Attachment I

CUMULATIVE ENVIRONMENTAL ASSESSMENT

Mantle Rock Solar LLC

Livingston County, Kentucky

COPPERHEAD
ENVIRONMENTAL CONSULTING

Cumulative Environmental Assessment for Proposed Mantle Rock Solar, LLC Project Livingston County, Kentucky

August 2025

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Cumulative Environmental Assessment for Proposed Mantle Rock Solar, LLC Project Livingston County, Kentucky

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23 August 2025

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List of Acronyms and Abbreviations

BESS	Battery Energy Storage System
BMPs	Best Management Plans
CEA	Cumulative Environmental Assessment
CO	Carbon Monoxide
CO_2	Carbon Dioxide
E&S	Erosion and Sediment
HAP	Hazardous Air Pollutant
HMPB	Hazardous Materials Business Plan
HUC	Hydrologic Unit Code
KAR	Kentucky Administrative Regulations
KDPES	Kentucky Pollutant Discharge Elimination System
KRS	Kentucky Revised Statutes
KYDOW	Kentucky Division of Water
NAAQS	National Ambient Air Quality Standards
NO_X	Nitrogen Oxides
Pb	Lead
PM	Particulate Matter
PPE	Personal Protective Equipment
PV	Photovoltaic
SO2	Sulfur Dioxide
SPCC	Spill Prevention Control and Countermeasure Plan
SWPPP	Stormwater Pollution Prevention Plan
SDS	Safety Data Sheet
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compounds
WOTUS	Waters of the United States

INTRODUCTION

Kentucky Revised Statutes (KRS) 224.10-280 provides that no person shall commence to construct a facility to be used for the generation of electricity unless that person submits a cumulative environmental assessment (CEA) to the Kentucky Energy and Environment Cabinet with the permit application.[1] The Mantle Rock Solar, LLC Project (Mantle Rock Solar or Project) is a proposed solar facility sited on approximately 562 acres in Livingston County, Kentucky (Figure 1) that will generate approximately 42 megawatts (MW) of electricity through the use of photovoltaic (PV) solar panels. It will include a utility interconnection substation, battery energy storage system (BESS) container, inverter boxes, transformers, overhead and underground electrical conveyance lines, and security fencing. Approximately 10-15 acres of the Project Site will be used as construction assembly areas (also called staging or laydown areas) for worker assembly, vehicle parking, and material storage during construction. Some of these areas will be staged within the areas proposed for the solar or PV arrays.

The Project will be located near the intersection of Carrsville Road (KY 135) and Maxfield Road (KY 1608), between the communities of Hampton and Joy in Livingston County, Kentucky. The proposed project site is currently a mix of agricultural fields, pasture, and forested areas.

CEA REQUIREMENTS

Upon researching the statute and accompanying regulations, Mantle Rock Solar is unaware of any regulations that have been promulgated regarding CEAs. To comply with KRS 224.10-280, the CEA report will evaluate project impacts to four areas:

1) Air Pollutants
2) Water Pollutants
3) Wastes
4) Water Withdrawal

[1] KRS 224.10-280 Cumulative environmental assessment and fee required before construction of facility for generating electricity -- Conditions imposed by cabinet -- Administrative regulations.

Representative view of land use and land cover near the Mantle Rock Solar project site.

