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December 14, 2018

Ms. Barcy F. McNeal, Secretary
Docketing Division
Ohio Power Siting Board
180 E. Broad Street, 11th Floor
Columbus, OH 43215

Re: 18-1546-EL-BGN
Nestlewood Solar I LLC

Dear Ms. McNeal:

Accompanying this letter are hard copies of an application by Nestlewood Solar I LLC for a Certificate of Environmental Compatibility and Public Need for the Nestlewood Solar 80 MW Solar Electric Generating Facility in Brown County and Clermont County, Ohio. The original application was electronically filed.

In accordance with Rule 4906-2-04 of the Ohio Administrative Code, I would like to make the following declarations:

Name of the applicant:

Nestlewood Solar I LLC
909 Lake Carolyn Parkway, Suite 260
Irving, TX 75039

Name and location of the proposed facility:

Nestlewood Solar 80 MW Solar Electric Generating Facility
Clark Township, Brown County, Ohio
Tate Township, Clermont County, Ohio

Name of the authorized representatives:

Michael J. Settineri
MacDonald W. Taylor
Vorys, Sater, Seymour and Pease LLP
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Columbus, Ohio 43215
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mjsettineri@vorys.com
mwtaylor@vorys.com

Notarized Statement:

See attached Affidavit of Joseph Jordan,
Acting Officer of Nestlewood Solar I LLC

No information presented by the applicant in the pre-application notification letter has been revised since the issuance of that letter.

Very truly yours,

/s/ Michael J. Settineri

Michael J. Settineri
Attorney for Nestlewood Solar I LLC

Enclosure

BEFORE
THE OHIO POWER SITING BOARD

In the Matter of the Application of Nestlewood Solar I LLC for a Certificate of Environmental Compatibility and Public Need	))))	**Case No. 18-1546-EL-BGN**

OFFICER'S AFFIDAVIT

STATE OF TEXAS)
COUNTY OF DENTON) SS:

Now comes Joseph Jordan, Project Development Director of Nestlewood Solar I LLC and an acting officer of Nestlewood Solar I LLC, having been first duly sworn, declares and states as follows:

1. I am an acting executive officer for the Nestlewood Solar Farm to be located in Tate Township in Clermont County, Ohio and Clark Township in Brown County, Ohio.

2. I have reviewed the Application of Nestlewood Solar I LLC for a Certificate of Environmental Compatibility and Public Need to Construct an Electric Generating Facility in Case No. 18-1546-EL-BGN.

3. To the best of my knowledge, the information and statements contained in the Application are true and correct.

4. To the best of my knowledge, the Application is complete.

Signature:_____
Nestlewood Solar I LLC
By: Lendlease Energy Development LLC, its managing member
Officer Name: Joseph Jordan
Officer Title: Project Development Director

Sworn to before me and signed in my presence this 12th day of December, 2018.

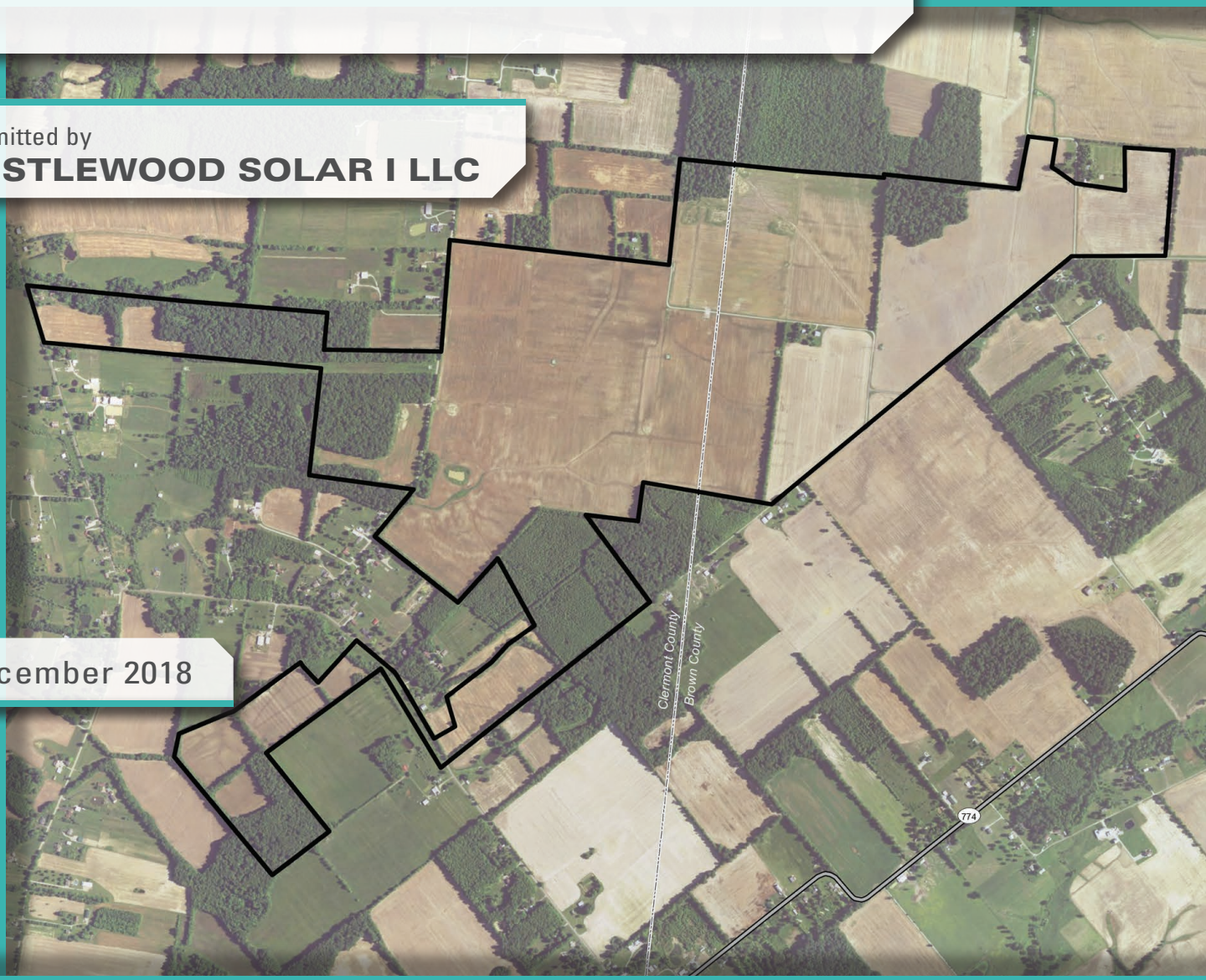
TERI LYNN CLARK
Notary Public, State of Texas
Comm. Expires 11-20-2022
Notary ID 12430264-6

Teri Lynn Clark
Notary Public
My Commission Expires 11-20-2022

Case No.: 18-1546-EL-BGN

Application to the Ohio Power Siting Board for a Certificate of Environmental Compatibility and Public Need for Nestlewood Solar

Submitted by
NESTLEWOOD SOLAR I LLC



December 2018

TETRA TECH

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

ACRONYMS/ABBREVIATIONS

%	percent
µPa	micropascals
AC	alternating current
amsl	above mean sea level
the Applicant	Nestlewood Solar I LLC
the Application	Nestlewood Solar Application for a Certificate of Public Convenience and Necessity
Board	Ohio Power Siting Board
BMPs	Best Management Practices
Certificate	Certificate of Public Convenience and Necessity
CIGS	copper indium gallium selenide
Cle1A	Clermont silt loam, 0 to 1 percent slopes
dB	decibels
dBA	A-weighted decibels
DC	direct current
DOE	Determination of Eligibility
Duke	Duke Energy Ohio Kentucky
EMF	electromagnetic fields
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
Frac-Out Contingency Plan	a contingency plan for use during horizontal directional drilling
FTE	full-time equivalent
gen-tie	electric generation tie
GW	gigawatt
HDD	horizontal directional drilling
HHEI	Headwater Habitat Evaluation Index
JoR1A1	Jonesboro-Rossmoyne silt loams (0 to 2 percent slopes)
JoR1B1	Jonesboro-Rossmoyne silt loams (2 to 6 percent slopes)
JoR1B2	Jonesboro-Rossmoyne silt loams (2 to 6 percent slopes, eroded)
kV	kilovolt
kW	kilowatt
Lendlease	Lendlease Corporation Limited
L_{eq}	equivalent sound level
MW	megawatt
MWh	megawatt-hours
NAAQS	National Ambient Air Quality Standards
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NWP	Nationwide Permit

O&M	operations and maintenance
OAC	Ohio Administrative Code
ODNR	Ohio Department of Natural Resources
ODOT	Ohio Department of Transportation
Ohio EPA	Ohio Environmental Protection Agency
OHPO	Ohio Historic Preservation Office
OPSB	Ohio Power Siting Board
ORAM	Ohio Rapid Assessment Method
ORC	Ohio Revised Code
PEM	palustrine emergent
PFO	palustrine forested
PILOT	Payment in Lieu of Taxes
PJM	PJM Interconnection, LLC
POI	point of interconnection
the Project	Nestlewood Solar
the Project Area	approximately 610 acres of land in Clermont and Brown Counties, Ohio on which Nestlewood Solar is proposed
the Project Substation	a substation owned by Nestlewood Solar designed to step up power generated by the solar panels from 34.5 kilovolts to 69 kilovolts
PSS	palustrine scrub-shrub
PUB	palustrine unconsolidated bottom
PV	photovoltaic
QHEI	Qualitative Habitat Evaluation Index
RpC2	Rossmoyne silt loam, 6 to 12 percent slopes, moderately eroded
RsC3	Rossmoyne silty clay, 6 to 12 percent slopes, severely eroded
SWPA	Source Water Protection Area
SWPPP	Storm Water Pollution Prevention Plan
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
Utility Switchyard	a switchyard owned by the utility to transfer electricity generated by the Project to the existing electrical grid
WsS1A1	Westboro-Schaffer silt loams (0 to 2 percent slopes)
WsS1B1	Westboro-Schaffer silt loams (2 to 4 percent slopes)

4906-4-02 Project Summary and Applicant Information

(A) SUMMARY OF THE PROPOSED PROJECT

This Application for a Certificate of Environmental Compatibility and Public Need (the Application) is submitted to the Ohio Power Siting Board (Board or OPSB) by Nestlewood Solar I LLC (the Applicant). The Application seeks a Certificate of Environmental Compatibility and Public Need (Certificate) to construct and operate Nestlewood Solar (the Project), a new 80-megawatt (MW) solar photovoltaic (PV) facility located in Clermont and Brown Counties, Ohio (Figures 02-1 and 02-2). The Project will consist of solar panel generators, as well as access roads, 34.5-kilovolt (kV) electrical collector cables, meteorological stations, a facility substation (the Project Substation), a utility-owned switchyard (Utility Switchyard), and 69-kV electric generation tie (gen-tie) line within an area of approximately 610 acres (the Project Area). The Applicant is a wholly-owned affiliate of Lendlease Energy Development LLC, which, in turn, is a wholly-owned affiliate of Lendlease Americas Inc.

The energy generated by the Project will deliver power to a single point of interconnection (POI) into Duke Energy Ohio Kentucky's (Duke's) existing South Bethel – Brown 69-kV transmission line. The new Project Substation and Utility Switchyard will be built to connect with Duke's existing 69-kV line; the 69-kV gen-tie is included in this Application.

The Project will not use any water, and it will not generate any air pollution, water pollution or hazardous waste. Project equipment has a very low profile and makes almost no sound. With only minimal disturbance, the Project will provide a source of renewable energy to the electrical grid and provide an annual tax benefit to the community.

(1) General Purpose of the Project

The Project will help meet electricity demand in the region, particularly in light of the recent and planned retirements of existing coal-fired generating assets located in Ohio and throughout the PJM Interconnection, LLC (PJM) system.[1] The Project will utilize Ohio's natural solar resources to deliver clean, renewable energy to the existing electricity grid to meet the needs of Ohio's electric customers. The Project will provide "on peak" power during the high demand period of mid-day and late afternoon. It will also support employment opportunities throughout the region and state, as well as provide annual tax revenues to the host communities.

(2) Project Description

The Project will be located within an area of approximately 610 acres of property in Clermont and Brown Counties. The Project Area primarily consists of agricultural land, characterized by fairly flat topography with elevations ranging between 908 and 951 feet above mean sea level (amsl). Existing 345-kV electric transmission lines cross the Project Area, with areas of wooded vegetation and local roadways also present within the Project Area. All Project components, including the POI to the existing grid, will be located within the Project Area.

The Project's PJM interconnect applications specify a total electricity generation of up to 80 MW. The Project will consist of conventional solar panels affixed to metal racking designed for tracking the sun. The solar panel technology for the Project will be one of two

[1] PJM is the regional independent transmission organization that coordinates movement of wholesale electricity in all or part of 13 states (including Ohio) and the District of Columbia. Its name results from its origin serving Pennsylvania (P), New Jersey (J), and Maryland (M).

basic types: crystalline or thin-film. Crystalline modules are silicon-based. Thin-film modules use one of several alternative chemistries (such as copper indium gallium selenide [CIGS]). While the specific module has not yet been selected, "Tier I" modules will be used for the Project. At a capacity of 80MW alternating current (AC), the Project will use approximately 284,000 modules.

Underground electrical interconnections at a voltage of 34.5 kV will be used to transmit generated electricity from the solar panels to the Project Substation, where it will be stepped up to 69 kV, and transmitted to the Utility Switchyard. From there, a 69-kV gen-tie will connect the Project's electrical output to the existing South Bethel – Brown 69-kV transmission line.

The Project is expected to operate with an annual capacity factor of approximately 25 percent, generating approximately 175,000 megawatt-hours (MWh) of electricity each year.

Additional details for the Project are provided in Section 4906-4-03(B)(2) of this Application.

(3) Site Suitability

The Project site selection process, as it affirms site suitability, is described in greater detail in Section 4906-4-04. As outlined in that section, the region of southwestern Ohio has planned shutdowns of existing coal-fired capacity creating a need for power, and solar resources to support a commercial PV solar energy facility are the most robust in the state.

The general location of the Project was selected based on consideration of a range of key characteristics that are required for a successful photovoltaic solar facility. Once the general location was selected, additional scrutiny of a range of issues was undertaken

prior to initiating the engineering and environmental activities necessary for completion of the OPSB Application.

Key characteristics of the proposed Project Area that makes it suitable for Project development are outlined in Table 02-1.

TABLE 02-1
PROJECT AREA CHARACTERISTICS

Key Attribute	Project Area Characteristics
Adequate Size	Appropriate parcel area is available from participating landowners to accommodate an 80-MW solar facility.
Compatible Land Use	The Project Area is predominantly agricultural land with the opportunity for setbacks from the limited residences located in the immediate surroundings.
Solar Resource Suitability	Resource mapping indicates that the Project Area has adequate solar resources.
Access to Transmission	The existing 69-kV electric transmission system that extends through the Project Area provides adequate access both from a physical standpoint and in terms of its ability to accept the Project's power.
Site Accessibility	The Project Area is served by an existing network of public roads.
Community Receptivity	Local and state stakeholders have been welcoming and engaging.
Limited Sensitive Environmental Resources	The Project is not expected to result in significant adverse impacts to ecological resources.

(4) Project Schedule

The Project schedule is based on the submission of this Application in early December 2018, the issuance of the OPSB Certificate by May 2019, and the commencement of construction by June 2019. Commercial operation is planned for the second quarter of 2020.

Any delay in the issuance of the OPSB certificate would have a significant negative commercial impact on the Project's planned operations and would jeopardize the Project's ability to provide renewable energy to the Ohio electrical grid.

(B) ADDITIONAL INFORMATION

(1) Description of Future Plans/Plans for Future Additions

No additional generating units are planned within the Project Area in direct association with this Project; generation output will be limited to 80 MW.

(2) Applicant Information

The Applicant is a wholly-owned affiliate of Lendlease Energy Development LLC, which, in turn, is a wholly-owned affiliate of Lendlease Americas Inc., which is a wholly owned subsidiary of Lendlease Corporation Limited (Lendlease), an Australian company.

Lendlease is one of the world's leading fully integrated property and infrastructure solutions providers. Lendlease has a global development pipeline of $44 billion, funds under management of $21 billion, and a global construction backlog of approximately $17 billion.

Lendlease Energy Development began an independent focus on developing and constructing renewable energy projects in the United States in 2013. Lendlease's solar experience in the United States includes the construction of approximately 140 MW and a development portfolio of more than two gigawatts (GW) of solar and battery storage projects across the country. The Applicant's development team possesses deep experience developing, financing, and constructing power generation projects totaling more than 13 GW across North America and the Caribbean. The commitment of the Applicant to improving sustainability through the contribution of renewable energy to support energy diversity is the backdrop for this Project.

4906-4-03 Project Description and Schedule

(A) DETAILED DESCRIPTION OF THE PROJECT AREA

(1) Project Map

Figure 03-1 identifies: the proposed Project Area; proposed solar panel locations; major population centers and administrative boundaries; major transportation routes and electric transmission corridors; named rivers, streams, and other bodies of water; and major institutions, parks, and recreational areas within a 2-mile radius of the Project Area.

(2) Project Area

The approximately 610-acre Project Area includes portions of 11 properties between Leonard Road and Antioch Road. The Project Area is illustrated on Figure 03-2, with the proposed Project layout overlain within the boundaries of the Project Area. Additional detail is provided in Figure 03-3.

(B) PROPOSED PROJECT DESCRIPTION

As shown on Figure 03-2, all proposed Project components are situated within the approximately 610-acre Project Area. The following sections describe key aspects of the proposed Project.

(1) Project Details

(a) Generation Units

The solar panel technology for the Project will be one of two basic types: crystalline or thin-film. Crystalline modules are silicon-based. Thin-film modules use one of several alternative chemistries (such as cadmium telluride or CIGS). The racking technology will be tracking.

Although specific vendors have not been selected for either the modules or racking system, the technology providers that will be used will qualify as "bankable" vendors. This means that these vendors have existing projects in operation using their technology, they have received non-recourse debt financing in the past, they own their own production facilities, and they have not filed for bankruptcy.

As shown in Figure 03-3, the solar PV panels will be positioned in areas located throughout the Project Area that have been selected to avoid and/or minimize potential impacts to natural resources to the greatest extent practicable.

