the floodplain of streams tributary thereto, be considered EV wetlands (25 Pa. Code § 105.17 1(iii)). Of the wetlands identified within the right-of-way of this Project, three (3) are located within the floodplain of Wild Trout Waters (Breinig Run, Schaefer Run, and Swabia Creek) and are therefore classified as EV wetlands. PPL Electric will avoid impacts to wetlands and streams where possible by aerially spanning these features. PPL Electric will obtain all necessary permits from the PADEP and the United States Army Corps of Engineers and will comply with all of the terms and conditions placed on those permits.

100-year Floodplains

The National Flood Hazard Layer (“NFHL”) for Pennsylvania was obtained through the Pennsylvania Spatial Data Access (“PASDA”) database and analyzed for 100-year floodplains within the Project area and surrounding landscape. The NFHL data incorporates all Flood Insurance Rate Map (“FIRM”) databases published by the Federal Emergency Management Agency (“FEMA”), and any Letters of Map Revision (“LOMRs”) that have been issued against those databases since their publication date.

The existing Breinigsville-Alburtis 500 kV Transmission Line spans the 100-year floodplains associated with several streams along the alignment. Presently, no existing poles proposed for replacement are located within the FEMA 100-year floodplain. Coordination with PADEP regarding this potential impact will be conducted during the permitting phase of the Project.

Vegetation

Vegetative cover bordering the northern and central sections of the Project right-of-way has been influenced by agricultural and rural residential development. Large areas of the natural vegetative cover in these sections have been removed for conversion to farms and pastures. Additionally, some of this agricultural land is undergoing conversion to residential development, further reducing the natural vegetative cover. The southern end of the Project area right-of-way is bordered by woodlands, which have been impacted by scattered residential development.

Limited vegetation management will be required to modify the existing single-circuit Breinigsville-Alburtis 500 kV right-of-way for double-circuit operation. The existing right-of-way is currently maintained in accordance with PPL Electric’s Vegetation Management Program. Only minimal vegetation removal is anticipated because the Project is being completed within existing PPL Electric right-of-way, which is currently cleared of trees for safety and maintenance reasons. In areas where vegetation management is required, PPL Electric will apply its “*Specifications for Transmission Vegetation Management LA-79827*” to minimize any potential impacts.

Natural Areas Inventory

The *Natural Areas Inventory for Lehigh County*, prepared by the Pennsylvania Natural Heritage Program (“PNHP”), identified one (1) State ranked site within the Project area. The Little Lehigh Grassland is a site dominated by active agriculture with row crops, hay fields and some fallow areas, and provides habitat for two (2) unnamed sensitive species of concern. Project related construction activities will occur within the boundary of this natural area.

Threatened and Endangered Species

Review of the threatened and endangered species that may be encountered within and along the Breinigsville-Alburtis 500 kV right-of-way includes evaluation of the natural areas identified in the Project area, as well as the Project related Pennsylvania Natural Diversity Inventory (“PNDI”) responses provided by federal and state agencies that have protective jurisdiction over the surrounding animals, plants, and ecological communities.

A Project Environmental Review of the PNDI database was conducted for the Project area (PNDI #20150908530801). The PNDI results indicated Potential Impacts with the Pennsylvania Game Commission (“PGC”), the Pennsylvania Fish and Boat Commission (“PFBC”), and the USFWS.

The Pennsylvania Department of Conservation and Natural Resources (“DCNR”) responded that there was no known impact to plant species under their jurisdiction, and no further review by their agency was required.

The PFBC noted that there is potential that habitat for the State-threatened Eastern Spadefoot Toad (*Scaphiopus holbrookii*) exists within the proposed disturbance area and requested that a habitat assessment be completed to characterize and determine if potential habitat exists within the vicinity of the proposed Project area. PPL Electric has conducted the required habitat survey and has coordinated with PFBC to incorporate acceptable avoidance measures into the Project.

The USFWS noted that the proposed Project is located within the known range of the federally threatened Bog Turtle (*Clemmys muhlenbergii*). In addition, USFWS provided information on the presence of a known Bog Turtle wetland located within the Project area. Based on further coordination with USFWS, PPL Electric conducted a Phase I habitat assessment of the wetlands within the Project area, which concluded that potential habitat does exist at specific wetlands. The Phase I report and a map of the wetlands and proposed work within 300 feet of these wetlands has been submitted to USFWS. Coordination with USFWS has determined that a qualified biologist will need to be on-site when work is being conducted within 300-feet of the identified potential habitat areas.

The PGC noted that their records indicate species or resources of concern located in the vicinity of the Project. However, PGC has determined that no impact is likely, based on the submitted Project information, and no further coordination with PGC is necessary at this time.

PPL Electric will continue to consult with the jurisdictional agencies regarding potential impacts to protected species. PPL Electric will obtain all approvals and permits necessary for the construction of the Project and will comply with any conditions placed on those permits.

FIGURE 3-1