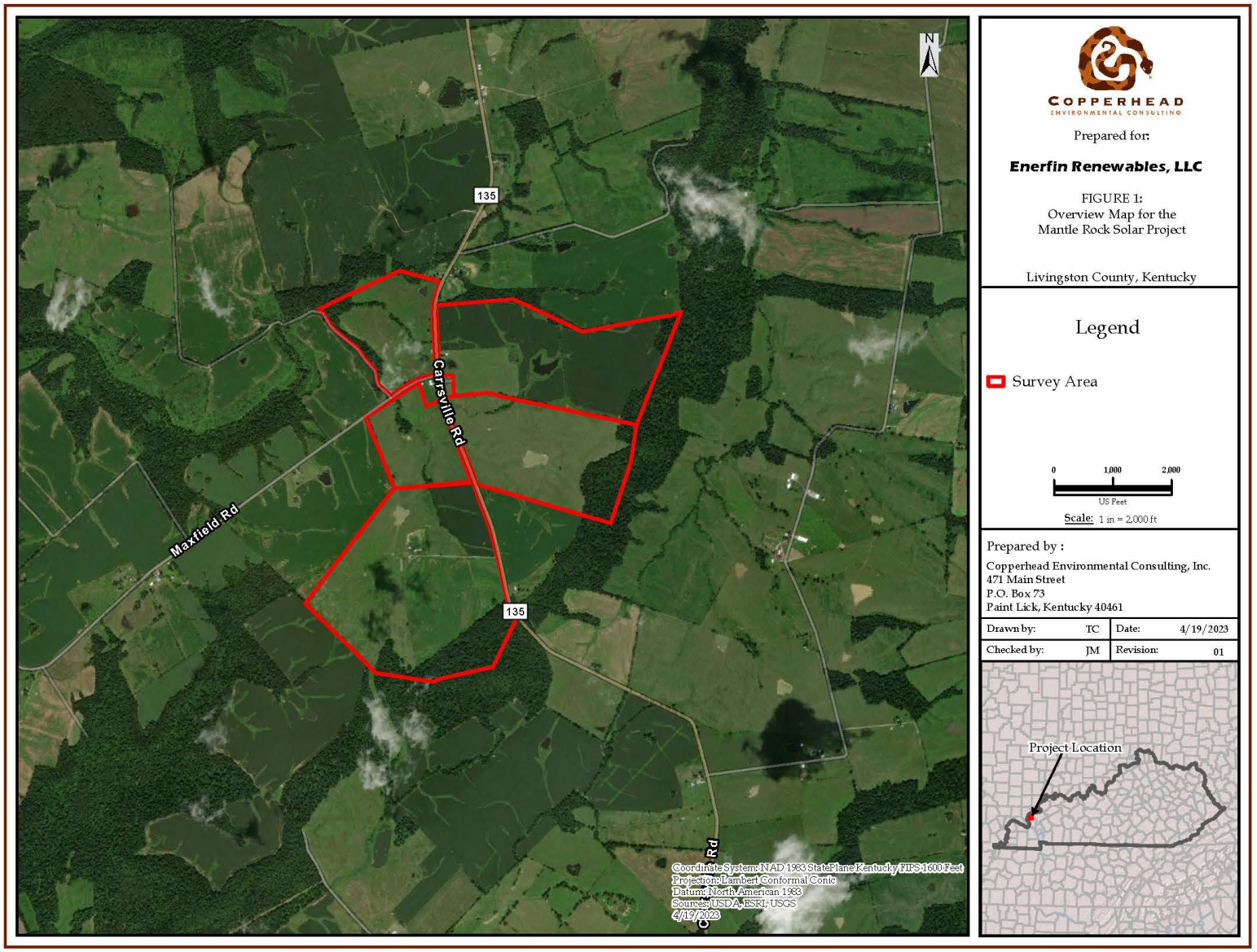

Figure 1. Project Location

AIR POLLUTANTS

The Clean Air Act regulates the emission of air pollutants and, through its implementing regulations, establishes National Ambient Air Quality Standards (NAAQS) for several "criteria" pollutants that are designed to protect the public health and welfare with an ample margin of safety. The criteria pollutants are ozone, particulate matter (PM), carbon monoxide (CO), nitrous oxides (NOx), sulfur dioxide (SO_2), and lead (Pb).

Specified geographic areas are designated as attainment, nonattainment, or unclassifiable for specific NAAQS. Areas with ambient concentrations of criteria pollutants exceeding the NAAQS are designated as nonattainment areas, and new emissions sources in or near these areas are subject to more stringent air permitting requirements. A maintenance area is a previously nonattainment area that has been redesignated as attainment but needs to maintain those standards through a specific plan.