Approximately 284,000 PV panels will be installed in linear arrays in a generally east-west orientation across the Project Area. The arrays will generally face south and track the sun. Each array will consist of panels mounted on fixed vertical post foundations that will be driven into the ground to a depth of approximately 10 feet.

The Project is expected to operate with an annual capacity factor of approximately 25 percent, generating approximately 175,000 MWh of electricity each year. In the summer time, the Project will produce sufficient power during portions of the day to supply approximately 16,000 households.

(b) Wind Turbine Blade Dimensions

This section is not applicable, as the proposed Project does not include the installation of any wind turbine equipment.

(c) Fuel Quantity and Quality

This section is not applicable, as the Project will solely use energy from the sun to generate electricity.

(d) Pollutant Emissions

This section is not applicable, as no emissions result from the generation of electricity using PV solar technology.

(e) Water Volume Requirement

This section is not applicable, as no water is used from the generation of electricity using PV solar technology.

(2) Description of Construction Method and Project Components

Information about key Project components is provided below, including a discussion of general construction and reclamation methods; materials, colors, and textures of surfaces; and dimensions.

(a) Generation Equipment

The generation equipment to be used by the Project are solar panels mounted on metal racking. The racking will include piles that will be driven into the ground in long rows or "arrays." A typical racking post is approximately 10 feet long; depending on ground conditions it will be driven to a depth of 6 to 15 feet below the ground surface. A standard solar racking post is approximately 6 inches across and 4 inches wide.

In general, the arrays will follow the contours of the land, although some rough grading may occur. The arrays will be grouped in clusters throughout the Project Area as shown in Figure 03-3, based upon property boundaries and other

constraints. The racking system will employ tracking that will be oriented in east-west rows, with the panels facing south to maximize solar capture.

PV panels are installed on the racking system in either a landscape (horizontal) or portrait (vertical) orientation. The modules are affixed to the racking with clips. The modules will be connected using direct current (DC) cables that can either be buried in a trench or attached to the racking system. The DC cables gather at the ends of the racking systems in combiner boxes to transmit the cables to the inverter/transformer locations within each cluster of arrays.

The Project Area will be enclosed with 7-foot tall wire fencing and locked gates to provide for equipment security and public safety. The exact placement of Project components is subject to change prior to construction. Final engineering efforts will determine the exact location of all equipment, based on the equipment model selection and geotechnical studies.

(b) Storage Facilities

While the Project is under construction, fuel used by the construction equipment will be stored within appropriate containment in designated laydown areas. PV solar structures generate electricity without the use of fuel or water, and without generating waste. As such, the Project does not include any significant facilities for fuel, waste, water or other storage.

(c) Processing Facilities

Solar panels generate electricity without the use of fuel or water, and without generating waste; therefore, no associated processing facilities are proposed.

(d) Water Supply and Discharge

This section is not applicable, as no water is used or discharged from the generation of electricity using PV solar technology, other than stormwater discharge (which will be minimally affected by the Project, as further discussed in Section 4906-4-07(C)).

(e) Transmission Facilities

No new electric transmission facilities are proposed in association with the Project; rather, the Project can tie in to the existing 69-kV South Bethel – Brown 69-kV transmission line that extends through the Project Area. A new Project Substation will step up the electricity, transmit the electricity to the Utility Switchyard, and a short 69-kV gen-tie will connect to the existing grid via the existing 69-kV South Bethel to Brown transmission line. The Project Substation and Utility Switchyard are further discussed in Section 4906-4-03(B)(2)(g).

(f) Electric Collection Lines

Power from the combiner boxes will be transmitted to the inverter/transformer locations where the following will be located: a DC-to-AC inverter, a step-up transformer that increases the voltage to 34.5 kV, and an inverter (which is a cabinet containing power control electronics). The equipment in this

area will be mounted on a pre-fabricated foundation such as a metal skid or concrete block.

Collection lines will traverse the Project Area (as shown on Figure 03-3) to collect the electricity from each inverter/transformer location and bring it to the new Project Substation. The collection lines will be installed underground and will be buried at least 36 inches below grade.

(g) Substations and Transformers

The existing transmission line into which the Project will interconnect extends along Bethel Maple Road, traversing the southern portion of the Project Area (as shown on Figure 03-2).

In order to tie into the existing 69-kV transmission line, the Project will include a step-up transformer within the Project Substation and Utility Switchyard. The Project Substation and Utility Switchyard are proposed at the same location on the corner of Bethel Maple Road and Leonard Road, and will be accessed using a gravel driveway off of Bethel Maple Road.

The Project Substation will include collection line feeders, breakers, metering/relaying equipment, disconnect switches, an equipment enclosure for power control electronics, a lightening mast, and a main power transformer (to increase the voltage from 34.5-kV to 69-kV). The equipment for the Project Substation will be constructed on a concrete foundation that is expected to be a maximum of 50,000 square feet (200 feet by 250 feet). The Project Substation will be securely fenced. The Project Substation will connect to the Utility Switchyard,

which in turn will connect to the existing 69-kV transmission line via a short 69-kV gen-tie.

The Utility Switchyard will include all appropriate equipment for Project interconnection to the electrical grid. The equipment for the Utility Switchyard will be constructed on a concrete foundation that is expected to be a maximum of 50,000 square feet (200 feet by 250 feet). The Utility Switchyard will be securely fenced. The Utility Switchyard will connect to the existing grid via a short 69-kV gen-tie that will cross to the southern side of Bethel Maple Road where the existing 69 kV transmission line is located.

(h) Meteorological Stations

The Project will include up to three solar meteorological stations, which will include pyranometers that measure solar resource, ancillary meteorological instruments such as an anemometer, a wind vane, a barometer, a rain bucket and a temperature probe, as well as associated communications equipment. Each of the instruments comprising a meteorological station will be installed on a pre-cast concrete block foundation or directly on the ground and will be less than 15 feet in height. Each meteorological station will occupy less than 400 square feet and, if not located within a fenced area, will be separately fenced and gated.

(i) Roads

As shown on Figure 03-3, entrances for the Project will be located off each of the public roadways that extend through the Project Area, to allow for access to each solar panel array. The Project Substation and utility-owned switchyard will

be accessed off Bethel Maple Road. The surrounding roadway network is anticipated to support construction-related traffic.

Access to the array clusters will be provided through the construction of approximately 20-foot-wide gravel roads, as shown in Figure 03-3. Minor grading may be required along the proposed access roads to appropriately manage stormwater flows, mitigating erosion and sedimentation.

(j) Construction Laydown Areas

Temporary laydown areas, used for placement of materials during the approximately 10-month construction period, will be located within the Project Area boundaries. No additional tree clearing will be conducted for these temporary work spaces. Temporary use areas will be restored following completion of construction, if not used for other Project installations. Details regarding erosion and sediment control Best Management Practices (BMPs) consistent with the Ohio Rainwater and Land Development Manual (Ohio Department of Natural Resources [ODNR] 2014) will be incorporated in the Stormwater Pollution Prevention Plan (SWPPP) that will be prepared prior to construction; controls will be installed prior to work in each particular area. The BMPs will be removed once soils are appropriately stabilized.

The laydown areas will accommodate material and equipment storage, construction worker parking, and trailers for use as construction offices. No lighting is proposed within the laydown areas, although it could be added as needed should safety or vandalism issues be identified.

(k) Security

Equipment areas within the Project Area will be entirely enclosed by a 7-foot-tall chain link fence, consistent with National Electric Safety Code and National Electric Code standards. Gates will be used for operations and maintenance and/or emergency access. "No Trespassing" signs will be posted along the fence, and the access gates will remain locked at all times when not in use by the Applicant or its authorized contractors.

(l) Other Installations

No other installations are associated with the Project.

(3) Description of New Transmission Facilities

As further discussed in Section 4906-4-05(B), preliminary studies for the 80-MW Project have been completed by PJM. The studies reflect a POI into the existing South Bethel – Brown 69-kV transmission line. An Interconnection Agreement, for combined queue positions AC2-088 and AD1-136, is expected by the end of 2018.

The only new transmission component associated with the Project will be the gen-tie into the existing South Bethel – Brown 69-kV transmission line. In order to provide the electricity generated by the Project to the POI, the Project will step up voltage from 34.5 kV to 69 kV within the Project Substation. A new Utility Switchyard will be constructed next to the Project Substation for the electrical interconnection. A short 69-kV gen-tie will connect the Project Substation to the Utility Switchyard. In turn, a short 69-kV gen-tie will connect the Utility Switchyard to the existing South Bethel – Brown 69-kV transmission line.

(4) Map of Project Site

Figure 03-3 illustrates the proposed Project on an aerial photograph overlain with the Project layout, showing surrounding road names, utility corridors, and major features of the proposed Project.

(C) DETAILED PROJECT SCHEDULE

(1) Schedule

The Project schedule is shown in Figure 03-5. The planning stages have been underway since 2016. Since that time, the Applicant has been actively working with local landowners and evaluating potential layout refinements. The goal is initiation of construction in June 2019, to allow electricity to be provided to the electric grid in the second quarter of 2020.

(2) Construction Sequence

Initial construction activities will commence following certification by the OPSB and receipt of other environmental permits. Construction of array areas may be sequenced or may be constructed concurrently, but in any event will follow the same general procedures. Initial work will involve tree clearing (within the appropriate season to avoid potential impact to summer-roosting bats) and installation of erosion control BMPs. Where natural resource areas such as wetlands are in proximity, they will be staked to ensure appropriate avoidance. Access road construction will be implemented in order to support construction within each cluster, followed by delivery of equipment. Foundations will be installed to support the inverter/transformer installations, and pile driving associated with the racks will be completed. Panels will be attached, and subsurface electrical interconnections will be completed once the racks are installed.

Project Substation and Utility Switchyard construction is anticipated to occur early in the construction timeline, to allow for electrical connections as each area is assembled.

No substantial grading requirements are anticipated to be necessary. As each discrete area of installation is completed, the ground surface will be stabilized, although BMPs will remain in place until final stabilization occurs. Upon final installation of the arrays, fencing will be installed, signage established, and final site stabilization, testing, and commissioning completed.

(3) Delays

Certain delays in the development of the Project may have a material, adverse effect on the Applicant's efforts to secure financing for the Project's construction by the planned in-service date. These delays could include an inability to purchase panels, racking, inverters or transformers; permitting delays; and labor shortages. Delays such as these may cause the postponement of Project construction. A delay in the schedule could jeopardize the Project's ability to provide renewable solar energy to the existing electrical grid.

4906-4-04 Project Area Selection and Site Design

(A) SITE SELECTION PROCESS

The Applicant has experience understanding energy markets and areas of potential energy demand, as well as assessing suitability for locations of solar facilities.

(1) Description of Study Area

The particular region within which the Project is located was initially selected as a focus area due to a combination of need for additional electricity and availability of solar resources. The Project Area is not only proximate to metropolitan areas within Ohio, but is also located in a region with strong solar energy potential in the state, as shown on the Solar Resource Map of Ohio (Figure 04-1). Given the suitable and stable solar resource evident in Clermont and Brown Counties, this area was identified as an appropriate target area for considering a solar energy project.

Selection of a study area was also informed through consideration of the existing electric transmission system and the general land use character, as a solar energy facility needs the ability to interconnect with the bulk power transmission system and also needs land area upon which to site solar panels in a manner that is compatible with existing land uses. With existing transmission infrastructure located throughout the area, and land use characterized by agricultural properties with substantial open spaces, a study area focused on southwestern Ohio was confirmed.

(2) Map of Study Area

Although the Applicant is constantly investigating the potential for energy facilities throughout the United States, Ohio was a particular target. As noted above, evaluation of potential locations within southwestern Ohio quickly focused on an available area in

Clermont and Brown Counties. The focus for definition of a Project Area was on an area determined to have the most favorable balance of attributes required for a solar energy project, as discussed further below. Figure 03-2 illustrates the study area boundary.

(3) Siting Criteria

Careful site evaluation was undertaken to determine suitability for the proposed Project. In addition to the need for new generation, the Applicant considered the following criteria in selecting and evaluating the Project study area:

- Strong solar energy potential;
- Proximity of adequate electrical interconnection;
- Willing land owners and host community;
- Site accessibility;
- Compatible land use; and
- Limited environmental constraints.

These criteria were not assigned particular weights; rather, each played a similar role in determining the location of the Project within the study area.

(4) Process for Identifying the Proposed Site

The Project was first considered by the Applicant in early 2016. The Project and its study area were then subjected to an evaluation in accordance with minimum siting criteria.

The Applicant then initiated contact with potential participating landowners, identifying specific parcels as the Project Area for which lease agreements were pursued. More detailed assessments to review characteristics of the Project Area were undertaken at that time.

(5) Factors in Selecting the Proposed Site

The evaluation of the Project study area in accordance with the Applicant's key site selection characteristics identified that the Project was extremely suitable for its intended purpose, as further outlined below.

- Strong solar energy potential – The Applicant determined through an initial screening process using the statewide solar resource map that this area of Ohio has a strong solar energy potential. Confirmatory meteorological data collection is currently underway.
- Proximity of adequate electrical interconnection – Existing transmission infrastructure extends through the Project Area. Based upon the Combined Feasibility and System Impact Studies Report conducted by PJM and Duke, this infrastructure was determined to have the capacity to accept an 80 MW injection of electricity at a reasonable cost and with no impacts to the local transmission system.
- Willing land owners and host community – The Applicant acquired the required land for adequate acreage to allow for the Project layout and an appropriate buffer. Subsequent meetings with local officials have confirmed the willingness of the community to host the Project.
- Site accessibility – The Project Area is served by a network of public roads that will facilitate construction deliveries and site access. Located approximately 30 minutes east of Cincinnati, Ohio, the Project Area is serviced by proximate State Routes, including OH-125, 133, and 774.

- Compatible land use – No zoning applies to the Project Area. Sufficient land is available within the existing agricultural parcels to allow for the location of the Project in a manner that will not intrude upon surrounding land uses. Surrounding properties reflect similar large agricultural properties, scattered residential uses, and local roads.
- Limited environmental constraints – Available resource mapping did not indicate substantial areas of wetland or other sensitive resources.

Applicant is not presenting for consideration any alternative locations for the Project, either within the study area or southwestern Ohio generally. Rather, the only proposed location for the Project is the Project Area.

(B) PROJECT LAYOUT DESIGN

With the results of the evaluation described above confirming the Project Area as favorable for the proposed Project, the Applicant continued with the more detailed environmental and other studies, as well as Project engineering design, to support the OPSB Application for the Project.

(1) Constraint Map

Figure 04-2 provides constraint mapping completed as part of the critical issues assessment for the Project.

(2) Project Layout Criterion

As illustrated in Figure 04-2, known features on the Project Area and in the surrounding area were considered when designing the Project layout, as well as other key factors. The substation location proximate to the existing electric transmission lines to facilitate the tap into the 69-kV grid was a cornerstone of the layout. Constraints taken into consideration in developing the location of the arrays within the Project Area included:

- Minimizing impact to wetlands and streams;
- Minimizing the need for tree clearing within larger woodlots;
- Maintaining appropriate setbacks from residences and property lines, as well as roadways and utility corridors;
- Facilitating access and electric collector line efficiency; and
- Maximizing solar output.

(3) Comments Received

A public informational meeting was held on November 7, 2018. A total of 14 attendees provided contact information and the Applicant estimates more than 30 people attended the meeting. Information displayed at the meeting is presented in Appendix A, along with blank copies of the sign-in and comment sheets utilized.

Written comments were received from one individual. The written comments as well as the majority of verbal comments received focused on concerns about visibility from near neighbors (and associated property value) and on stormwater issues that have occurred in the past within the Project vicinity. Each of these issues is addressed in the Application in the appropriate sections.

The Applicant will continue to coordinate with local residents and officials as the Project is implemented.

4906-4-05 Electric Grid Interconnection

(A) INTERCONNECTION TO THE REGIONAL ELECTRIC POWER SYSTEM

The Project will deliver power to the electrical grid via a gen-tie from the Project Substation to the Utility Switchyard that will, in turn, connect via a gen-tie with the existing 69-kV South Bethel – Brown transmission line. The existing transmission line and proposed POI are shown in Figure 03-2.

The Project will utilize 34.5-kV electrical collector lines within the Project Area to gather power from each panel into the new Project Substation. From the Project Substation, a single 69-kV gen-tie will connect the Project to a Utility Switchyard that, in turn, will connect the Project to the existing electric grid.

(B) INTERCONNECTION REQUEST

The Applicant originally filed for the Project at a capacity of 70 MW and was assigned the queue position AC2-088. The Feasibility Study was completed in July 2017 and the System Impact Study was completed in March 2018. These studies are available here:

- https://www.pjm.com/pub/planning/project-queues/feas_docs/ac2088_fea.pdf
- https://www.pjm.com/pub/planning/project-queues/impact_studies/ac2088_imp.pdf

The Applicant subsequently proposed an uprate to queue position AC2-088 for an additional 10 MW and a combined maximum facility output of 80 MW. The 10 MW uprate was assigned queue position AD1-136. The Combined Feasibility and System Impact Studies Report including AD1-136 was completed in January 2018. These studies are available here:

- https://www.pjm.com/pub/planning/project-queues/feas_docs/ad1136_fea.pdf
- https://www.pjm.com/pub/planning/project-queues/impact_studies/ad1136_imp.pdf

The PJM studies completed thus far are provided in Appendix B. A Generation Interconnection Facilities Study Report and a draft Interconnection Agreement for the combined queue positions are expected by December 2018.

4906-4-06 Economic Impact and Public Interaction

(A) OWNERSHIP

The Applicant will develop, construct, own, and operate the proposed Project. The Applicant will own all the equipment, structures, and on-site improvements associated with the Project, with the exception of the Utility Switchyard and the 69-kV gen-tie that will connect into the existing 69-kV South Bethel to Brown electric transmission line. The Applicant possesses development rights for all land within the Project Area via purchase option or lease agreement. The only Project-related structure currently located within the Project Area is a meteorological measurement structure; the remaining Project equipment will be acquired in the future.

(B) CAPITAL AND INTANGIBLE COSTS

(1) Estimated Capital and Intangible Costs

The total estimated capital and intangible costs of the Project is expected to be approximately $1,375/kilowatt (kW), inclusive of intangible costs and dependent on the final module, racking, and inverter suppliers and modules selected. These costs are broken down in Table 06-1 below.