Livingston County and surrounding counties (Caldwell, Crittenden, Lyon, Marshall, and McCracken in Kentucky; Hardin, Massac, and Pope in Illinois) are in attainment for all criteria pollutants (USEPA 2025). Livingston County is also protected by Kentucky Air Quality Regulations found in Title 401, Chapters 50–68 of the Kentucky Administrative Regulations (KAR). As detailed below, the Project would not cause any of these counties to be in nonattainment with NAAQS or Kentucky Air Quality Regulations. No air quality permit is required for construction or ancillary solar operation activities.

The Project will generate transient air pollutant emissions during construction and operation activities. Air quality impacts will primarily result from the staging and operation of construction vehicles, equipment, supply deliveries, and worker personnel vehicles. The daily workforce for the Project during construction will vary depending on specific construction activities occurring on individual days. It is estimated that the workforce will comprise up to 100 to 150 workers onsite at any time during the 9 to 12-month construction period. Construction and operation equipment will include, but not be limited to, bulldozers, backhoes, forklifts, bobcats, generators, pile drivers, semi-trucks, and flatbed trucks. Weather conditions may also affect air pollutant emissions.

Combustion of gasoline and diesel fuels by internal combustion engines will generate local emissions of PM, NOx, CO, volatile organic compounds (VOCs), and SO2. Emissions associated with these vehicles and equipment are expected to result in temporary, minor impacts to air quality due to the limited duration, numbers of vehicles, and hours of operation. For example, combustion emissions from a 200–horsepower diesel truck operating eight hours every day for three months will include less than one ton each of NOx, CO, and PM. Emissions of SO2 will be negligible because of the ultralow sulfur diesel fuel available on the market. To reduce impacts to air quality, the Project will require contractors to implement best management practices (BMPs) including properly maintaining construction equipment.

Tree clearing or vegetative debris will either be burned onsite in accordance with Kentucky's Open

Burning regulations (401 KAR 63:005) and applicable local regulations, or will be chipped, ground, and composted onsite or managed offsite at a permitted facility.

Construction activities will result in temporary fugitive air pollutant emissions (e.g., small particles suspended in the air or dust). Vehicles and construction equipment traveling over unpaved roads and the construction site will result in the emission of fugitive dust. Most fugitive emissions from vehicle traffic in unpaved areas will be deposited near the unpaved areas. A fugitive dust control plan will be developed prior to the start of construction activities. To minimize fugitive dust impacts, the Project will require all contractors to keep construction equipment properly maintained and to use BMPs, such as covered loads and wet dust suppression (use of water trucks) as neccessary, which can reduce fugitive dust emissions by as much as 95 percent. Re-vegetation of disturbed areas in compliance with Kentucky Division of Water (KDOW) Construction Storm Water Discharge General Permit will also help minimize emission of fugitive dust.

Air quality impacts from construction activities will be temporary and will depend on both manmade factors (intensity of activity, control measures, etc.) and natural factors such as wind speed and direction, soil moisture, and other factors. However, even under unusually adverse conditions, emissions will have, at most, a minor transient impact on off-site air quality and will be well below the applicable NAAQS. Overall, the potential impacts to air quality from construction activities for the Project will be minor.

Once constructed, the solar panels will produce zero emissions during operation. Therefore, the solar facility is not expected to emit any of the following criteria pollutants: PM, CO, SO2, NOx, VOCs, or lead. Similarly, the facility is also not expected to emit Hazardous Air Pollutants (HAPs).

During operation, the solar facility will only generate air emissions from worker vehicles and equipment for maintenance activities, such as mowers to control growth of vegetation. Project operations are expected to require 2 to 3 workers on site intermittently. These workers primarily will drive in and out, Monday through Friday during business hours. Employees are anticipated to use mid- or full-sized trucks. The Project will be monitored offsite 24/7, and maintenance workers will be sent to the site if any changes in production or equipment errors are detected remotely. Inspections will include identifying any physical damage to panels, wiring, inverters, pad mount transformers, interconnection equipment, and security fencing that would need repairs or replacement.