TABLE 06-1
ESTIMATED CAPITAL AND INTANGIBLE COSTS

Description	Cost ($/kW)
Tangible Costs	
PV Panels and Racking	$380
Balance of Plant & Civil	$500
Substation and Gen-Tie	$26
Interconnection Upgrades	$20
Total Tangible Costs	*$926*

Description	Cost ($/kW)
Intangible Costs	
Legal, Development, Financing, and Other Costs	$449
Total Capital Expenses	***$1,375***

(2) Capital Cost Comparison

Installed facility costs compiled by Lazard's 2017 Levelized Cost of Energy Analysis – Version 11.0 indicate that the capital costs of the Project are consistent with recent industrial trends. Lazard indicates that solar facilities installed in 2017 using photovoltaic technology have a capital cost between $1,100 and $1,400/kW. The Applicant anticipates having similar capital costs, averaging $1,375/kW. Capital cost variation reflects individual facility parameters such as solar resource, terrain, scale, climate, local labor, and proximity to equipment suppliers.

(3) Present Worth and Annualized Capital Costs for Alternates

Capital costs for the Project will include development costs, construction design and planning, equipment costs, and construction related costs. The costs will be incurred within two years of start of construction. Therefore, a present worth analysis is essentially the same as the costs presented above. Because alternatives to the Project are not under consideration, the capital cost information presented is limited to the Project.

No Project configuration alternates are presently being considered and, thus, no comparison can be developed.

(C) OPERATION AND MAINTENANCE EXPENSES

(1) Estimated Annual Operation and Maintenance Expenses

For the first two years of commercial operation, the annual operations and maintenance (O&M) cost of the Project are expected to be approximately $730,000, or $9/kW. These costs include O&M expenses associated with the solar units and balance of plant features, as well as site maintenance and unplanned maintenance reserves.

(2) Operation and Maintenance Expenses Comparison

O&M costs for this Project, not including costs for taxes or land leases, should not be substantially different than O&M costs for other U.S. solar facilities at $9/kW. O&M costs are an important component of the overall cost of solar energy projects and can vary between facilities. Similar to capital costs, annual operations and maintenance expenses vary across geographies and by project scale. Key activities include monitoring and supervision, grid regulation, corrective maintenance, preventative maintenance, and site maintenance.

Modern solar facilities frequently reflect lower O&M costs than industry reports indicate. Industry competition and consolidation of O&M providers has led to significant cost reductions as the solar industry continues to mature. Present Worth and Annualized Operation and Maintenance Expenses for Alternates.

(3) Present Worth and Annualized Operation and Maintenance Expenses

The annual operations and maintenance costs outlined above will be subject to real and inflationary increases. Therefore, these costs are expected to increase with inflation throughout the life of the Project. The present value of the operation and maintenance costs per kW, using an inflation rate of 2 percent and assuming a 7 percent

discount rate, is approximately $167/kW. The Applicant is not considering any alternate O&M regime or Project technology configurations at this time.

(D) COST OF DELAYS

A delay in Project schedule during the permitting process, based purely on the lost revenue from the solar Facility, and assuming a power price similar to other comparable solar facilities, is likely to be greater than $550,000 per month. Depending on the length of the delay, it is possible that the Applicant could lose the value of the federal tax credits, which would inflict additional financial burden. Should the Applicant have an agreement with a potential off taker for the Facility, penalties could also apply in that regard.

(E) ECONOMIC IMPACT

The proposed Project is expected to generate local and statewide economic benefits. The following sections provide an overview of potential construction- and operation-related economic impacts including estimated payroll, employment, tax revenues, and regional economic benefits. These estimates were developed using Project-specific information and an IMPLAN economic model. Economic impacts and the model are discussed further in the economic impact study prepared for this Project (Appendix C).

(1) Estimated Construction and Operation Payroll

Project construction is proposed to begin in June 2019, with construction activities expected to extend through March 2020. Based on the results of the economic analysis, construction of the Project is estimated to result in on-site employment of 157 full-time equivalent (FTE) positions that may be filled by Ohio residents, with an estimated total of

$10.2 million in payroll earnings.[2] These earnings are one-time payments expected to occur during the 10-month construction period.

The results of the economic analysis indicate that the Project's O&M will result in 3 FTE positions on-site with combined estimated earnings of approximately $100,000. These payroll earnings are annual estimates that will continue for the life of the Project. The identified FTE positions are all expected to be filled by Ohio residents. Estimated construction and operation payroll is discussed in more detail in Appendix C.

(2) Estimated Construction and Operation Employment

Project construction is expected to begin in June 2019, with construction activities expected to extend through March 2020. Based on similar experience, the Applicant estimates that Project construction will directly employ approximately 157 on-site workers.

The economic analysis estimates that Project construction will result in on-site employment of 157 FTE positions, the majority of which are expected to be filled by Ohio residents. Certain resources, particularly those focused on project management and commissioning, have greater potential to come from outside the state, remaining only for the duration of their employment.

The results of the economic analysis indicate that the Project's O&M will provide direct employment for 3 FTE workers, all of whom are expected to reside in Ohio. This is an annual employment estimate that will continue for the life of the Project. Construction and operation employment is discussed in more detail in Appendix C.

[2] One FTE job equates to one full-time job for one year or 2,080-hour units of labor. Part-time or temporary jobs constitute a fraction of a job. For example, if an engineer works just 3 months on a construction project, that would be considered one-quarter of an FTE job. FTEs are also sometimes referred to as job-years.

(3) Estimated Increase in Local Revenue

Solar energy projects in the State of Ohio can be exempted from tangible personal property and real property tax payments if they meet certain conditions (as discussed in Appendix C). The Applicant anticipates that it will meet these conditions and, instead, make annual payments in lieu of taxes (PILOT) in accordance with Ohio Revised Code (ORC) 5727.75.

The Applicant anticipates that it will make payments in lieu of real and personal property taxes, with the Project estimated to generate significant payments during its first year of operation, and each year thereafter. Based on an assumption of a PILOT of $7,000/MW for 80 MW, it is estimated that the Project will generate $560,000 in revenue annually for Brown and Clermont counties.

(4) Estimated Economic Impact

Construction and operation of the proposed Project will have a positive effect on local commercial activities in the local area. The largest share of the overall construction cost consists of the purchase of the solar modules. Expenditures related to this construction component are expected to occur outside the state of Ohio. Balance-of-plant and development and other costs are two other broad categories of costs that would have the potential to occur in-state. Balance-of-plant activities include materials, labor, and other costs. The materials portion includes concrete, rebar and other construction materials, as well as the electrical components and cabling required to prepare the site and install the facility. The labor component includes the site work, foundations, electrical, and other associated labor needed to construct the Project. Development and other costs include legal fees, engineering, site certificates, and other miscellaneous expenditures. Shares of these

expenditures are expected to be made locally, within Clermont and Brown Counties and elsewhere in Ohio. This local spending will generate economic activity and support jobs and income elsewhere in the local and regional economies.

The Project will also provide direct operation-related employment and Project-related operations expenditures will generate economic benefits in the local economy. Typical local operation-related expenditures include vehicle-related expenditures, such as fuel costs, site maintenance, replacement parts and equipment, and miscellaneous supplies.

Potential regional economic impacts of Project construction and operation were evaluated using the economic model. The results of this analysis are presented in Appendix C and may be summarized as follows:

- Project construction will result in on-site employment of 157 FTE positions that will be filled by Ohio residents, including an estimated 138 FTE jobs associated with road construction, drainage, foundations and other civil work, electrical work, and other on-site tasks needed to construct the plant, as well as an estimated 19 construction-related service jobs.

- Construction of the Project will also support employment, income, and output elsewhere in the state, with indirect impacts expected to support 101 jobs in Ohio and induced impacts expected to support an additional 57 jobs. Overall, construction of the Project is expected to support 314 total jobs in Ohio and approximately $18.5 million in earnings, with total economic output of approximately $36.1 million.

- Once operational, the Project will employ a total of 3 workers, all of whom will reside in Ohio. Project O&M will also support employment, earnings, and output elsewhere in the state, with indirect impacts expected to support 1 jobs in Ohio and induced impacts expected to support an additional 1 jobs. Overall, operation of the Project is expected to support 5 total jobs in Ohio and approximately $0.3 million in earnings, with total output of approximately $0.5 million. These annual average impacts are expected to occur over the life of Project operation.

(F) RESPONSIBILITY TO THE PUBLIC

(1) Public Information Program

Work within the community has been on-going since 2016 by the Applicant, including meetings with the local political leadership as well as potential participating landowners.

The Applicant's public interaction has included mailing letters and Project boundary maps to property owners, abutters, and elected officials; issuing a public notice and a news release to the local media; and hosting a public informational open house on November 7, 2018. Copies of informational materials available at the public open house are included in Appendix A. Local coordination is expected to continue throughout the development and construction process.

The procedures outlined in the Complaint Resolution Program (provided in Appendix D) will be implemented during construction of the Project. Notification to affected parties will be provided at least seven days prior to the start of construction. All complaints will be addressed in a timely manner, with information sought to identify and

address the root cause, as appropriate. Once the Project is operational, the Complaint Resolution Program will be updated accordingly and will continue to be used.

No later than seven days prior to the start of construction, Applicant will mail a notice of construction of the Project to the following persons: (1) affected property owners and tenants who were provided notice of the public information meeting; (2) attendees of the public information meeting who requested updates regarding the Project and provided a mailing address for that purpose; and (3) any other person who requests updates regarding the Project and provides a mailing address for that purpose. The notice of construction will summarize the upcoming construction activities, describe the areas in which construction will occur, including the main routes of equipment delivery, and provide the name and contact information of a representative of the Project to whom any complaints, concerns or comments may be addressed.

Once construction is complete, contact information will be posted at or near the entrances to the Project Area.

(2) Liability Compensation Plans

The Applicant carries a significant amounts of liability insurance. The Project will be covered under the Applicant's liability insurance programs for general commercial liability insurance and automobile liability insurance during development, construction, and operation of the Project.

(3) Impact to Roads and Bridges

The Project is expected to have only very modest impacts on roads, bridges, and traffic in the local community. During construction, which is expected to be a limited period of approximately 10 months, the area will experience delivery of components by

truck. The majority of this equipment, with the exception of several pieces of equipment to be installed as part of the Project Substation, will not be unusually large or heavy. Although worker-related traffic to the Project Area will increase, it is not expected to result in adverse impacts to the community. No special improvements to roads or bridges are anticipated to be required. The Applicant will coordinate with the County Engineers to schedule the construction effort and implement measures determined to be necessary. A preliminary Transportation Management Plan is provided in Appendix E.

Project operation will result in very few deliveries and have minimal traffic from operational vehicles, and so is expected to have no adverse effects on roads, bridges, and traffic.

(4) Transportation Permits

No oversized transport is required for delivery of equipment and materials to the Project Area. It is not expected, therefore, that special hauling permits or other significant transportation permits would be needed. Approval of the curb cut for the points of access is expected to be required by the relevant county.

(5) Plan for Decommissioning

The Applicant and/or its successor in interest will be responsible for decommissioning of the Project once it has reached the end of its operational lifespan. The Project is designed for an expected operational life of 35 to 40 years. As the Project approaches the end of its operation life, it is anticipated that technological advances will produce more efficient and cost-effective solar arrays which will economically drive the replacement of the Project.

Decommissioning of the Project is described as the removal of all system components and the rehabilitation of the site to conditions similar to pre-construction. Deconstruction procedures are designed to ensure public health and safety, environmental protection, and compliance with applicable regulations. The Project owner will be responsible for:

- All decommissioning costs;
- Obtaining any additional permits required for the decommissioning, removal, and legal disposal of Project components prior to commencement of decommissioning activities; and
- Complete decommissioning, including component removal and disposal, re-vegetation in accordance with applicable permits and in compliance with all applicable rules and regulations in effect governing the disposal thereof.

The following sections outline the plan for decommissioning of the Project and site reclamation.

(a) Estimated Cost and Financial Security

Given the expected overall cost of the Project components today, and the estimated salvage value of the panels, racking system, inverters, and transformers, it is customary to expect that the salvage value of the system will exceed decommissioning costs for the first 10 to 15 years of the Project's life. The estimated cost of decommissioning and respective salvage value can be more specifically estimated once the Project achieves commercial operation. The Project currently has agreements in place with landowners that, beginning in Year 10 of the Project's life, will provide greater certainty around

decommissioning costs. To accomplish this, it has been agreed that an outside estimate will be prepared by an independent Ohio-licensed Professional Engineer that will ascertain Project decommissioning costs as well as the anticipated salvage value associated with the Project's components. These estimates will be used to determine the amount of financial security required to secure decommissioning of the Project, which could be in the form of cash, parental guarantee, letter of credit, or performance bond.

(b) Preparation

Prior to start of decommissioning work, the site will be assessed for existing conditions. Decommissioning and removal of Project structure from the site is anticipated to occur within one year following discontinuation of operations of the Project. Decommissioning and equipment removal can take up to six months to complete; therefore, assessment of site conditions is needed to ensure proper planning and management of the movement of materials and to protect surrounding natural resources. Erosion and sediment controls will be installed on the site during this time. Access roads and fencing will temporarily remain in place for use by the decommissioning and site restoration workers until decommissioning activities are completed. Demolition debris will be placed in temporary on-site storage areas until final transportation and disposal/recycling. Erosion and sedimentation BMPs will be installed prior to the commencement of any decommissioning activities with notification provided to the appropriate state and municipal agencies.

(c) Photovoltaic Equipment Removal

The Project will be de-energized through disconnection from the utility power grid. All aboveground wirings, cables, and electrical interconnections will be disconnected. Equipment removal will include all aboveground facilities, including wiring, PV modules, module racking, string inverters, and panel boards. PV modules will be shipped to a recycling center for recycling and material reuse.

Any holes and/or depressions will be filled. Steel pilings which supported the module racking will be mechanically removed and any resulting holes will be backfilled. The concrete transformer and interconnection equipment pads will be broken up and removed.

The DC/AC power collection system will be dismantled and removed. All underground cables and conduits and cabling that is removed will be recycled. The overhead interconnection to the utility power grid will be removed unless the landowner determines that the electrical service line will be beneficial for future use of the site, in which case the line may remain after decommissioning.

The demolition debris and removed equipment may be cut or dismantled into smaller pieces that can be safely lifted or carried by the deconstruction equipment being used. The majority of glass and steel and aluminum will be processed for transportation and delivery to an off-site recycling center. Minimal non-recyclable materials are anticipated; these will be properly disposed of at a qualified disposal facility.

(d) Access Road and Security Fencing Removal

The on-site access roads servicing the Project and the security fencing around the Project will remain in place during decommissioning activities to support the removal of equipment. Once removal activities are completed, discussion with the landowners will occur to determine if the roads or security fencing will be beneficial for future use of site. If the access roads or security fencing is determined to be beneficial for future use of site, these facilities may remain in place. Access roads that will not be utilized to support future use of the site will restored to pre-construction conditions. Areas being returned to prior use will be reseeded to match existing onsite groundcover. If the security fencing is not to be used, it will be removed and transported to the nearest recycling facility.

(e) Site Reclamation

Once all Project equipment has been removed, additional activities will occur to return the property back to conditions similar to pre-construction. Reclamation will restore vegetative cover and hydrological function after the closure of the facility.

Any excavated areas remaining after the removal of equipment pads, access road base material, or fence posts will be backfilled with locally imported soil.

Given the Project's construction plans, which call for minimal disturbance of the earth surface, it is unlikely that any significant earthwork will be required. Efforts will be made to not disturb the natural drainages and existing natural vegetation that remain post-decommissioning.

4906-4-07 Air, Water, Solid Waste, and Aviation Regulations

(A) COMPLIANCE WITH APPLICABLE REGULATIONS

This section provides an assessment of the environmental effects, specifically relating to air quality, water quality and waste generation/disposal associated with the proposed Project.

(B) AIR QUALITY

(1) Preconstruction

(a) Ambient Air Quality

The Ohio Environmental Protection Agency (Ohio EPA) collects air quality data (ambient air pollutant concentrations) at monitoring locations throughout Ohio. Brown County is currently in attainment of all National Ambient Air Quality Standards (NAAQS), while Clermont County is in attainment of all NAAQS with the exception of the 2015 ozone standard.

The Project will not be a source of air pollutant emissions. Existing sources of air pollutant emissions in the area surrounding the Project Area include: vehicle traffic; farming activities; and industrial sources. Vehicle traffic produces engine exhaust and fugitive dust from roads. Farming equipment also produces engine exhaust and fugitive dust emissions from exposed agricultural soils. Certain farming practices such as manure spreading, and pesticide application also produce emissions with associated odors that may impact air quality. There are few major industrial sources of air pollutant emissions near the Project site with the closest being the Rumpke Brown County Sanitary Landfill and associated landfill gas engine power station located approximately 6 miles east-southeast from the Project Area.

(b) Pollution Control Equipment

PV solar panels generate electricity without releasing emissions and, therefore, no air pollution control equipment is required for the Project.

(c) State and Federal Performance Standards

PV solar panels generate electricity without releasing emissions; therefore, federal and state programs applicable to emissions sources do not apply. The Applicant will control fugitive dust using BMPs, as described in Section 4906-4-07(B)(2).

(d) Required Permits

No air permit is required for the Project.

(e) Air Monitoring Stations and Major Source Mapping

Air monitoring stations and major source mapping are not applicable to solar projects.

(f) Compliance Plans

Solar facilities generate electricity without generating emissions and an air permit is not required for the Project. However, fugitive dust can be generated during construction; therefore, the Applicant will control fugitive dust using BMPs as described in Section 4906-4-07(B)(2).

(2) Construction

Construction equipment is required for clearing, grading, excavation, and structure erection. Construction impacts on air quality will be minor emissions associated with construction equipment operation and fugitive dust emissions. Construction equipment (gasoline- and diesel-powered engines) will emit minor amounts of volatile organic compounds, sulfur dioxide, carbon monoxide, nitrogen oxides, and particulate matter.

These contaminants are not expected to cause significant impacts beyond the immediate work area. Dust control measures will include minimizing disturbances and restoring or stabilizing exposed or disturbed areas. Stabilization measures on unpaved roads could include applying water or a dust suppressant such as calcium carbonate. For temporary laydown areas, temporary paving or gravel surfacing may be utilized. Any unanticipated construction-related dust will be addressed as it is identified.