Additionally, grounds maintenance will be performed through an integrated land management approach, to include biological (sheep for regenerative agriculture) and mechanical control of vegetation, with herbicide applications as appropriate to control regulated noxious weeds per local, state, and federal regulations. It is anticipated that using sheep grazing to control vegetation and/or trimming and mowing will likely be performed periodically, approximately 20-30 times per year depending on growth rate, to maintain a maximum height of 10 inches to avoid shading the panels and comply with county regulations.

It is anticipated that there will also be benefits to air quality because, compared to fossil fuel sources that produce emissions, the solar panels produce zero emissions while generating electricity. This benefit to local and regional air quality will occur over the life of the Project.

WATER POLLUTANTS

Surface Water

The Project is located within the Lower Ohio-Bay Watershed Hydrologic Unit Code (HUC 8) 05140203; HUC 10 Big Creek – Ohio River 0514020305 and Barren Creek – Ohio River 0514020309; and HUC 12 Lower Bayou Creek 05140203903, Upper Bayou Creek 051402030902, and Buck Creek 051402030503. No waterways in or adjacent to the Project are designated as Outstanding State Resource Waters or other Special Use Waters as defined by the Kentucky Division of Water (KDOW).

The hydrology within the watershed is influenced by karst geology and drainage for agriculture. A karst desktop analysis was conducted and identified potential surface karst features. (Terracon 2025). Future field analysis will be conducted to verify karst features. To minimize potential impacts to karst features, Mantle Rock Solar plans to use 25-foot setbacks to karst features, where appropriate.

Wetlands, ponds, and streams are present within the Project Site. During construction activities, stormwater erosion and sedimentation may affect onsite surface water features (i.e., streams and wetlands). The Project will utilize the existing landscape (e.g., slope, drainage, utilization of existing roads) where feasible and minimize or eliminate grading work to the extent possible. Typically, land that has been previously farmed for row crops will only require minimal grading, and posts for solar panel racks can usually be installed onto these areas of the Project Site without additional earth disturbance. Any required grading activities will be performed with earthmoving equipment and efforts will be made to match existing slopes.

Mantle Rock Solar expects the Project to result in the discharge of stormwater during construction. Mantle Rock Solar intends to comply with KDOW's Construction Storm Water Discharge General Permit for those construction activities that disturb one acre or more. Mantle Rock Solar will submit a Notice of Intent to KDOW at least seven days prior to the commencement of construction, and KDOW will review the notice of intent and provide notification of authorization to discharge. When construction is completed, Mantle Rock Solar will provide a notice of termination upon completion.

To manage stormwater, use of BMPs, including silt fences, on-site temporary sediment basins, sediment traps, and/or buffer zones (e.g., 25 feet) surrounding jurisdictional streams and wetlands will be implemented. A site-specific stormwater pollution prevention plan (SWPPP) will be prepared and a copy will be kept available on site. These stormwater BMPs will minimize

sediment from entering Waters of the Waters of the Commonwealth and sediment migration off-site during construction, prior to achieving final vegetative stabilization.

Disturbed areas will be seeded after construction using a mixture of certified weed-free, low-growing grass and herbaceous plant seed per the project planting plan. Erosion control measures will be inspected and maintained until vegetation in the disturbed areas has returned to preconstruction conditions or the Project Site is stable. Water may be used for soil compaction and dust control during construction.

Following the establishment of vegetation on disturbed areas and to minimize the potential for water impacts, most vegetation control will be performed biologically (i.e., sheep) with mechanically (i.e., mowing) as appropriate; however, limited amounts of herbicides will be used around posts or in areas that are not able to be grazed or mowed. Only USEPA-registered and approved herbicides will be used per label directions designed in part to restrict applications near receiving waters and to prevent unacceptable aquatic impacts. All herbicides will be applied by Kentucky-licensed and certified commercial pesticide applicators.

Once construction is complete, the operations and maintenance of the solar facility will have little impact on surface water, and BMPs will be used during any maintenance activities that have the potential to cause runoff of sediment or pollutants. The solar array areas will not include a runoff collection system. Rainwater will drain off the panels to the adjacent vegetated ground surface.