(3) Operation

(a) Description of Air Monitoring Plans

Air monitoring plans are not applicable to solar energy projects.

(b) Estimated Air Concentration Isopleths

Air concentration isopleths are not applicable to solar energy projects.

(c) Potential Failure of Air Pollution Control Equipment

Air pollution control equipment is not applicable to solar energy projects.

(C) WATER QUALITY

The Project does not have any water and wastewater requirements. Other considerations for water quality pertain to stormwater management, and any Water Quality Certification review necessary in association with unavoidable wetland impact and associated permitting. Details for the various Project phases are provided in the sections below.

(1) Preconstruction

(a) Required Permits

Prior to construction, the Project will obtain coverage under the general National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharges associated with construction (Ohio EPA's Construction General Permit OHC000005). It is anticipated that wetland impacts will be qualified to receive

coverage under the United States Army Corps of Engineers (USACE) Nationwide Permit (NWP) program, and that no individual Water Quality Certification will be required (as it will, instead, be integrated into the NWP).

(b) Location of Survey Data Sources

No new surface sources will be utilized by the Project; therefore, no monitoring or gauging stations have been used to collect preconstruction survey data. Standard engineering design and BMPs will be utilized to minimize impacts associated with on-site stormwater. Stormwater flows will have no discernible effect on surface or groundwater quality.

(c) Description of Data Sampling Stations and Reporting Procedures

Since there are no monitoring stations, this section is not applicable.

(d) Water Quality of Receiving Stream

The Project will not discharge into streams or water bodies; therefore, this section is not applicable.

(e) Water Discharge Permit Information

No water discharge permitting is required prior to construction, other than confirmation of coverage under the Ohio EPA construction general permit.

(2) Construction

(a) Location of Monitoring Equipment

Stormwater runoff and minor amounts of dewatering are the only discharges associated with the Project during construction. The Project will hire an independent contractor to provide portable sanitary waste units during construction. Therefore, no monitoring or gauging stations will be utilized during construction.

(b) Aquatic Discharges

Discharges that would influence aquatic resources are not anticipated to occur during Project construction. Stormwater flows, and any dewatering discharge, will be treated using appropriate velocity dissipation and sediment control measures. Should horizontal directional drilling (HDD) be used during construction, a contingency plan will be developed to prevent "frac-out" (inadvertent release of non-toxic drilling fluids) (Frac-Out Contingency Plan).

(c) Mitigation Plans

The use of BMPs in accordance with federal and state requirements will ensure that erosion and sedimentation will be minimized during construction, and that stormwater from the Project will not cause off-site impacts.

BMPs for dewatering will include use of a sump pit to trap and filter water for pumping to a suitable discharge point. Clean pumped water will be discharged to a level spreader, riprap energy dissipater, or vegetated/stabilized area to prevent scouring of the receiving area. A filter bag or other sediment trapping device will be used prior to discharge; no discharges will occur directly to a water body, stream, or wetland.

Should HDD construction be used, BMPs associated with the Frac-Out Contingency Plan will be followed.

(d) Changes in Flow Patterns and Erosion

It is anticipated that the Project will not result in significant changes in flow patterns anticipated. The Project's additional impervious surfaces will be limited to a total of approximately 12 acres within the approximately 610-acre the Project

Area; the solar panels themselves are not considered impervious. The Project's impervious surfaces (associated with access roads; solar panel bases; transformer and inverter pads; the Project Substation; and Utility Switchyard) total approximately 2 percent of the Project Area. Stormwater calculations and design will determine the need for control measures based on existing soil and surface conditions to prevent Project runoff from impacting water resources or surrounding land uses.

(e) Description of Monitoring Equipment

Since no water discharges are anticipated to occur in association with Project construction, with the exception of stormwater runoff and dewatering, no monitoring stations are proposed.

(3) Operation

(a) Location of Monitoring Equipment

No monitoring or monitoring equipment is proposed in association with the Project, as measurable impacts on water quality are not anticipated. Stormwater management will use appropriate BMPs.

(b) Water Pollution Control Equipment and Treatment Process

No water pollution control equipment or treatment processes are proposed for the Project; therefore, this section is not applicable.

(c) Issuance of Required Permits

No operating permits are anticipated to be required.

(d) Quantitative Flow Diagram

A quantitative flow diagram is not provided, as no operational discharge will occur other than stormwater runoff.

(e) Water Conservation

The Project, as a solar energy facility, uses no water for the generation of electricity; therefore, the Project reflects an excellent means of water conservation.

(D) SOLID WASTE

(1) Preconstruction

(a) Debris and Solid Waste

Several on-site structures are proposed to be demolished prior to construction of the Project. The debris associated with demolition will be assessed and disposed of in accordance with applicable requirements.

(b) Waste Management Plan

As noted above, the debris associated with demolition will be assessed and disposed of in accordance with applicable requirements; no formal waste management plan is required.

(2) Construction

(a) Debris and Solid Waste

During Project construction, very limited amounts of non-hazardous, solid waste, which will be reused, recycled or disposed of accordance with applicable requirements. These non-hazardous, solid wastes may include package-related materials, such as crates, nails, boxes, containers, and packing materials, damaged or otherwise unusable parts or materials, and occasional litter and miscellaneous debris generated by workers. Construction of the Project will not generate any hazardous wastes. Non-hazardous, solid waste that is not reused or recycled will be disposed of in a sanitary landfill.

(b) Waste Management Plan

Solid waste that can be neither recycled nor reused will be stored in on-site containers for disposal. Temporary collection areas may exist within each construction area, with larger dumpsters stored within the laydown yards. All waste will be removed from the Project work areas by licensed contractors in accordance with applicable regulatory requirements and managed in licensed facilities.

(3) Operations

(a) Solid Waste

Operation of the Project will generate only exceedingly small amounts of non-hazardous, solid waste, which will be reused, recycled or be disposed of accordance with applicable requirements. These non-hazardous, solid wastes are expected to be of the same general nature as those generated during construction, but in far smaller quantities. Operation of the Project will not generate any hazardous wastes.

(b) Waste Management Plan

Non-hazardous, solid waste that is not reused or recycled may be accumulated in small amounts in appropriate trash receptacles prior to disposal, will not require any treatment, and will be disposed of in a sanitary landfill.

(4) Licenses and Permits

No new solid waste treatment or disposal facility is proposed as part of this Project or will be necessitated as a result of the construction or operation of this Project. All wastes generated will be trucked off-site by an appropriately licensed contractor.

(E) AVIATION

(1) Surrounding Air Navigation Facilities

As shown in Figure 07-01, there are no public air navigation facilities located within five miles of the Project Area. Brown County Airport, a publicly owned, public-use airport, is the closest public air navigation facility, located approximately 8 miles from the Project Area. A Federal Aviation Administration (FAA) code is listed for Jbr Airport, listed as a private air navigation facility at a location approximately 0.4 miles south-southeast of the Project Area. This privately-owned facility, which at one time appears to have been a single landing strip in an agricultural field, did not appear to exist based on field reconnaissance; no working telephone or other contact information was available. Therefore, this facility is not considered to be present.

(2) Federal Aviation Administration Filings

There is no need for an aeronautical study with respect to the Project because no part of the Project will be tall enough to obstruct air traffic and the Project is not located "in the vicinity" of a federally obligated airport. The nearest federally obligated airport is the Brown County Airport, approximately 8 miles from the Project Area. All parts of the Project will be lower than 200 feet in height and no component will exceed the slope ratio of a proximate airport. The FAA's screening tool was used to confirm that, based on the height of the tallest structure at the Project (the substation lightning mast, with a maximum height of 70 feet) no filing is required. The panels will be considerably shorter, at approximately 14 feet tall.

4906-4-08 Health and Safety, Land Use, and Ecological Information

The data presented in this section assess the Project's costs and benefits regarding health and safety; ecology; land use; community development; cultural and aesthetic qualities; public responsibility; and agricultural district land.

(A) HEALTH AND SAFETY

(1) Equipment Safety

(a) Public Safety Equipment

The only aspect of the Project that may constitute major safety equipment is perimeter fencing with locked gates. Except for the access roads, this fencing will surround all above-ground features of the Project. This includes the Project Substation, the Utility Switchyard, the solar arrays, and (if not located within the perimeter of a fenced solar array) each pyranometer. Appropriate warning signage will be posted throughout the Project Area.

The general public will be prohibited from entering the Project Area, although guided tours of the Project Area by qualified personnel may allow select members of the public to enter the Project Area for designed, limited periods of time. In addition, warnings regarding the dangers of high-voltage equipment will be displayed on appropriate signage through the Project Area.

(b) Equipment Reliability

The solar panels and related equipment are expected to be highly reliable. Reputable vendors, with established performance records and strong balance sheets, will be selected with a good track record of supplying reliable technology and equipment.

(c) Safety Standards

The equipment used for the Project will be certified to comply with applicable industry safety standards. In addition, the Applicant will develop a Project-specific Emergency Response Plan and will follow safety practices typical for facilities of this type during both construction and operation. Applicant has requested a waiver to allow the submittal to the Board of manufacturer safety manuals as part of final engineering for the Project.

(d) Public Access

There will be no public access, as the Project will be located on private property and the Project will be fenced; the public would encounter the Project only by trespassing. Sign will be posted prohibiting unauthorized entry.

(e) Fire Protection, Safety, and Emergency Plans

Safety is extremely important to the Applicant. During Project construction, construction contractors and employees will receive general and Project-specific health and safety training. Training will include review of state and local health and safety requirements; location and routes to nearby emergency care facilities; analyses of risks and procedures to mitigate any exposures; stop work triggers; and communication protocols for reporting health and safety issues. All construction workers will comply with required health and safety controls and will understand and observe the health and safety plan developed for the Project Site. Any and all unsafe conditions will be reported to the construction manager.

Project employees and contractors will be required to follow a Project-specific Emergency Response Plan and Health and Safety Plan that will both be

developed prior to construction. These plans will be adjusted, as appropriate, to anticipate potential safety and emergency issues that reflect Project conditions as they may change throughout construction and operation. The Emergency Response Plan will include coordination with local emergency responders and address potential emergencies and available emergency resources (equipment and personnel). The Applicant will collaborate with local emergency responders in developing a detailed plan that outlines: the appropriate response level; principles to be applied during a response; and detailed steps for initial response and containment. This coordination will include training for local resources to support a prompt, efficient, and coordinated response to an emergency at the Project. The plan will also provide a process to update and modify the emergency procedures, as warranted.

(2) Impact of Air Pollution Control Equipment Failures

No air pollution is generated by solar energy generating facilities; therefore, this section is not applicable.

(3) Noise

An analysis of construction and operational sound anticipated from the Project has been completed, as outlined in the following sections and detailed in Appendix F.

Energy is required to produce sound and this sound energy is transmitted through the air in the form of sound waves – tiny, quick pressure oscillations just above and just below atmospheric pressure. These oscillations, or sound pressures, impinge on the ear, creating the sound we hear. Since the range of human hearing is so wide, sound levels are expressed in terms of decibels (dB). The sound pressure level in dB is a logarithmic ratio

of the measured sound pressure to the reference sound pressure of 20 microPascals (μPa), multiplied by 20. The sound pressure range that can be detected by a person with normal hearing is very wide, ranging from about 20 μPa for very faint sounds at the threshold of hearing to nearly 10 million μPa for extremely loud sounds, such as a jet during take-off at a distance of 300 feet.

An inherent property of the logarithmic dB scale is that the sound pressure levels of two separate sources are not directly additive. For example, if a sound of 50 dB is added to another sound of 50 dB, the result is a 3-dB increase (or 53 dB), not an arithmetic doubling of 100 dB.

Since the human ear does not perceive every frequency with equal loudness, spectrally-varying sounds are often adjusted with a weighting filter. The A-weighted filter is applied to compensate for the frequency response of the human auditory system and is represented in A-weighted decibels (dBA).

While the concept of sound is defined by the laws of physics, the term "noise" has further qualities of being excessive or loud and is subjective. The perception of sound as noise is influenced by technical factors such as intensity, sound quality, tonality, duration, and existing background levels, which may mask new sources.

Sound can be measured, modeled, and presented in various formats, with the most common metric being the equivalent sound level (L_{eq}). The L_{eq} has been shown to provide both an effective and uniform method for comparing time-varying sound levels and is the metric used by the OPSB to evaluate sound associated with solar energy facilities.

No noise rules or regulations exist at the state level in Ohio other than those established by the OPSB, nor do noise requirements exist at the county or local level beyond those preventing nuisance noise.

The following sections address the required elements of OPSB review for noise-related evaluation.

(a) Construction Noise

The Project's construction will generate intermittent sounds typical of construction sites, such as truck traffic and earth moving equipment. Because construction is anticipated to be completed within 10 months, any temporary noise that could affect the surrounding area will be extremely limited. The Project's construction is relatively simple in comparison to other energy-generating technologies and will not include a number of activities that can be typical for other types of installations. No blasting will be conducted for the Project. In fact, earth movement is expected to be minimal, as the majority of the Project installations can use existing grades. Earth moving equipment will generally be limited to minor grading and foundation work associated with the substation and inverter/transformer pads. Pile driving is anticipated in order to install the piles that will support the solar arrays; the depth of installation will be approximately 8 feet, which will limit the duration of pile-driving effects. Rock-breaking or hammering are not anticipated; horizontal directional drilling, if necessary, would be limited to providing access under existing roads for the collector lines. Erecting structural components and installing the equipment will use a small crane and basic construction equipment. Truck traffic will be associated with equipment deliveries

and workers traveling to the Project Area throughout the 10-month duration of the construction effort.

Using information for typical sound levels associated with construction equipment at a distance of 50 feet, anticipated sound levels can be estimated as shown in Table 08-1.

TABLE 08-1
PROJECT CONSTRUCTION NOISE LEVELS BY PHASE

Construction Phase	Construction Noise Level at 50 feet	ML-1	ML-2	ML-3	LT-1[1]
Phase 1	87	77	81	80	76
Phase 2	86	76	80	79	74
Phase 3	91	80	85	84	79
Phase 4	89	79	83	82	78
Phase 5	82	72	76	75	70

[1]Construction sound levels calculated at nearest residence located approximately 190 feet southeast of the substation boundary line.

ML = Measurement Location, as shown on Figure 08-1.

The limited activities, buffer from densely populated areas, and short duration of the construction effort are expected to minimize noise impacts associated with Project construction.

(b) Operational Noise

Compared to other types of power generation facilities, potential noise impacts from a photovoltaic solar energy project are extremely limited. In addition, because the Project only generates electricity during daylight hours, this occurs during times when background ambient levels are typically higher and listener

disruption less likely. The following sections address the limited operational noise anticipated in association with the Project.

(i) Generating Equipment

The noise generated by the solar array and associated equipment will be minimal and should not be a concern for any off-site receptors. The electric motors that power tracking racks are very small and operate very slowly and only during daylight hours. The inverters and transformers will also generate noise, but only during daylight hours, when the Project is generating electricity. Noise generated by the Project Substation is also limited.

Operational broadband (dBA) sound pressure levels were calculated using the Cadna-A® model for normal operation assuming that all equipment is operating continuously and concurrently at the representative manufacturer-rated sound levels. As reflected in Figure 08-1, sound levels at non-participating residences are no higher than 46 dBA. The contour lines shown in Figure 08-1 are analogous to elevation contours on a topographic map, i.e., the noise contours are continuous lines of equal noise level around some source, or sources, of noise.

As detailed in Appendix F, the Project will not exceed an increase of 5 dBA over ambient daytime conditions at the nearest residences (within the Project Area) and will be considerably less in other locations.

(ii) Processing Equipment

No processing equipment is associated with the Project; therefore, this section does not apply.

(iii)Associated Road Traffic

Transportation noise during Project construction is addressed in Section 4906-4-08(3)(a). Once construction is complete, the Project will consist of limited operations personnel traveling to and from the Project Area. Routine maintenance will occur on a monthly basis for the solar panels; this will require one or two pick-up trucks. The operational activities will not significantly contribute to traffic and traffic noise on local roadways.

(c) Noise-Sensitive Areas

The Project Area is located in a rural setting, with the Project Area and immediate surroundings dominated by active agricultural fields, with residential and commercial development scattered along local roadways. There are scattered residences throughout the Project Area, with over 488 residential structures within a 1-mile radius of the Project Area. One institutional establishment, the Hamersville Baptist Church, is located within 1 mile of the Project Area, approximately 0.85 mile to the east-northeast. There are no nursing homes, hospitals or public parks within 1 mile of the Project Area. At the closest point, Hamersville Elementary School is located approximately 1.25 miles east of the Project Area.

No sites listed by the National Register of Historic Places (NRHP) are within 1 mile of the Project Area.

The modeled sound contours illustrated in Figure 08-1 indicate anticipated received sound levels from the Project at noise sensitive locations within 1 mile of the Project Area. Adverse impact to noise-sensitive areas from Project-related sound is not anticipated (i.e., Project-only sound levels will not exceed 46 dBA at non-participating residences). See Section 4906-4-08(D)(3) of this Application for additional information on impacts to proximate recreational areas.

(d) Noise Mitigation Measures

(i) Construction Noise

Construction noise is difficult to control because of the mobile nature of its sources and the flexibility of schedule inherent in most construction work. However, construction is also temporary in nature.

To mitigate noise during construction as much as reasonable possible, the Applicant will employ best management practices for the construction industry. These measures will include the following:

- Limit construction activities to between 7:00 a.m. and 7:00 p.m., or until dusk when sunset occurs after 7:00 p.m.;

- Maintain construction tools and equipment in good operating order according to manufacturers' specifications; and
- Work with the local community to advise residents of those periods when sustained construction activity is expected to take place in relatively close proximity to their homes. This includes implementing the Complaint Resolution Plan, provided as Appendix D, to address any complaints received.

By scheduling the construction effort to be as efficient as practicable, sound associated with construction activity will be minimized as the duration of the construction effort is minimized. Because of the temporary nature of the construction noise, no adverse long-term effects are anticipated.

(ii) Operational Noise

Due to the type and size of the proposed Project, it will be an extremely low source of noise. No mitigation of operational noise is planned.

(e) Existing Ambient Conditions

Existing ambient conditions were measured at locations surrounding the Project Area, as described in additional detail in Appendix F. Three short-term monitoring locations and one long-term monitoring location were selected in locations surrounding the Project Area (as shown on Figure 08-1). The results of

the ambient sound survey are summarized in Table 08-2; further information is provided in Appendix F.

TABLE 08-2
AMBIENT SOUND SURVEY RESULTS

Monitoring Location	Time Period	Sound Level (L_{eq}, dBA)
Short-Term Location 1	Day	39
	Night	38
Short-Term Location 2	Day	45
	Night	40
Short-Term Location 3	Day	52
	Night	43
Long-Term Location 1	Day	43
	Night	38

(4) Water

(a) Construction and Operation Impacts

No significant impact to water bodies or other water resources is expected as a result of the Project. Should any water be required for construction, it will be supplied from existing municipal or other currently permitted supplies.

No discharge will be associated with the Project.

Stormwater during construction will use temporary measures to control storm flows and allow for settling prior to discharge. Once the Project's construction is completed, the relatively small area of ground disturbance associated with Project components is not expected to require stormwater management measures. However, as a part of final design, the need for such controls will be evaluated, and implemented as required in accordance with the Ohio Rainwater and Land Development manual.

Known groundwater well logs and water protection areas in locations surrounding the Project Area are shown on Figure 08-2. Within Clermont and Brown Counties, most residents rely on municipal water for potable use (only four groundwater wells were noted by ODNR in or within 1 mile of the Project Area). Project construction is not expected to impact groundwater.

The Project Area is located within the Clermont Public Water System source water protection area (SWPA) (as shown on Figure 08-2); however, the proposed Project does not represent a restricted use within the SWPA. The Clermont Public Water System SWPA includes three different water sources: the Bob McEwan Water Treatment Plant; the Miami Goshen Stonelick Water Treatment Plant; and the Pierce Union Batavia Water Treatment Plant. The Bob McEwan Water Treatment Plant is the only one of these three water sources that treats surface water, as it pulls water from a dam across the East Fork Miami River. The Project Area lies within the watershed of the East Fork Little Miami River.

The Project will implement spill prevention practices during both construction and operation that will further protect surrounding wells from potential impact. In addition to design measures, Project staff will receive training on emergency procedures to ensure prompt and efficient response in the event of an accidental release to the environment.

(b) Impact of Pollution Control Equipment Failure

The only water pollution control equipment to be employed by the Project will be BMPs during construction to control stormwater. No impact to public or

private water supplies is expected as a result of water pollution control equipment failures.

(c) Proximate Water Sources

Figure 08-2 identifies the locations of known water wells and drinking water source protection areas within the Project Area. Development within proximity of the Project Area is primarily supplied by the Clermont Public Water System, with only one water well located within the Project Area and two additional water wells located within 1 mile of the Project Area. As discussed, no impact to existing use of groundwater is expected from the Project.

(d) Compliance with Water Source Protection Plans

As shown on Figure 08-2, the Project Area lies within the Clermont Public Water System SWPA, reflecting an area where surface and groundwater is protected due to its use as a source of public drinking water. Although the Project does not constitute a use that is restricted within SWPAs, the Applicant will employ BMPs throughout construction to ensure that water quality standards are met and erosion and sedimentation is minimized. Employing BMPs will ensure safety and mitigate impacts to area water sources.

(e) Potential for Flooding

Figure 08-4 illustrates that no mapped 100- or 500-year flood zones, as defined by the Federal Emergency Management Agency (FEMA), extend within the Project Area. Therefore, the Project is not expected to increase potential for flooding.

(5) Geological Features

(a) Site Geology

The Project Area is located within Clermont and Brown Counties, Ohio. The approximate centroid of the Project Area is located at a latitude of 38.921043° north and a longitude of -84.036959° west. As shown on Figure 08-5, there are no existing oil and gas wells on or within proximity to the Project Area.

The Project Area is located in the Illinoian Till Plain Region of the Till Plains Section in the Central Lowland Physiographic province of Ohio, which is located in southwestern Ohio. This physiographic region is characterized by rolling ground moraine of older till generally lacking ice-constructional features such as moraines, kames, and esker; many buried valleys; modern valleys alternating between broad floodplains and bedrock gorges; and elevations between 600 and 1,100 feet amsl. The geology of this physiographic region is dominated by silt-loam, high-lime, Illinoian-aged till with a loess cap and soils leached several feet; underlain by Ordovician and Silurian-aged carbonate rocks and calcareous shales (ODNR 1998).

The Project Area has moderate relief, with an approximate high elevation of 947 feet amsl in the central-eastern portion, and a low elevation of 916 feet amsl in the western portion. No geological conditions are known that would pose a material constraint to the Project; geotechnical investigations will be completed prior to Project construction.

(b) Soils and Soil Suitability

Review of the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey and the Soil Survey of Clermont County and Brown County, Ohio indicates that the Project Area is comprised of the following soil units (USDA 2018) (as shown on Figure 08-4), identified in the order of prevalence within the Project Area:[3] Clermont silt loam, 0 to 1 percent slopes (Cle1A); Westboro-Schaffer silt loams(0 to 2 percent slopes [WsS1A1]; and 2 to 4 percent slopes [WsS1B1]); Jonesboro-Rossmoyne silt loams (2 to 6 percent slopes, eroded [JoR1B2]; 2 to 6 percent slopes [JoR1B1]; and 0 to 2 percent slopes [JoR1A1]); Rossmoyne silt loam, 6 to 12 percent slopes, moderately eroded (RpC2); and Rossmoyne silty clay, 6 to 12 percent slopes, severely eroded (RsC3). The distribution of the soils within the Project Area is presented in Figure 08-4. Additional information detailing each soil unit is provided below, in the order of prevalence within the Project Area.

Clermont silt loam (Cle1A) covers approximately 75 percent of the Project Area. Commonly found on flats of till plains, this series is comprised of poorly drained soils. Depth to a restrictive feature is more than 80 inches. Depth to the water table is about 0 to 6 inches. Available water storage in the soil profile is high.

Westboro-Schaeffer silt loams (WsS1A1 and WsS1B1) cover approximately 19 percent of the Project Area. Commonly found on till plains, this series is comprised of somewhat poorly drained soils. Depth to a restrictive feature

[3] Only those soil types that cover at least approximately 1 percent of the Project Area are discussed in this section.

is more than 80 inches. Depth to the water table is about 6 to 18 inches. Available water storage in the soil profile is high.

Jonesboro-Rossmoyne silt loams (JoR1B2, JoR1B1, and JoR1A1) cover approximately 4 percent of the Project Area. Commonly found on rises on till plains, this series is comprised of moderately well-drained soils. Depth to a restrictive feature is more than 80 inches. Depth to the water table is about 18 to 36 inches. Available water storage in the soil profile is high.

Rossmoyne silt loam (RpC2) covers approximately 1 percent of the Project Area. Commonly found on till plains, this series is comprised of moderately well-drained soils. Depth to a restrictive feature is more than 80 inches. Depth to the water table is about 18 to 30 inches. Available water storage in the soil profile is low.

Rossmoyne silty clay (RsC3) covers approximately 1 percent of the Project Area. Commonly found on till plains, this series is comprised of moderately well-drained soils. Depth to a restrictive feature is between 18 and 30 inches. Depth to the water table is about 18 to 30 inches. Available water storage in the soil profile is low.

Figure 08-4 illustrates the predominant soils present within the Project Area, which are expected to be suitable for Project use.

Table 08-3 presents a summary of the soil properties and characteristics, in order of their prevalence within the Project Area.

TABLE 08-3
SOIL PROPERTIES AND CHARACTERISTICS

Soil	Depth Below Surface (inches)	Saturated Hydraulic Conductivity (micro m/ sec	Soil pH	Potential Frost Action	Shrink-Swell Class (Linear Extensibility Percent)
Cle1A (75% occurrence within the Project Area)					
Clermont	0 – 7 7 – 15 15– 31 31– 56 56– 80	0.0 – 1.42 0.0 – 1.42 0.0 – 1.42 0.0 – 1.42 0.0 – 1.42	4.5 – 5.5 3.5 – 5.5 3.5 – 5.5 4.5 – 7.3 4.5 – 7.3	High	Moderate (3.7)
WsS1A1 (15% occurrence within the Project Area)					
Westboro	0 – 11 11 – 16 16 – 23 23 – 36 36 – 79	4.23 – 14.11 4.23 – 14.11 4.23 – 14.11 4.23 – 14.11 1.41 – 4.23	5.2 – 7.3 4.5 – 6.0 4.5 – 6.0 4.5 – 6.5 6.1 – 7.2	High	Low (2.4)
Schaffer	0 – 11 11 – 17 17 – 24 24 – 37 37 – 79	0.01 – 1.41 0.01 – 1.41 0.01 – 1.41 0.01 – 1.41 0.01 – 1.41	4.5 – 7.3 4.5 – 6.0 4.5 – 6.0 5.1 – 6.5 6.1 – 7.3	High	
WsS1B1 (4% occurrence within the Project1.4 Area)					
Westboro	0 – 8 8 – 16 16 – 28 28 – 34 34 – 80	4.23 – 14.11 4.23 – 14.11 4.23 – 14.11 4.23 – 14.11 1.41 – 4.23	5. 6 – 7.3 4.5 – 6.0 4.5 – 6.0 4.5 – 7.8 6.1 – 7.8	High	Moderate (4.2)
Schaffer	0 – 7 7 – 14 14 – 24 24 – 32 32 – 46 46 – 80	0.01 – 1.41 0.01 – 1.41 0.01 – 1.41 0.01 – 1.41 0.01 – 1.41 0.01 – 1.41	4.5 – 7.3 4.5 – 6.0 4.5 – 5.5 4.5 – 6.5 4.8 – 6.5 6.0 – 7.3	High	

Soil	Depth Below Surface (inches)	Saturated Hydraulic Conductivity (micro m/ sec	Soil pH	Potential Frost Action	Shrink-Swell Class (Linear Extensibility Percent)
JoR1B2 (2% occurrence within the Project Area)					
Jonesboro, eroded	0 – 6 6 – 18 18 – 29 29 – 79	4.23 – 14.11 4.23 – 14.11 0.42 – 1.41 0.42 – 1.41	6.1 – 7.3 4.5 – 6.5 4.5 – 5.5 5.1 – 7.8	High	Moderate (4.3)
Rossmoyne, eroded	0 – 6 6 – 23 23 – 35 35 - 79	4.23 – 14.11 4.23 – 14.11 0.01 – 1.41 0.01 – 1.41	4.5 – 7.3 4.5 – 5.5 5.1 – 6.5 5.6 – 7.3	High	
JoR1B1 (1% occurrence within the Project Area)					
Jonesboro	0 – 8 8 – 20 20 – 29 29 – 79	4.23 – 14.11 4.23 – 14.11 0.42 – 1.41 0.42 – 1.41	6.1 – 7.3 4.5 – 6.5 4.5 – 5.5 5.1 – 7.8	High	Moderate (5.0)
Rossmoyne	0 – 6 6 – 23 23 – 35 35 - 79	4.23 – 14.11 4.23 – 14.11 0.01 – 1.41 0.01 – 1.41	4.5 – 7.3 4.5 – 5.5 5.1 – 6.5 5.6 – 7.3	High	
JoR1A1 (1% occurrence within the Project Area)					
Jonesboro	0 – 8 8 – 20 20 – 29 29 – 79	4.23 – 14.11 4.23 – 14.11 0.42 – 1.41 0.42 – 1.41	6.1 – 7.3 4.5 – 6.5 4.5 – 5.5 5.1 – 7.8	High	Moderate (4.2)
Rossmoyne	0 – 8 8 – 23 23 – 35 35 - 79	4.23 – 14.11 4.23 – 14.11 0.01 – 1.41 0.01 – 1.41	4.5 – 7.3 4.5 – 5.5 5.1 – 6.5 5.6 – 7.3	High	
RpC2 (1% occurrence within the Project Area)					
Rossmoyne	0 – 9 9 – 18 18 – 39 39 – 130	4.23 – 14.11 4.23 – 14.11 0.42 – 4.23 0.42 – 4.23	4.5 – 7.3 4.5 – 5.5 4.5 – 5.5 5.6 – 8.4	High	Low (2.8)
RsC3 (1% occurrence within the Project Area)					
Rossmoyne	0 – 9 9 – 18 18 – 39 39 – 130	4.23 – 14.11 4.23 – 14.11 0.42 – 4.23 0.42 – 4.23	4.5 – 5.5 4.5 – 5.5 4.5 – 5.5 5.6 – 8.4	High	Moderate (4.3)
Source: USDA 2018.					

As previously noted, the Project does not have stringent requirements for subsurface conditions. Similarly, the Project will not have stringent requirements for soil because the land is generally very level and the arrays will largely follow the existing terrain with little grading needed. The layout of Project components will be designed so as to avoid all known and active wells.

(c) Geotechnical Evaluation Plan

Only limited test borings are anticipated to be needed in connection with construction of the Project. A waiver has been submitted to allow the Applicant to submit its plan for borings, including an appropriate closure plan, to the Staff no less than 30 days prior to commencement of the field effort. Within 60 days following receipt of relevant data from the borings, a geotechnical report will be provided that will address: subsurface soil properties; static water level; rock quality description; percent recovery; and depth and description of bedrock contact.

(6) Potential for High Wind Conditions

This requirement does not apply to the Project because its components are not susceptible to damage from high winds. All Project equipment will be installed, given the site-specific soil conditions, at sufficient depths to preclude any adverse influence from wind.

(7) Potential Impact from Blade Shear

This requirement does not apply to the Project because it is not a wind energy facility.

(8) Potential Impact from Ice Throw

This requirement does not apply to the Project because it will not include any unenclosed, moving parts that could potentially throw ice. Any ice "drop" from elevated equipment would only fall a short distance and wholly within the secured fenced portion of the Project Area.

(9) Potential Impact from Shadow Flicker

This requirement does not apply to the Project because it does not include any wind turbines and the Project will not include any moving parts that could potentially produce shadow flicker at any habitable residence.

(10) Potential Impact to Radio and TV Reception

The Project is not expected to have any material impact on radio or television reception because it lacks tall structures and exposed, moving parts, and it will generate only very weak electromagnetic fields (EMFs), and only during the day, that will dissipate rapidly within a short distance. EMF generated by PV arrays is similar in nature to electrical appliances and wiring found in most homes and buildings (MDER 2015). In a recent study of three solar arrays in Massachusetts, electric field levels measured along the boundary were not elevated above background (Massachusetts Clean Energy Center 2012). The Applicant is not aware of any research that indicates that the Project has the potential to interfere with radio or television reception.

(11) Potential Impact to Radar Systems

The Project is not expected to have any material impact on military or civilian radar systems because it lacks tall structures that could potentially block radar signals. It also lacks exposed moving parts and will only generate very weak EMFs that will

dissipate rapidly within a short distance. The Applicant is not aware of any research that indicates the Project has the potential to interfere with any radar systems.

(12) Potential Impact to Navigable Airspace

The Project is not expected to have any material impact on navigable airspace because it lacks tall structures that could potentially interfere with flight paths. The tallest structure on the Project Area will be the substation lightning mast that will be approximately 70 feet above ground level and adjacent to structures of similar height, with the balance of Project structures 14 feet tall or less. No impact to air navigation is anticipated, as verified through use of the FAA screening tool.

In addition, PV solar technology absorbs light from the sun rather than reflecting it, so glare off the PV solar panels is not anticipated to have a material impact on visibility. The Applicant is not aware of any research that indicates the Project has the potential to interfere with any navigable airspace.

(13) Communications Interference

The Project is not expected to have any adverse impact on microwave communication paths because it lacks any tall structures with the potential to block those paths. The tallest structure on the Project Area will be the substation lightning mast, at a height of 70 feet above ground level, adjacent to structures of similar height. The balance of Project structures will be 14 feet tall or less, and therefore will not interfere with microwave transmissions.

(B) ECOLOGICAL RESOURCES

(1) Ecological Information

(a) Resources within One Half Mile

Figure 08-6 shows an area one half mile from the Project Area indicating: Project features; undeveloped woodlots or vacant tracts of land subjected to past or present surface mining activities, excluding game preserves or areas in active agricultural use; wildlife areas, nature preserves, and other conservation areas; surface bodies of water and wetlands; and highly-erodible soils and slopes of 12 percent or greater. As can be seen, the majority of the Project Area is in active agricultural use, and no steep slopes are located within the Project Area.

(b) Wetland and Surface Water Survey

An Aquatic Resource Evaluation Report has been completed for the Project and is provided in Appendix G. As specified in 4906-4-08(B)(1)(b), the field investigation focused on the vegetation, wetlands and surface waters located within 100 feet of the potential construction impact areas associated with the Project. Figure 08-7 illustrates the wetland and stream resources identified within the Project Area.

In addition to identifying aquatic resources using mapping resources and field confirmation, preliminary data was collected to initiate the evaluation of identified wetlands using the Ohio Rapid Assessment Method (ORAM). ORAM scores provide a functional assessment of wetland quality, with Category 3 wetlands being of the highest quality and Category 1 wetlands being of the lowest quality. In addition, preliminary data were recorded to initiate the

evaluation of identified stream feature quality using the Ohio Headwater Habitat Evaluation Index (HHEI) and/or the Ohio Qualitative Habitat Evaluation Index (QHEI) scoring methods, as applicable. These methods yield a numerical score that indicates the probable existing aquatic life use of each stream. HHEI scoring classifies streams from Class III (indicating the highest quality) to Class I (indicating the lowest quality) of headwater stream habitat. QHEI scoring results in a narrative rating of Excellent to Very Poor.

Jurisdictional streams were identified as those waters that had an Ordinary High Water Mark, a defined bed and banks, and a non-vegetated substrate indicative of periodic to persistent flowing water; such resources are considered jurisdictional aquatic resources. A total of 16 waterbodies were identified in the wetland survey – ten wetlands, five streams, and one pond. All 16 waterbodies are presumed to be jurisdictional. These features include 61.3 acres of forested or scrub/shrub wetland; 0.7 acre of emergent wetland, 0.3 acre of open water, and 1,979 linear feet of intermittent and perennial streams. More details on these resources are provided in Appendix G.