Beneficial indirect impacts on surface water are anticipated due to reduced fertilizer and pesticide use compared with current agricultural use.

Groundwater

Groundwater is water that exists underground in saturated zones beneath the ground surface, within soils and subsurface formations known as hydrogeological units, or aquifers (USGS 1995). Aquifers have sufficient permeability to conduct groundwater and allow economically significant quantities of water to be produced by man-made water wells and natural springs. In addition to extraction through man-made wells and natural springs, groundwater can also discharge to waterbodies such as streams. In most of Livingston County, drilled wells in the uplands are adequate for a domestic supply. Kentucky Geological Survey (KGS) water well records indicate depths of drilled wells range from 20 to 500 feet in Livingston County. Groundwater levels fluctuate with seasonal and cyclical climatic variations in precipitation.

No direct adverse impacts to groundwater are anticipated. The PV panels will have a relatively minor effect on groundwater infiltration and surface water runoff because the panels will not include a runoff collection system. Rainwater will drain off the panels to the adjacent vegetated ground.

Mantle Rock intends to consult with the Groundwater Section of the Watershed Management Branch of the Kentucky Energy and Environment Cabinet in regard to groundwater management

Sediment from entering Waters of the Commonwealth and sediment migration off site during construction, prior to achievement of final vegetative stabilization.

Disturbed areas will be seeded after construction using a mixture of low-growing grass and herbaceous plant seed per the project planting plan. Erosion control measures will be inspected and maintained until vegetation in the disturbed areas has returned to the preconstruction conditions or the Project Site is stable. Water may be used for soil compaction and dust control during construction.

Following the establishment of vegetation on disturbed areas and to minimize potential for water impacts, most vegetation control will be performed biologically (i.e., sheep) or mechanically (i.e., mowing) as appropriate; however, limited amounts of herbicides will be used around posts or in areas that are not able to be grazed or mowed. Only EPA-registered and approved herbicides will be used in accordance with label directions designed in part to restrict applications near receiving waters and to prevent unacceptable aquatic impacts. All herbicides will be applied by Kentucky licensed and certified commercial pesticide applicators.

Approximately 10-15 acres of the Project Site will be used as construction assembly areas (also called staging or laydown areas) for worker assembly, vehicle parking, and material storage during construction. Some of these areas will be staged within the areas proposed for the PV arrays. The laydown areas will be on site for the duration of construction. Temporary construction trailers intended for material storage and office space will be parked on site. Following completion of construction activities, trailers, unused materials, and construction debris will be removed from the Project Site.

Once construction is complete, the operations and maintenance of the solar facility will have little to no impacts on surface water, and BMPs will be used during any maintenance activities that have the potential to cause runoff of sediment and pollutants. Beneficial indirect impacts to surface water are anticipated due to reduction in fertilizer and pesticide use compared with current agricultural use.

Groundwater

Groundwater is water located beneath the ground surface, within soils and subsurface formations known as hydrogeological units, or aquifers (USGS 1995). Aquifers have sufficient permeability to conduct groundwater and to allow economically significant quantities of water to be produced by man-made water wells and natural springs. Kentucky Geological Survey (KGS) water well records indicate most wells are less than 300 feet deep in Livingston County. Groundwater levels fluctuate with seasonal and cyclical climatic variations in precipitation and may be either higher or lower at other times.

No direct adverse impacts to groundwater are anticipated. The PV panels will have a relatively minor effect on groundwater infiltration and surface water runoff because the panels will not

include a runoff collection system. Rainwater will drain off the panels to the adjacent vegetated ground.

Materials that could potentially contaminate groundwater will be stored on the Project Site during construction. The minimal use of petroleum fuels, lubricants, and hydraulic fluids during construction and by maintenance vehicles will result in the potential for small on-site spills. However, the use of a spill prevention, control and countermeasure (SPCC) plan will reduce leaks and spills and minimize the potential for adverse impacts to groundwater.