(c) Species Literature Survey

Consultation with the United States Fish and Wildlife Service (USFWS) and ODNR began in August 2018 (Appendix H). USFWS identified the Project Area as potentially within the range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (*Myotis septentrionalis*). USFWS further concluded that the Project Area is "in the vicinity of one or more confirmed records of Indiana bats and is in very close

proximity to a known Indiana bat maternity roost tree." Further coordination with USFWS was recommended to be protective of suitable habitat in the area. As layout plans were developed, a preliminary plan was shared with USFWS on November 14, 2018 to support a discussion of appropriate adjustments. USFWS recommended a review of site geology to confirm that karst formations are not expected to create hibernacula in the area; a review of karst areas within the State of Ohio identified the nearest karst formation to be more than four miles northwest of the Project Area (Ohio Geological Survey 2006).[4] It was also recommended by the USFWS that clearing of wooded wetlands be avoided. Areas to the west of the Project Area were identified that had larger tracts of wooded habitat. Priority to maintaining larger habitat blocks, and limiting tree clearing to the edges of forest areas and wind rows was recommended. It was also recommended that, should tree clearing be proposed, it only occur between October 1 and March 31. As can be seen in Figure 08-8, all clearing in wooded wetlands is planned to be avoided, and tree clearing – which will occur during the prescribed seasonal window – is only along the various woodland edges to create a broader layout and shade free area. A total of up to 35.5 acres of tree clearing is proposed, which will only occur between October 1 and March 31.

Correspondence from the ODNR was received on October 9, 2018. As was the case with the USFWS, ODNR identified Indiana bat records were established in the area, and recommended conservation of trees and the same

[4] Ohio Geological Survey 2006. Ohio Karst Areas. 1999, rev 2002, rev 2006. Ohio Department of Natural Resources, Division of Geological Survey Map. http://geosurvey.ohiodnr.gov/portals/geosurvey/PDFs/Karst/karstmap.pdf

seasonal clearing restriction as noted by the USFWS. A number of freshwater mussels and fish were identified in ODNR's letter; no in-water work is proposed and, therefore, impact to these species will not occur. The northern harrier (*Circus cyaneus*) was identified as having a range that includes the Project area. Based on additional verbal consultation with ODNR, it was agreed the active agricultural conditions of the Project site would not be considered suitable habitat for the northern harrier. Although a recommendation was also included to consult with the local floodplain administrator, the Project is not within mapped floodplain; thus, no additional consultation is necessary. ODNR also noted that the Project is within the range of the Kirtland's snake (*Clonophis kirtlandii*), a state threatened species, and recommended that a presence/absence survey be conducted by an approved herpetologist. Accordingly, Doug Wynn (an ODNR-approved herpetologist) was engaged to complete a habitat review of the site (see Appendix H). His review identified two limited locations within the Project Areas that had potential for use as habitat by the Kirtland's snake, and recommended a more detailed presence/absence survey, using coversheets, be conducted unless these potential habitat areas can be avoided. Because the Project layout may occur within one of these habitat areas, it is anticipated that additional presence/absence surveys will be conducted for the species during the appropriate season.

(d) Species Field Survey

Plant and animal life was surveyed during wetland delineation activities conducted in October/November 2018.

As shown on Figure 08-9, the predominant ecological community present within the Project Area is managed agricultural lands (approximately 76 percent of the Project Area). Palustrine unconsolidated bottom (PUB), palustrine forested (PFO), palustrine scrub-shrub (PSS), and palustrine emergent (PEM) wetland areas comprise approximately 10 percent of the Project Area. Deciduous forest present in the Project Area is predominantly comprised of PFO wetland. Small areas of upland forest are present along field and road edges, representing 12 percent of the Project Area. The remaining 2 percent of the Project Area reflects currently developed areas such as residences/yards, parking lots, paved and unpaved roads.

(i) Flora

A survey was conducted of representative plant species present within the Project Area. At the time of the field visit, most the Project Area consisted of active or fallow agricultural fields, with the balance of the Project Area occupied by forested area, including wetlands. Six main ecological communities were observed within the Study Area and include: Agricultural Field; Developed Areas; Upland Forest; PFO Wetland; PSS Wetland; and PEM wetland. A list of plant species noted on and adjacent to the Project Area during field visits is provided in Table 08-4.

TABLE 08-4
VEGETATION RECORDED ON AND ADJACENT TO THE PROJECT AREA

Common Name	Scientific Name	Strata	Ecological Community
Ash-leaf maple	*Acer negundo*	Tree/Shrub	Upland Forest, PFO, PSS
Red maple	*Acer rubrum*	Tree/Shrub	Upland Forest, PFO, PSS
White snakeroot	*Ageratina altissima*	Herb	Upland forest
Black bent	*Agrostis gigantea*	Herb	Agricultural field, Developed areas, PEM
Field meadow foxtail	*Alopecurus pratensis*	Herb	Agricultural field, Developed areas, PEM
Pawpaw	*Asimina triloba*	Tree/Shrub	Upland forest, PFO
Beggarticks	*Bidens spp.*	Herb	Agricultural field, Developed areas, PEM
Smooth brome	*Bromus inermis*	Herb	Agricultural field, Developed areas
Shallow sedge	*Carex lurida*	Herb	PEM, PFO, PSS
Common fox sedge	*Carex vulpinoidea*	Herb	PEM, PFO, PSS
Shagbark hickory	*Carya ovata*	Tree/Shrub	Upland Forest, PFO, PSS
Chicory	*Cichorium intybus*	Herb	Developed areas
Poison-hemlock	*Conium maculatum*	Herb	Agricultural field, Developed areas
Silky dogwood	*Cornus amomum*	Shrub	PFO, PSS
Hawthorn	*Crataegus spp.*	Tree/Shrub	Upland Forest, PFO, PSS
Chufa	*Cyperus esculentus*	Herb	PEM, PFO, PSS
Orchard grass	*Dactylis glomerata*	Herb	Agricultural field, Developed areas
Queen Anne’s lace	*Daucus carota*	Herb	Agricultural field, Developed areas
Deer-tongue rosette grass	*Dichanthelium clandestinum*	Herb	Agricultural field, Developed areas, PEM, PSS
Teasel	*Dipsacus fullonum*	Herb	Agricultural field, Developed areas

Common Name	Scientific Name	Strata	Ecological Community
Large barnyard grass	*Echinochloa crus-galli*	Herb	Agricultural field, PEM
False daisy	*Eclipta prostrata*	Herb	Agricultural field, PEM
Common spike-rush	*Eleocharis palustris*	Herb	PEM, PFO, PSS
Grass-leaved goldenrod	*Euthamia graminifolia*	Herb	PEM
American beech	*Fagus grandifolia*	Tree/Shrub	Upland Forest, PFO, PSS
Green ash	*Fraxinus pennsylvanica*	Tree/Shrub	Upland Forest, PFO, PSS
Honey-locust	*Gleditsia triacanthos*	Tree/Shrub	Upland Forest, PFO, PSS
Fowl manna grass	*Glyceria striata*	Herb	PEM, PFO, PSS
Soy	*Glycine max*	Herb	Row Crop
Spotted touch-me-not	*Impatiens capensis*	Herb	Upland Forest, PEM, PFO, PSS
Yellow Jewelweed	*Impatiens pallida*	Herb	PEM, PFO, PSS
Black walnut	*Juglans nigra*	Tree/Shrub	Upland forest, PFO
Lamp rush	*Juncus effusus*	Herb	PEM, PFO, PSS
Lesser poverty rush	*Juncus tenuis*	Herb	Agricultural field, Developed areas, Upland forest, PEM, PFO, PSS
Eastern redcedar	*Juniperus virginiana*	Tree/Shrub	Upland forest, PFO
Canadian wood nettle	*Laportea canadensis*	Herb	Upland forest, PFO
Rice cut grass	*Leersia oryzoides*	Herb	PEM, PFO
European privet	*Ligustrum vulgare*	Shrub	Upland forest
Spicebush	*Lindera benzoin*	Shrub	Upland forest, PFO, PSS
Sweetgum	*Liquidambar styraciflua*	Tree/Shrub	Upland forest, PFO, PSS
Perennial ryegrass	*Lolium perenne*	Herb	Agricultural field, Developed areas
Morrow's honeysuckle	*Loinicera morrowi*	Shrub	Upland forest
Japanese honeysuckle	*Lonicera japonica*	Shrub	Upland forest, Fallow field
Marsh seedbox	*Ludwigia palustris*	Herb	Fallow field, Row crop, PEM

Common Name	Scientific Name	Strata	Ecological Community
Creeping-Jenny	*Lysimachia nummularia*	Herb	Fallow field, PEM, PFO, PSS
Apple	*Malus spp.*	Tree/Shrub	Upland forest, PFO
Japanese stiltgrass	*Microstegium vimineum*	Herb	Fallow field, PFO, PSS
Black gum	*Nyssa sylvatica*	Tree/Shrub	Upland forest, PFO, PSS
Sensitive fern	*Onoclea sensibilis*	Herb	PEM, PFO
Golden groundsel	*Packera aurea*	Herb	Upland forest, PFO, PSS
Panicgrass	*Panicum spp.*	Herb	Agricultural field, PEM
Virginia creeper	*Parthenocissus quinquefolia*	Vine	Upland forest
Virginia jumpseed	*Persicaria virginiana*	Herb	Upland forest, PFO
Reed canary grass	*Phalaris arundinacea*	Herb	PSS
Common Timothy	*Phleum pratense*	Herb	Agricultural field, Developed areas
English plantain	*Plantago lanceolata*	Herb	Agricultural field, Developed areas
American sycamore	*Platanus occidentalis*	Tree/Shrub	Upland forest, PFO
Canada bluegrass	*Poa compressa*	Herb	Agricultural field, Developed areas
Grass (Maintained lawn/roadside)	*Poa spp.*	Herb	Agricultural field, Developed areas
Black cherry	*Prunus serotina*	Tree/Shrub	Upland forest
Shingle oak	*Quercus imbricaria*	Tree/Shrub	Upland forest
Pin oak	*Quercus palustris*	Tree/Shrub	Upland forest, PFO, PSS
Red oak	*Quercus rubra*	Tree/Shrub	Upland forest, PFO, PSS
Buttercup	*Ranunculus spp.*	Herb	Agricultural field, Developed areas, PEM, PFO, PSS
Multiflora rose	*Rosa multiflora*	Herb	Upland forest, Developed areas, PFO, PSS
Allegheny blackberry	*Rubus allegheniensis*	Herb/Shrub	Upland forest, Developed areas

Common Name	Scientific Name	Strata	Ecological Community
Black raspberry	*Rubus occidentalis*	Herb/Shrub	Upland forest, Developed areas
Green-head coneflower	*Rudbeckia laciniata*	Herb	Agricultural field, PEM
Curly dock	*Rumex crispus*	Herb	Agricultural field, PEM
Black willow	*Salix nigra*	Tree/Shrub	Upland forest, PFO
Sassafras	*Sassafras albidum*	Tree/Shrub	Upland forest
Tall fescue	*Schedonorus arundinaceus*	Herb	Agricultural field, Developed areas
Woolgrass	*Scirpus cyperinus*	Herb	PSS
Goldenrod	*Solidago sp.*	Herb	Agricultural field, Developed areas, Upland forest, PEM
Dandelion	*Taraxacum officinale*	Herb	Agricultural field, Developed areas
Eastern poison ivy	*Toxicodendron radicans*	Vine	Agricultural field, Developed areas, Upland forest, PEM, PFO, PSS
Red clover	*Trifolium pratense*	Herb	Agricultural field, Developed areas
White clover	*Trifolium repens*	Herb	Agricultural field, Developed areas
Narrow-leaf cattail	*Typha angustifolia*	Herb	PEM
Broad-leaf cattail	*Typha latifolia*	Herb	PEM
American elm	*Ulmus americana*	Tree/Shrub	Upland forest, PFO, PSS
Stinging nettle	*Urtica diocia*	Herb	Upland forest, PFO, PSS
Simpler's-Joy	*Verbena hastata*	Herb	PEM
Wingstem	*Verbesina alternifolia*	Herb	PEM
Wild grape	*Vitis spp.*	Vine	Upland forest, PFO
Rough cocklebur	*Xanthium strumarium*	Herb	Agricultural field, Developed areas, PEM

Agricultural fields are located throughout the Project Area and make up the majority of the land use within the Project Area. Active row crop found within the Project Area is planted exclusively with soybean (*Glycine max*). A large portion of the agricultural fields were fallow at the time of the study. Vegetation found within the fallow fields typically consists of Canadian bluegrass (*Poa compressa*), panicgrass (*Panicum spp*.), large barnyard grass (*Echinochloa crus-galli*), rough cocklebur (*Xanthium strumarium*), and false daisy (*Eclipta prostrata*).

Shallow drainage or erosional features are located throughout the agricultural fields; they generally contained the same vegetation as the surrounding crop or fallow field. Mowed and maintained roadside ditches were located along the perimeter of the agricultural fields that bordered paved roads. These ditches did not exhibit evidence of regular flow and were typically densely vegetated. Vegetation found within and along these roadside ditches was a mix of upland grasses such as orchard grass (*Dactylis glomerata*); common Timothy (*Phleum pratense*); perennial ryegrass (*Lolium perenne*), and weedy species such as red clover (*Trifolium pratense*); Queen Anne's lace (*Daucus carota*); common teasel (*Dipsacus fullonum*); chufa; sedges (*Carex spp*.); and goldenrods (*Solidago spp*.).

Several intermittent and perennial streams are located within the Project Area. The streams all generally flow west-northwest and appear to be channelized or modified. The substrate is predominantly clay, gravel, and silt. Two perennial streams located in the southern portion of the Project Area exhibit well-developed channels and contain cobble, gravel, silt, and sand substrates.

The Project Area contains several forested lots. These areas are made up of deciduous mid-successional forests with dense canopies and sparse understory and herbaceous strata. The forested areas are generally low lying in comparison to the rest of the Project Area and exhibit evidence of standing water and a regular sheet flow. Most of the forests found within the Project Area included elements of PFO wetland. Typical trees and shrubs found within the PFO wetlands consist of red maple (*Acer rubrum*), black gum (*Nyssa sylvatica*), American elm (*Ulmus americana*), sweetgum (*Liquidambar styraciflua*), green ash (*Fraxinus pennsylvanica*), pin oak (*Quercus palustris*), pawpaw (*Asimina trilobal*), and spicebush (*Lindera benzoin*). Herbaceous vegetation consisted of Canadian wood nettle (*Laportea canadensis*), Japanese stilt grass (*Microstegium vimineum*), poison ivy (*Toxicodendron radicans*), spotted jewel weed (*Impatiens capensis*), and fowl manna grass (*Glyceria striata*). Hedgerows and forested areas bordering the fields were generally dryer and exhibited different vegetation than

the PFO wetlands. Woody vegetation within these upland forest areas was generally made up of red maple, black cherry (*Prunus serotina*), honey locust (*Gleditsia triacanthos*), black walnut (*Juglans nigra*), sweet gum, and sassafras (*Sassafras albidum*). Herbaceous vegetation was typically made up of multiflora rose (*Rosa multiflora*), black raspberry (*Rubus occidentalis*), Allegheny blackberry (*Rubus allegheniensis*), white snake root (*Ageratina altissima*), and Japanese honeysuckle (*Lonicera japonica*).

An overhead electric transmission line right-of-way cuts east-west through the Project Area. There is no notable difference in habitat type within the agricultural fields where the line is located; however, west of Oak Corner Road, the right-of-way bisects a PFO wetland.

Developed areas make up a small portion of the Project Area and consist of residences/yards, parking lots, paved and unpaved roads. Vegetation within these areas contain a mix of upland grasses, ornamental plants/trees, and various native tree species.

Wetlands have been identified within the Project Area and are described in Section 4906-4-08(B)(1)(b).

(ii) Fauna

An assessment of wildlife species and habitat was conducted within the Project Area in August 2018. Table 08-5 lists common

wildlife species generally observed during field investigations through direct observation or sign. Land use of the Project Area is agricultural, as well as forested upland, wetland, and riparian corridors, which provides moderate to good quality wildlife habitat.

TABLE 08-5
WILDLIFE SPECIES RECORDED ON AND ADJACENT TO THE PROJECT AREA

Common Name	Latin Binomial	Classification
Fowlers toad	*Bufo fowleri*	Amphibian
Red-tailed hawk	*Buteo jamaicensis*	Bird
Coyote	*Canis latrans*	Mammal
Northern cardinal	*Cardinalis cardinalis*	Bird
Turkey vulture	*Cathartes aura*	Bird
Killdeer	*Charadrius vociferus*	Bird
Common snapping turtle	*Chelydra serpentina*	Reptile
American crow	*Corvus brachyrhynchos*	Bird
Blue jay	*Cyanocitta cristata*	Bird
Grey catbird	*Dumetella carolinensis*	Bird
Woodchuck	*Marmota monax*	Mammal
Wild turkey	*Meleagris gallopavo*	Bird
Meadow vole	*Microtus pennsylvanicus*	Mammal
White-tailed deer	*Odocoileus virginianus*	Mammal
Raccoon	*Procyon lotor*	Mammal
Grey squirrel	*Sciurus carolinensis*	Mammal
Field sparrow	*Spizella pusilla*	Bird
European starling	*Sturnus vulgaris*	Bird
Eastern cottontail	*Sylvilagus floridanus*	Mammal
Eastern chipmunk	*Tamias striatus*	Bird
Eastern garter snake	*Thamnophis sirtalis sirtalis*	Reptile
American robin	*Turdus migratorius*	Bird

Common avian species are utilizing the Project Area for nesting in spring and summer months. Migratory bird species area also likely utilizing the Project Area for foraging during spring and fall migration periods; non-migratory resident species may also be present.

Mammals are utilizing the Project Area include herbivorous species such as white-tailed deer (*Odocoileus virginianus*) and woodchuck (*Marmota monax*), and omnivores such as raccoon (*Procyon lotor*), North American opossum (*Didelphis virginiana*). Tracks suggested the presence of coyote (*Canis latrans*) within the Project area; other common carnivores, such as red fox (*Vulpes vulpes*) were not observed but likely utilize the Project Area as well.

Common reptiles and amphibian species, such as eastern garter snake (*Thamnophis sirtalis*), Fowler's toad (*Bufo fowleri*), and eastern newt (*Notophthalmus viridescens*) would be expected to occur within the Project Area. Due to the amount of forested wetlands and size of the surrounding upland forest, it is likely that other common salamander species and wood frogs would occur within the Project Area.

Invertebrate species observed during the site visit include common butterfly species, dragonflies, and aquatic snails. It is likely that many more species of each group are utilizing the Project Area due to the diversity of habitat observed.

(e) Additional Ecological Studies

No additional ecological studies, beyond the wetland delineation and ecological surveys discussed in the previous sections have been completed in support of the Project.

(2) Ecological Impacts

(a) Anticipated Construction Impacts

A key objective for the Applicant is to minimize wetland impact, particularly in wooded wetlands. Upon completion of the study provided in Appendix G, the Applicant team examined areas where impact to woodlands and delineated wetlands would occur and refined the layout further to meet this objective. To the extent practicable, the solar panels are sited in upland, open fields that lack diversity due to active agricultural use. Wind row and forest edge clearing to optimize layout areas and prevent shading is proposed, although larger tree areas will remain and no wooded wetland will be altered.

Should it be determined that the on-site pond does not support Kirtland's snake habitat, the pond and its associated channels will be filled in order to maximize layout within the interior of the Project Area. In addition, some of the solar array supporting posts may be required to be in wetland, depending on the final layout. To the extent possible, the panels will be designed to span the on-site streams and wetlands. For collection lines, where stream crossings are required, open trenching or HDD techniques will be used. With open trenching, temporary impacts will occur, but streams will be returned to original condition after installation. If required, a stream crossing for an access road will involve the permanent installation of a culvert. Where HDD may be proposed, a Frac-Out Contingency Plan will be implemented. Permanent wetland fill will be limited to 0.5 acre or less, and impact to streams will be less than 300 linear feet, in order to qualify under the USACE Nationwide Permit program.

Tree clearing within the Project Area is anticipated to be up to approximately 35.5 acres. Note that more detailed delineations and optimization of work space will be conducted that could adjust the impacts further, with a continued goal of minimizing tree clearing as well as wetland impact.

Where temporary wetland intrusion is necessary to facilitate construction, measures such as swamp mats will be used to reduce compaction and minimize impact. Potential indirect impacts to wetland and aquatic species will be avoided through the use of BMPs and erosion control measures such as filter sock and/or silt fencing. Approval will be obtained from the USACE under the NWP program prior to work in wetland areas.

Once construction is complete, temporarily displaced wildlife is expected to recolonize the Project Area, and temporary impact areas will be restored.

(b) Construction Mitigation

The following mitigation measures are reflected in both siting/design as well as implementation in order to reduce impacts during construction:

- Impact minimization reflected in Project design: Project components have been sited to avoid wetlands and surface waters to the greatest extent possible, and to minimize the need for tree clearing.
- Avoidance of adverse impact to listed species: Adverse impacts to endangered or threatened species are not expected. Pending the results of the presence/absence survey for the Kirtland's snake, the

area will either be determined not to have the species present or will be avoided, as recommended by the ODNR-approved herpetologist.

- Seasonal restrictions: To avoid potential impact to listed bat species, the proposed tree clearing will be completed between October 1 and March 31 per USFWS requirements.
- Sediment and erosion control: A SWPPP will be developed prior to initiating Project construction. The plan will detail temporary stormwater management features, as necessary, as well as silt fencing or other erosion control devices proposed to limit off-site transport of sediment. Plans associated with appropriate dewatering discharge, including measures to limit erosive forces, will also be addressed. In addition, a Notice of Intent will be filed with the Ohio EPA for coverage under the NPDES General Construction Stormwater Permit.
- BMPs for use of HDD: A Frac-Out Contingency Plan will be developed and implemented if HDD is planned for use for installation of underground features.
- Dust and particulate control: During excavation and grading activities, dust may be generated as exposed soils dry. Water sprays or other non-toxic dust suppression methods will be employed on areas of exposed soils to minimize dust generation.
- Revegetation: Portions of the Project Area temporarily impacted by construction activities will be revegetated as soon as possible

following completion of construction to stabilize exposed areas of soil. Species proposed for the seeding will be selected to ensure compatibility and suitability with surrounding agricultural areas. Outside of agricultural areas, temporarily-impacted areas will be revegetated with native plant species to prevent the spread of invasive species. Consideration will be given to the use of pollinator plants to provide a net benefit to habitat diversity as a result of the Project.

(3) Operational Ecological Impact

(a) Impact of Operation and Maintenance

Operation of the Project is not expected to result in disturbance to plants, vegetative communities, wetlands or surface bodies of water with the exception of minor disturbance associated with routine maintenance and occasional repair activities. Because the Project components will be located on leased private land, it will not result in physical disturbance or impacts to recreational areas, parks, wildlife areas, nature preserves, or other conservation areas as identified in Section 4906-4-08(B)(1)(a), other than visibility (which is addressed in Sections 4906-4-08(D)(3) and (4).

Operational impacts to wildlife are expected to be limited to possible displacement of wildlife due to the presence of the operating solar panels. Additional information is provided below.

The Project is not expected to significantly disturb or displace wildlife. Although the operation of the solar panels could affect wildlife in the immediate proximity, studies of displacement at solar energy project areas appear to

indicate that, while impacts vary with different species, influence is typically relatively minor.

(b) Operation and Maintenance Mitigation

Disturbance to plants, vegetation, wetlands or streams is not anticipated in association with the Project's operation and maintenance other than minor impacts associated with routine maintenance and occasional repair activities. Therefore, no mitigation measures are proposed.

The anticipated short-term and long-term operational impacts of the Project on wildlife are expected to be minor.

(c) Post-Construction Monitoring of Wildlife Impacts

No post-construction monitoring is proposed at this time.

(C) LAND USE AND COMMUNITY DEVELOPMENT

(1) Land Use

(a) Land Use Mapping

Figure 08-10 presents land use within a 1-mile radius of the Project Area, showing the proposed Project, surrounding incorporated areas and population centers. Indicated land uses include:

- Residential;
- Commercial;
- Industrial;
- Institutional;
- Recreational;
- Agricultural; and

- Vacant.

As outlined in Table 08-6, and shown on Figure 08-10, the area surrounding the Project Area covers approximately 7,060 acres and is primarily in agricultural use, with intermittent forested area.

TABLE 08-6
LAND USE WITHIN 1 MILE OF THE PROJECT AREA

Land Use	Approximate Acreage	Percentage of Total Area
Residential	1,344	19
Commercial	73	1
Industrial	13	0.2
Institutional	0	0
Recreational	0	0
Agricultural	5,630	80
Vacant	0	0
Total	**7,060**	**100**

There are several residences located adjacent to the Project Area, on Oak Corner Road, Bethel Maple Road, and Leonard Road. Most of the residential development is sprawling in nature, typical of rural residential development. Within the 5-mile study area, additional sensitive land uses include a cemetery, churches, libraries, and various recreational facilities.

(b) Existing Structures

Although Ohio Administrative Code (OAC) 4906-4-08(C)(1)(b)(i) requires only those structures within 1,500 feet of Project generating equipment to be identified, due to the potential layout adjustments that may occur, the location and lease status of all structures and property boundaries within 1,500 feet of the Project Area has conservatively been determined. There are 232 structures (85 of them residences) within 1,500 feet of the Project Area (Figure

08-11); however, five structures (two residences) located within the Project Area are proposed for demolition. For each of these structures, Table 08-7 identifies the structure type; distance to the Project Area; and underlying parcel status.

TABLE 08-7
STRUCTURES WITHIN 1,500 FEET OF PROPOSED PROJECT AREA

Structure Type	Distance to Project Area (feet)	Underlying Parcel Status
House	Within Project Area; to be demolished	Participating
House	Within Project Area; to be demolished	Participating
Barn	Within Project Area; to be demolished	Participating
Barn	Within Project Area; to be demolished	Participating
Garage	Within Project Area; to be demolished	Participating
Tower	-	Participating
Tower	-	Participating
Tower	-	Participating
Tower	-	Participating
Tower	-	Participating
Tower	10	Participating
Barn	46	Non-Participating
Barn	50	Participating
House	54	Non-Participating
House	59	Non-Participating
House	65	Participating
House	79	Non-Participating
House	82	Non-Participating
House	84	Non-Participating
Barn	89	Non-Participating
House	93	Non-Participating
House	102	Non-Participating
House	103	Non-Participating
Barn	103	Non-Participating
Outbuilding	106	Non-Participating
Garage	108	Non-Participating
Tower	108	Non-Participating
Outbuilding	111	Non-Participating
House	111	Non-Participating
House	113	Non-Participating
House	118	Non-Participating
House	121	Non-Participating
Barn	122	Non-Participating
House	122	Non-Participating

Structure Type	Distance to Project Area (feet)	Underlying Parcel Status
Garage	127	Non-Participating
Barn	130	Non-Participating
Garage	134	Non-Participating
Garage	137	Non-Participating
House	137	Non-Participating
Tower	138	Non-Participating
Garage	138	Non-Participating
House	140	Non-Participating
House	151	Non-Participating
Barn	154	Non-Participating
House	156	Non-Participating
Barn	160	Non-Participating
Outbuilding	163	Non-Participating
Barn	166	Non-Participating
House	166	Non-Participating
Barn	176	Non-Participating
House	181	Non-Participating
Outbuilding	182	Non-Participating
Barn	196	Non-Participating
House	198	Non-Participating
Barn	199	Non-Participating
House	201	Non-Participating
Barn	204	Non-Participating
House	209	Non-Participating
House	211	Non-Participating
Barn	216	Non-Participating
House	217	Non-Participating
Outbuilding	222	Non-Participating
Outbuilding	229	Non-Participating
Outbuilding	229	Non-Participating
House	230	Non-Participating
Barn	231	Non-Participating
Barn	231	Non-Participating
Barn	236	Non-Participating
Barn	238	Non-Participating
Outbuilding	245	Non-Participating
Barn	250	Non-Participating
Outbuilding	258	Non-Participating
House	261	Non-Participating
Tower	261	Non-Participating
Outbuilding	269	Non-Participating
House	288	Non-Participating
Barn	292	Non-Participating

Structure Type	Distance to Project Area (feet)	Underlying Parcel Status
Garage	299	Non-Participating
Barn	301	Non-Participating
Barn	311	Non-Participating
House	313	Non-Participating
Barn	315	Non-Participating
Barn	318	Non-Participating
Outbuilding	323	Non-Participating
House	327	Non-Participating
Barn	337	Non-Participating
House	350	Non-Participating
House	376	Non-Participating
Barn	379	Non-Participating
House	385	Non-Participating
House	386	Non-Participating
House	386	Non-Participating
House	389	Non-Participating
Outbuilding	390	Non-Participating
Barn	393	Non-Participating
Barn	397	Non-Participating
Garage	400	Non-Participating
Barn	400	Non-Participating
Barn	406	Non-Participating
Outbuilding	419	Non-Participating
Barn	439	Non-Participating
Outbuilding	442	Non-Participating
Barn	471	Non-Participating
Outbuilding	483	Non-Participating
House	486	Non-Participating
Barn	489	Non-Participating
Outbuilding	490	Non-Participating
House	512	Non-Participating
House	519	Non-Participating
Barn	523	Non-Participating
Barn	531	Non-Participating
Barn	537	Non-Participating
House	541	Non-Participating
Garage	557	Non-Participating
Barn	566	Non-Participating
Barn	570	Non-Participating
Barn	586	Non-Participating
Barn	594	Non-Participating
Barn	604	Non-Participating
Outbuilding	605	Non-Participating

Structure Type	Distance to Project Area (feet)	Underlying Parcel Status
Barn	608	Non-Participating
Barn	609	Non-Participating
Barn	611	Non-Participating
House	636	Non-Participating
House	637	Non-Participating
Barn	676	Non-Participating
House	692	Non-Participating
House	700	Non-Participating
Outbuilding	700	Non-Participating
House	700	Non-Participating
House	702	Non-Participating
House	712	Non-Participating
Garage	716	Non-Participating
Barn	725	Non-Participating
Garage	727	Non-Participating
Outbuilding	730	Non-Participating
House	734	Non-Participating
Garage	738	Non-Participating
Barn	742	Non-Participating
Barn	756	Non-Participating
House	769	Non-Participating
Garage	777	Non-Participating
House	779	Non-Participating
Outbuilding	788	Non-Participating
Barn	813	Non-Participating
House	827	Non-Participating
Outbuilding	834	Non-Participating
Tower	846	Non-Participating
Barn	852	Non-Participating
Barn	871	Non-Participating
Barn	894	Non-Participating
House	905	Non-Participating
Barn	918	Non-Participating
House	947	Non-Participating
Barn	986	Non-Participating
House	1,009	Non-Participating
Outbuilding	1,011	Non-Participating
Garage	1,012	Non-Participating
House	1,019	Non-Participating
Outbuilding	1,021	Non-Participating
Barn	1,022	Non-Participating
House	1,024	Non-Participating
House	1,031	Non-Participating

Structure Type	Distance to Project Area (feet)	Underlying Parcel Status
House	1,036	Non-Participating
Barn	1,036	Non-Participating
Barn	1,036	Non-Participating
Barn	1,037	Non-Participating
House	1,053	Non-Participating
Tower	1,054	Non-Participating
House	1,081	Non-Participating
House	1,083	Non-Participating
Outbuilding	1,083	Non-Participating
Barn	1,087	Non-Participating
Barn	1,095	Non-Participating
House	1,102	Non-Participating
House	1,102	Non-Participating
Silos	1,106	Non-Participating
Barn	1,117	Non-Participating
Garage	1,124	Non-Participating
Barn	1,134	Non-Participating
Barn	1,137	Non-Participating
Barn	1,142	Non-Participating
House	1,144	Non-Participating
Barn	1,158	Non-Participating
Barn	1,159	Non-Participating
House	1,160	Non-Participating
Tower	1,161	Non-Participating
Outbuilding	1,161	Non-Participating
Outbuilding	1,170	Non-Participating
Garage	1,175	Non-Participating
House	1,177	Non-Participating
Outbuilding	1,189	Non-Participating
Barn	1,191	Non-Participating
Barn	1,197	Non-Participating
Barn	1,203	Non-Participating
Outbuilding	1,210	Non-Participating
Barn	1,220	Non-Participating
House	1,235	Non-Participating
House	1,237	Non-Participating
House	1,248	Non-Participating
House	1,252	Non-Participating
Outbuilding	1,257	Non-Participating
Outbuilding	1,265	Non-Participating
Barn	1,287	Non-Participating
Barn	1,300	Non-Participating
Outbuilding	1,307	Non-Participating

Structure Type	Distance to Project Area (feet)	Underlying Parcel Status
House	1,307	Non-Participating
House	1,319	Non-Participating
House	1,357	Non-Participating
House	1,369	Non-Participating
House	1,370	Non-Participating
House	1,394	Non-Participating
Barn	1,394	Non-Participating
Outbuilding	1,399	Non-Participating
Barn	1,401	Non-Participating
Barn	1,404	Non-Participating
Barn	1,419	Non-Participating
House	1,427	Non-Participating
Barn	1,428	Non-Participating
Outbuilding	1,430	Non-Participating
Outbuilding	1,439	Non-Participating
House	1,442	Non-Participating
Barn	1,456	Non-Participating
Barn	1,463	Non-Participating
Outbuilding	1,471	Non-Participating
House	1,496	Non-Participating
House	1,500	Non-Participating
House	1,500	Non-Participating
House	1,511	Non-Participating
Barn	1,518	Non-Participating
House	1,537	Non-Participating
Barn	1,543	Non-Participating

Although OAC 4906-4-08(C)(1)(b)(ii) requires only those structures within 250 feet of a non-generating Project component to be identified, due to the potential layout adjustments that may occur, the location and lease status of all structures and property boundaries within 250 feet of the Project Area has been determined. There are 71 structures (28 residences) within 250 feet of the Project Area (Figure 08-12), which are a subset of those identified in Table 08-7; however, five structures (two residences) located within the Project Area are proposed for demolition. For each of these structures, Table 08-8 identifies the structure type; distance to the Project Area; and underlying parcel status.

TABLE 08-8
STRUCTURES WITHIN 250 FEET OF THE PROJECT AREA

Structure Type	Distance to Project Area (feet)	Underlying Parcel Status
House	Within Project Area; to be demolished	Participating
House	Within Project Area; to be demolished	Participating
Barn	Within Project Area; to be demolished	Participating
Barn	Within Project Area; to be demolished	Participating
Garage	Within Project Area; to be demolished	Participating
Tower	-	Participating
Tower	-	Participating
Tower	-	Participating
Tower	-	Participating
Tower	-	Participating
Tower	10	Participating
Barn	46	Non-Participating
Barn	50	Participating
House	54	Non-Participating
House	59	Non-Participating
House	65	Participating
House	79	Non-Participating
House	82	Non-Participating
House	84	Non-Participating
Barn	89	Non-Participating
House	93	Non-Participating
House	102	Non-Participating
House	103	Non-Participating
Barn	103	Non-Participating
Outbuilding	106	Non-Participating
Garage	108	Non-Participating
Tower	108	Non-Participating
Outbuilding	111	Non-Participating
House	111	Non-Participating
House	113	Non-Participating
House	118	Non-Participating
House	121	Non-Participating
Barn	122	Non-Participating
House	122	Non-Participating
Garage	127	Non-Participating
Barn	130	Non-Participating
Garage	134	Non-Participating
Garage	137	Non-Participating
House	137	Non-Participating
Tower	138	Non-Participating

Structure Type	Distance to Project Area (feet)	Underlying Parcel Status
Garage	138	Non-Participating
House	140	Non-Participating
House	151	Non-Participating
Barn	154	Non-Participating
House	156	Non-Participating
Barn	160	Non-Participating
Outbuilding	163	Non-Participating
Barn	166	Non-Participating
House	166	Non-Participating
Barn	176	Non-Participating
House	181	Non-Participating
Outbuilding	182	Non-Participating
Barn	196	Non-Participating
House	198	Non-Participating
Barn	199	Non-Participating
House	201	Non-Participating
Barn	204	Non-Participating
House	209	Non-Participating
House	211	Non-Participating
Barn	216	Non-Participating
House	217	Non-Participating
Outbuilding	222	Non-Participating
Outbuilding	229	Non-Participating
Outbuilding	229	Non-Participating
House	230	Non-Participating
Barn	231	Non-Participating
Barn	231	Non-Participating
Barn	236	Non-Participating
Barn	238	Non-Participating
Outbuilding	245	Non-Participating
Barn	250	Non-Participating

(c) Land Use Impacts

As shown on Figure 08-10, the Project is primarily proposed within an area currently in agricultural use. Project impacts, in acres, including the construction impact areas and permanent impact areas, in total, and separately for each Project component are presented in Table 08-9.