During construction and operation, limited use of fertilizers and herbicides may be used on site. Use of fertilizers and herbicides will be undertaken in accordance with the manufacturer's recommendations, EPA regulations, and KY State licensing to reduce risk of groundwater contamination. Additionally, beneficial indirect impacts to groundwater could result from the change in land use due to reduction in fertilizer and herbicide use.

Portable chemical toilets will be provided on site for construction workers during Project development. Sewage will be pumped out by a licensed contractor and the sewage waste will be disposed of at the Marion Sewage Treatment Plant or other regulated wastewater treatment plant. No adverse effects are anticipated from wastewater treatment and disposal.

No direct adverse impacts are anticipated as a result of Project development due to the use of BMPs and the SPCC plan; there will be minor beneficial indirect impacts to groundwater due to the reduction in fertilizer and herbicide use as land use changes from agriculture to solar energy generation.

WASTE

Waste will be generated during Project construction and operation and will be handled and disposed of following local, state, and federal regulations. Construction activities will generate solid waste consisting of construction debris and general trash, including wooden crates, pallets, flattened cardboard module boxes, plastic packaging, and excess electrical wiring. To the extent feasible and practicable, construction waste will be recycled and material that cannot be recycled will be disposed of offsite at a permitted facility to be determined by the designated contractor(s). No waste will be disposed of on the Project Site. Designated construction contractor and subcontractor personnel will be responsible for daily inspection, cleanup, and proper labeling, storage, and disposal of all refuse and debris produced. Disposal containers such as dumpsters or roll-off containers will be obtained from a proper waste disposal contractor and will be located in the on-site staging area or other areas, as appropriate. Records of the amounts generated will be maintained by Mantle Rock Solar.

During Project construction, materials will be stored on site in storage tanks, vessels, or other appropriate containers specifically designed for the characteristics of these materials. The storage facilities will include secondary containment in case of tank or vessel failure. Construction-related

materials stored on site will primarily be liquids such as used oil, diesel fuel, gasoline, hydraulic fluid, and other lubricants associated with construction equipment. Safety Data Sheets (SDS) for all applicable materials present on site will be made readily available to on-site personnel.

Construction activities will involve the use of machinery (e.g., backhoes, generators, pile drivers, and flatbed trucks) fueled by petroleum products. Fueling of construction-related equipment will occur in designated areas. Other mobile equipment will return to the on-site laydown areas for refueling. Construction contractors will be responsible for preventing spills by implementing an SPCC including proper storage and handling procedures. The SPCC will include special procedures to minimize the potential for fuel spills, and spill control kits will be carried on all refueling vehicles for activities such as refueling, vehicle or equipment maintenance procedures, waste removal, and tank clean-out.

Small quantities (less than 55 gallons, 500 pounds or 200 cubic feet) of janitorial supplies, paint, degreasers, herbicides, pesticides, air conditioning fluids (chlorofluorocarbons [CFCs]), gasoline, hydraulic fluid, propane, and welding rods typical of those purchased from retail outlets may be stored and used at the facility. Due to the small quantities involved, the controlled environment, and implementation of proper cleanup procedures, significant environmental impacts caused by a potential spill are not anticipated.

Facility personnel will be supplied with appropriate PPE and will be properly trained in the use of PPE as well as the handling, use, and cleanup of hazardous materials used at the facility and the procedures to be followed in the event of a leak or spill. Adequate supplies of appropriate cleanup materials will be stored on site.

Waste generation during operation will be minimal and will mainly result from the maintenance and/or replacement of worn or broken equipment and defective or broken electrical materials. Batteries at the end of their useful life will be removed and shipped to a recycling facility. All wastes will be managed by designated waste management company(ies) and disposed of in accordance with applicable federal and state requirements to minimize health and safety effects.

Based on a review of Project waste generation activities, no adverse effects from waste from the solar facility or BESS are anticipated.

WATER WITHDRAWAL

Aquifers beneath the Project Site have sufficient permeability to conduct groundwater and to allow economically significant quantities of water to be produced by man-made water wells. One water supply well has been identified on the Project Site. Water needed for construction and operation will be brought in, obtained from nearby existing well, or provided by developing a new water supply well.

Construction-related water use will support site preparation (including dust control) and grading activities. During earthwork for the grading of access roads, foundations, equipment pads, and

other components, the primary use of water will be for compaction and dust control. Smaller quantities will be required for the preparation of the equipment pads, washing equipment, and other minor uses. BMPs outlined in the SWPPP will be followed for using water to clean equipment and appropriately disposing of this wastewater. The expected water volume needed for construction activities is not expected to adversely affect local or regional water resources.

The internal access roads will not be heavily traveled during normal operations, and consequently, water use for dust control is not expected. Equipment washing and any potential dust control discharges will be handled in accordance with BMPs described in the SWPPP for water-only cleaning.

Operation of solar electricity generating facilities is not water-intensive. Precipitation in the region is typically adequate to remove dust and other debris from the PV panels while maintaining energy production; therefore, manual panel washing with water or any other substance is likely not part of regular maintenance. Additionally, rain will contribute to ongoing vegetation management. Some water may be needed for vegetation management, including during screening vegetation installation and during prolonged times of drought.

Representative photo of pasture in the Mantle Rock Solar project site.

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RESUME

COPPERHEAD
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MARTY MARCHATERRE
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Education

J.D. 1988, College of William and Mary, Williamsburg, Virginia
B.A. History and Political Science, 1985, Williams College, Williamstown, Massachusetts
Williams-Mystic American Maritime Program, 1985

Qualifications and Background

Mr. Marchaterre is an attorney with over 30 years of environmental, regulatory, and permitting experience. Mr. Marchaterre is an expert in the renewable energy project siting process in Kentucky; he has supported more than 25 solar energy projects in Kentucky over the past four years and overseen critical issues analyses for multiple solar projects. In 2020, he helped the first Kentucky solar project receive approval from the Electric Generation and Transmission Siting Board and has since helped seven additional projects obtain Siting Board approval including being an expert witness before the Siting Board. Solar support projects included critical issues assessments, cumulative environmental assessments, habitat assessments, bat surveys, bald eagle nest surveys, mussel surveys, biological assessments, wetland and stream delineations, glare analyses, acoustical assessments, groundwater analyses, planning, permitting, public involvement, and environmental assessments. He has worked on solar projects in 19 counties in Kentucky.

Broader Kentucky experience includes more than 200 sensitive species habitat assessments, threatened and endangered species surveys, stream and wetland delineations, permits, biological assessments, and related tasks. This experience has given us a deep understanding of regulatory requirements at the local, state, and federal levels. We routinely work closely with the US Fish and Wildlife Service (USFWS) Frankfort Field Office, US Army Corps of Engineers (USACE), Federal Highway Administration, Natural Resources Conservation Service, Daniel Boone National Forest, Kentucky Army National Guard, Kentucky Transportation Cabinet, Kentucky Department of Fish and Wildlife Resources, Kentucky Division of Water, Kentucky Division of Waste Management, Kentucky Division of Mine Permits, Kentucky Heritage Council, Fort Knox, Kentucky Department of Local Government, and Mammoth Cave National Park on various natural resource, cultural resource, permitting, and National Environmental Policy Act (NEPA)

Selected Project Experience

Site Characterization Study, Wetland Delineations, Phase I ESA, and Cultural Resources Overview for a Proposed Solar Project. Confidential Client. Kentucky. Managed site characterization studies, aquatic resources delineation, Phase I ESA, and cultural resources overview for solar project on an approximately 800-acre parcel in Garrard County, KY. The study included a desktop review of federal and state data pertaining to sensitive resources such as listed species, wetlands or other surface waters, prime farmland, karst topography, and public and protected lands. A wetland delineation identified and demarcated aquatic features that may be jurisdictional waters of the U.S. or isolated waters of the state. Participated in public involvement activities. Supported the first merchant solar project to complete the Kentucky Siting Board process.

Site Characterization Study, Wetland Delineations, Phase I ESA, Glare Assessment, Acoustical Analysis, Groundwater Protection Plan and Cultural Resources Overview for a Proposed Solar Project. Confidential Client. Kentucky. Managed site characterization studies, aquatic resources delineation, Phase I ESA, and cultural resources overview for solar project on an approximately 800-acre parcel in Metcalfe County, KY. The study included a desktop review of federal and state data pertaining to sensitive resources such as listed species, wetlands or other surface waters, prime farmland, karst

topography, and public and protected lands. A wetland delineation identified and demarcated aquatic features that may be jurisdictional waters of the U.S. or isolated waters of the state.

Acoustic Analysis for Multiple Solar Projects. Confidential Clients. Kentucky. Managed acoustical analyses for multiple projects. Described existing sound levels from the project site and surrounding areas as well as potential impacts from construction, operation, and maintenance activities. Provided a report of the findings of the acoustical analysis. The report will contain a summary of the project, describe existing sound conditions, identify potential sensitive receptors (e.g., residences), and evaluate potential construction and operation sound levels.

Permitting for Multiple Solar Projects. Confidential Clients. Kentucky. Managed development of federal, state, and local permitting for multiple solar projects in Kentucky. Obtained United States Army Corps of Engineers Nationwide Permits, Kentucky Division of Water Section 401 Water Quality Certifications, floodplain permits, and stream crossing permits. Supported local planning approvals.

Site Characterization Studies for Proposed Solar Energy Projects. Confidential Clients. Kentucky. For multiple solar project sites, managed site characterization studies to identify potential environmental constraints associated with land cover/use, soils, wetlands and watercourses, farmland, threatened and endangered species, and other considerations. The studies included a desktop assessments using publicly available databases and field reconnaissance surveys of the project areas.

Site Characterization Study for Solar Energy Development. Confidential Client. Breckinridge County, Kentucky. Assistant Project Manager for a site characterization study analyzing a property in Breckinridge County, Kentucky, for possible development as a solar energy generating facility. The study included a desktop review of federal and state data pertaining to sensitive resources such as listed species, wetlands or other surface waters, prime farmland, karst topography, and public and protected lands. Copperhead staff then performed a one-day field verification to characterize vegetative communities, possible bat habitat, and the presence of jurisdictional waters. A summary report was provided to the client which outlined potential environmental concerns and presented a permitting matrix delineated by issuing agency, trigger, and timeline.

Biological Assessment for Indiana Bats, Northern Long-eared Bats, and Bog Turtle at a Proposed Solar Project. Confidential Client, New York. Managing the development of a biological assessment with adverse effects to bat habitat. Ongoing consultation with United States Fish and Wildlife to develop mitigation alternatives. Supported development of a conservation easement for bat mitigation.

Critical Issues Analysis (CIA) for a Solar Facility. Confidential Client. Tennessee. Assistant project manager for development of a CIA. The CIA's goal is to gain a better understanding of the environmental issues that could potentially affect project development. Some of the resource areas Copperhead collected information on include vegetation communities and general wildlife, threatened and endangered species, migratory bird nests, soil types, and historic and cultural resources. The wetland/stream mapping's goal is to estimate how much of the Project Area may be wetlands as opposed to uplands and to identify anticipated buffer setbacks. The information gathered helps to inform Copperhead and the client about what regulations will need to be adhered to and what permits will need to be acquired.

Bridging Kentucky Program, Kentucky Transportation Cabinet, Kentucky. Managed threatened and endangered species habitat assessments, biological assessments, bat programmatic agreement comments, wetland delineations, no effect forms, and permitting for more than 300 bridges over three years. Approximately 50 bridge projects were located in Perry, Breathitt, and Knott Counties.

Ecological Studies and Critical Issues Analyses for Solar Projects in Indiana, Tennessee, Michigan, Missouri, Mississippi, and Virginia. Managed ecological desktop reviews, botanical, eagle, bat, mussel, and wetland surveys for solar projects in multiple states.