TABLE 08-9
LAND USE IMPACTS

Project Element	Temporary Disturbance (acres)	Permanent Alteration (acres)
Agricultural		
Solar Panels	462.4	462.4
Collector System	16.1	0
Project Substation	2.3	2.3
Access Roads	18.6	9.3
Inverter Pads	0.13	0.13
Residential		
Solar Panels	2.75	2.75
Collector System	0	0
Project Substation	0	0
Access Roads	0.04	0.02
Inverter Pads	0	0
Total (overlap removed)*	472.1	466.7

Note: Laydown will occur within the bounds of areas disturbed for other Project components.
*Since the impact areas for each component sometimes overlap with each other, the total cannot be derived by summing its parts.

Operation of the Project is anticipated to result in only very minor impacts to land use within the Project Area, and no impacts to land use are anticipated outside the Project Area. The proposed location of Project-related features will result in the permanent alteration of approximately 472 acres of land from its current use.

(d) Structures to be Removed or Relocated

Five structures will be demolished in preparation of site development to support the Project. These structures are depicted on Figure 08-10 and include two houses and five barns.

(2) Wind Farm Maps

This requirement is not applicable to the Project because it does not include wind turbines.

(a) Distance from Easements

This requirement is not applicable to the Project because it does not include wind turbines.

(b) Property Setbacks

This requirement is not applicable to the Project because it does not include wind turbines.

(3) Setback Waivers

This requirement is not applicable to the Project because it does not include wind turbines.

(a) Content of Waiver

This requirement is not applicable to the Project because it does not include wind turbines.

(b) Required Signature

This requirement is not applicable to the Project because it does not include wind turbines.

(c) Recordation of Waiver

This requirement is not applicable to the Project because it does not include wind turbines.

(4) Land Use Plans

(a) Formally Adopted Plans for Future Use

The Project Area is located within Clermont and Brown Counties. Within the 5-mile study area of the Project lies Clermont and Brown counties, as well as portions of the Villages of Bethel, Hammersville, and Felicity. Of these communities, only Clermont County has adopted a plan to guide future land use; this plan is summarized below:

- **Clermont County Comprehensive Plan**: Adopted on April 22, 2014, this plan was focused on establishing a vision and goals for development and the preservation of opportunities within Clermont County. Although it is not a governing document, this plan should act as a guide to assist communities and developers when making decisions regarding future development within Clermont County. Where appropriate, township plans have been incorporated into this plan. A key goal of this plan is to increase the county's tax base, as it is used to support, maintain, and improve key community infrastructure such as roads, schools, parks, libraries, and public safety services.
- **Tate Township's Comprehensive Plan (referenced within the Clermont County Comprehensive Plan):** The purpose of this plan is to promote public health, safety, morals, comfort, and general welfare; to provide for an orderly and systematic development of Tate Township; to conserve and protect property and property values;

to secure the most appropriate use of land; and to facilitate adequate but economical provisions of public improvements.

(b) Applicant Plans for Concurrent or Secondary Use of the Site

The Applicant has no plans for concurrent or secondary use of the Project Area. Permanent features of the Project are proposed on land leased from participating land owners. The Project has been designed to minimize impacts to, and maximize compatibility with, existing uses. Existing land uses within the Project Area, such as agricultural operations, will continue concurrently with Project operations.

(c) Impact to Regional Development

The regional economy surrounding the Project Area is shaped, in large part, by the agricultural nature of Clermont and Brown Counties. Although not the largest employment in the Counties, agriculture is the primarily land use, with a focus on cash grain and livestock farming (ACS 2016). The 5-mile study area around the Project Area is predominantly rural, with the Villages of Bethel, Hamersville, and Felicity, located within the 5-mile study area, as the most proximate metropolitan region. The regional context within which this Project is proposed is described below, concentrating on five primary aspects: housing; commercial and industrial development; schools; transportation; and other public services and facilities. The compatibility of the proposed Project with the regional developmental plans, outlined in Section 4906-4-08(C)(4)(a), is discussed in Section 4906-4-08(C)(4)(d).

(i) Housing

As further described in Section 4906-4-08(C)(4)(e), the population of Clermont and Brown Counties has significantly increased over the past two decades. Similarly, the regional housing markets have felt the impact of this growing population, with a significant increase in housing units and a decrease in vacancy rates. Owner-occupied vacancy rates in the counties within which the 5-mile study area lies range from 1.9 percent to 2.8 percent, comparable to the statewide average of 1.8 percent (ACS 2016). The rental vacancy rates in Clermont and Brown Counties (7.0 and 7.2 percent, respectively) are also comparable to the statewide average of 6.0 percent (ACS 2016).

It is estimated that there were approximately 9,000 housing units within Clermont and Brown Counties that were vacant in 2016 (ACS 2016). Given these figures and the recent population trend in the region, as described in Section 4906-4-08(C)(4)(e), it is not expected that construction or operation of the Project will have a significant impact on the regional housing market. The Project is also not expected to represent a significant increase in the regional renter population such that it would have a destabilizing effect on existing renters.

(ii) Commercial and Industrial Development

As shown in Table 08-6, the area within 1 mile of the Project Area has limited commercial and industrial development (1 and 0.2 percent, of the total land use within that area, respectively). The Project provides a unique opportunity to provide diversity of the local economy while retaining consistency with the agricultural use within the Project Area.

(iii) Schools

The Project will have a significant positive impact on the local tax base, including the local school district(s) that serve the Project Area, and no significant impact on schools or other educational facilities is anticipated. The Project should not have a significant effect on the surrounding municipalities, as local employees will be hired, to the extent possible. If non-residents are hired, they would likely commute or stay in regional temporary housing or motels and would not bring their families.

(iv) Transportation

The region surrounding the Project Area features numerous Interstate highways; U.S. and State highways; and county and local roadways, as well as freight rail lines and small airports. The main transportation routes to the Project Area are OH-125, 133, and 774.

Workers and construction deliveries traveling to and from the Project Area will most likely enter via Leonard Road. The

proposed Project is not expected to cause any substantial disruption to major transportation corridors serving the Project Area or the 5-mile study area.

As indicated in Section 4906-4-07(E)(1), no public airports are located within 5 miles of the Project Area. The Project not result in adverse impact to the regional air transportation network.

(v) Other Public Services and Facilities

The Project is not expected to affect the regional population; therefore, no significant impact on local public services and facilities is anticipated. Local employees will be hired, to the extent possible. Hiring of non-residents will only occur when residents with the required skills are not available or competitive. It is expected that non-residents would commute or stay in regional temporary housing or motels, and not require new housing, and would not bring families that might require family healthcare or additional school facilities.

Workers will commute to the Project Area daily. The primary impact on public services from the Project would be a temporary increase in traffic on roads leading to and from the Project Area, due to worker commutes or deliveries during construction.

(d) Compatibility with Current Regional Plans

As discussed in Section 4906-4-08(C)(3)(a), of the municipalities within the 5-mile study area, only Clermont County has adopted a regional plan to guide future development; compatibility with this plan is discussed below:

- **Clermont County Comprehensive Plan:** The Project will be compatible with Clermont County Comprehensive Plan's key economic development goal to increase the tax base. The Project will have a positive impact on the local economy and represents a large-scale alternative energy installation. The Applicant is proposing a PILOT program with Clermont County, which will add to the county's tax base.
- **Tate Township Comprehensive Plan:** A key goal of this plan is to promote public health of Tate Township. The Project is compatible with this goal as it will diversify the region's energy resource profile, adding to the resilience and reliability of energy resources while offsetting older, conventional energy resources with a much high pollutant level. The Project will also have positive impacts on the local economy, offering an opportunity for the use of local goods and services.

The Project is proposed in a primarily agricultural and rural residential area, with most Project-related impacts proposed on land currently in agricultural undeveloped use. In addition to the economic benefits of the proposed Project, and its overall compatibility with agricultural practices, it will

support and aid in the preservation of local farming operations. Furthermore, jobs and economic development created by the Project may help to create new local employment opportunities while retaining existing opportunities. Therefore, the development of this Project is compatible with the goals and strategies of existing local and regional plans.

(e) Demographic Characteristics

Census data reveal that these communities have experienced a history of significant population growth over the past two decades. Table 08-10 presents the population trends for the State of Ohio and counties within 5 miles of the Project Area. While the state population increased by 6.4 percent from 1990 to 2010, populations in both Brown and Clermont Counites significantly increased, by 28.2 and 34.1 percent, respectively.

TABLE 08-10
POPULATION TRENDS

Area	1990 Population	2000 Population	2010 Population	% Change 1990 - 2010
Brown County	34,966	42,285	44,846	28.2%
Clermont County	150,187	177,977	201,460	34.1%
State of Ohio	10,847,115	11,353,140	11,536,504	6.4%

Source: U.S. Census Bureau 2000 and 2010 Decennial Census

Table 08-11 presents population projections for 2020 and 2030 using the population change calculated between 2000 and 2010 for each populated area that lies within 5 miles of the Project Area. Populations within this area experienced a varied history of population growth and decline over the past two

decades. The largest changes include Lewis Township, which experienced a 14.2 percent increase in population from 2000 to 2010, and the Village of Felicity, which experienced a 11.3 percent decrease in population over the same time period. The estimated total population for the area surrounding the Project Area was calculated by adding the total populations of each populated area that overlaps with the 5-mile study area; as shown in Table 08-11, the overall population of the surrounding area increased by 1.6 percent between 2000 and 2010.

In general, the recent trends experienced by each community are expected to continue regardless of whether the proposed Project is built. Over the next two decades, the total population within the 5-mile study area is projected to continue to slowly increase; compared to projected statewide increase of 5 percent over the same period of time.

TABLE 08-11
EXISTING AND PROJECTED POPULATIONS

Populated Place	Population		% Change	Estimated Population	
	2000	2010	2000 – 2010	2020	2030
Lewis Township	2,362	2,697	14.2%	3,080	3,517
Clark Township	3,165	3,121	-1.4%	3,077	3,034
Tate Township	8,935	9,357	4.7%	9,797	10,257
Franklin Township	4,348	4,188	-3.7%	4,033	3,884
Village of Hamersville	515	546	6.0%	579	613
Village of Bethel	2,637	2,711	2.8%	2,787	2,865
Village of Felicity	922	818	-11.3%	726	644

Populated Place	Population		% Change 2000 – 2010	Estimated Population	
	2000	2010		2020	2030
Total	**22,884**	**23,248**	**1.6%**	**24,079**	**24,814**
Source: U.S. Census Bureau, 2000 and 2010 Decennial Census					

Although Project construction employment will be more substantial, it is relatively short-term, and is not expected to result in the permanent relocation of construction workers to the region. Therefore, the Project should not cause significant population growth within the 5-mile study area. The potential short- and long-term employment opportunities associated with construction and operation of the Project are further discussed in Section 4906-4-06(E)(2).

As outlined in Table 08-12, the population density across the area surrounding the Project Area is low, at less than 1 person per acre. Within pockets of the surrounding area, primarily in the Villages of Hamersville, Bethel, and Felicity, population density is slightly higher.

TABLE 08-12
POPULATION DENSITY

Populated Place	Total Land Area (acre)	(Estimated) 2017 Population	2017 Population Density (pp/acre)
Lewis Township	27,264	2,631	0.1
Clark Township	18,963.2	3,025	0.2
Tate Township	29,824	9,655	0.3
Franklin Township	25,152	4,343	0.2
Village of Hamersville	249.6	512	2.1
Village of Bethel	902.4	2,785	3.1

Populated Place	Total Land Area (acre)	(Estimated) 2017 Population	2017 Population Density (pp/acre)
Village of Felicity	172.8	834	4.8
Source: American Community Survey 1-Year Estimates 2010 – 2017			

The Project is proposed is in a predominantly agricultural and rural residential area. Although the Project will permanently alter 472 acres (for the panels, inverters, roads, and switchyard; collector lines are not considered conversion, as they will be underground) and result in the demolition of two houses, it is not expected to constrain the existing population.

(D) CULTURAL AND ARCHAEOLOGICAL RESOURCES

The cultural resources records review was prepared to meet the requirements of OAC Chapter 4906-4-08(D), which states that the applicant shall identify any registered landmarks of historic, religious, archaeological, scenic, natural, or other cultural significance within 10 miles of the Project Area. Landmarks are defined per OAC 4909-4-08(D)-1 as, "those districts, sites, buildings, structures, and objects that are recognized by, registered with, or identified as eligible for registration by the national registry of natural landmarks, the state historical preservation office, or the Ohio department of natural resources." The OAC 4906-4-08(D) also requires that the applicant evaluate impacts of the proposed Project on the landmarks and describe plans to mitigate any adverse impacts.

The cultural resources records review was completed for a 10-mile buffer around the Project Area and comprises approximately 240,000 acres (375 square miles). The cultural resources review report provided in Appendix I documents the findings of previous surveys and summarizes the results of a literature review.

(1) Cultural Resource and Recreational Area Mapping

Figure 08-13 is a compilation of the following 12 United States Geological Survey 7.5-minute series topographic maps: Bethel, Hamersville, Higginsport, Felicity, Moscow, Laurel, Williamsburg, Batavia, Mount Orab, Sardina, Ash Ridge, and Russellville. These figures depict formally adopted land and water recreation areas and registered landmarks of historic, religious, archaeological, scenic, natural or other cultural significance within a 10-mile radius of the Project Site.

Based on the results of the records review, there are no NRHP Determination of Eligibility (DOE) resources or other cultural resources within the Project Area. Within the expansive 10-mile radius, archaeological sites, historic structures, cemeteries, and historic districts have been identified. The historical plats, atlases, and topographic maps reveal that the character of the Project Area has historically been rural and has not changed significantly through time. It is not anticipated that visibility from identified resources will be likely due to the Project's low profile and surrounding terrain and vegetation. Appendix I provides details of the literature review and an assessment of the Project's Area of Potential Effect.

(2) Estimated Impacts on Cultural Resources or Landmarks

The Project will not impact any known aboveground cultural resources (i.e., historic structures and cemeteries), and the Applicant will work with the Ohio Historic Preservation Office (OHPO) to determine whether additional review is warranted and to confirm that no significant archaeological resources will be impacted.

The potential for indirect impact to historic resources would be limited to potential visibility. As no cultural resources were found in proximity of the Project Area,

and due to the low profile of the Project, visibility will be limited to adjacent areas, no indirect visual impacts are anticipated. The Visual Impact Analysis that has been completed for the Project is addressed in Section 4906-4-08(D)(4).

(3) Recreational and Scenic Areas

As shown on Figure 08-13, there is one state park, one nature preserve, two wildlife areas (one with a marina), four golf courses, and 14 public parks located within 10 miles of the Project Area. East Fork State Park, located approximately 4.3 miles northwest of the Project Area, is the largest state park in Ohio and comprises 4,870 acres around East Fork Lake. Liming Park is the closest public park, located approximately 1.75 miles east of the Project Area. There are no identified parks, golf courses, wildlife refuges, and recreational areas within the Project Area or within immediate proximity to the solar panels. No impact to recreational activities is anticipated to result from construction or operation of the Project.

(4) Visual Impacts

(a) Project Visibility

A Visual Impact Analysis (Appendix J) has been conducted by a qualified professional in accordance with standing policies, procedures, and guidelines in established visual impact assessment methodologies that describes: the character of the surrounding landscape; the appearance of visual components of the Project; the viewers and circumstances under which the Project will be visible; an assessment of potential Project visibility; identification of viewing locations for visual simulations; and a discussion of the Project's visual impacts.

The analysis addresses potential visual impact for an area that is 10 miles from the Project Area, and selects a 5-mile radius for more detailed assessment, although – given the relatively short height of the proposed solar panels and most of the Project features – it is not anticipated that the Project will be directly visible from locations other than the immediate surroundings. Even from the immediate surroundings, vegetation screens the majority of the Project Area. No visual impacts are anticipated in the area between five and ten miles from the Project Area. The Project is not anticipated to materially affect the existing scenic quality of the surrounding area.

(b) Existing Landscape

The area within 5 miles is characterized by a mix of open agricultural fields, sparse rural residential properties, forested woodlots and windrows, and utility corridors. The Project Area is very consistent in character with its surroundings. Project features are generally planned for open agricultural fields, with existing woodlots retained as vegetated buffers. Limited residences are located in the immediate surroundings, and no designated scenic areas are in areas with the potential to be influenced by the Project. Scenic quality will not be materially affected by the Project.

(c) Landscape Alterations

The Project will have a very low profile, with views anticipated to be limited areas immediately proximate to the Project Area. Equipment associated with the Project will generally be less than 14 feet tall or located underground, with the exception of the 70-foot tall lightning mast within the Project

Substation. The Substation will be consistent with the character of the adjacent existing electric transmission line.

No significant reflectivity is expected to be visually noticeable. Solar panels are designed to maximize energy production by capturing as much light as possible, which means they inherently have low levels of glare from reflection of sunlight.

Lighting associated with the Project will be limited only to that required for safety and security, in such locations as the Project gates, Project Substation, Utility Switchyard, and transformer/inverter pads.

(d) Visual Impacts

As shown in Figure 08-14, only limited areas within a 5-mile radius would be likely to result in views of the Project, and a limited number of homes are located within those areas. Mitigation measures, in the form of vegetative screening, will be offered to obstruct or soften views of the Project, where appropriate.

(e) Photographic Simulations

Photographic simulations (provided in Figure 8-15) have been completed to provide representative views from the locations surrounding the Project Area with the greatest potential for visibility. As can be seen from these simulations, the Project is likely to be visible from the immediate vicinity from locations where vegetation does not screen the views. However, the difference in visual effect from Photo Location 1 (approximately 50 feet from the fenceline) to Photo Location 2 (approximately 150 feet from the fenceline) illustrates that visual

effect is greatly increased with distance (in some cases, only a little more distance) between the viewer and the Project.

The overall visual effect from the Project is minimal except when it is viewed in the immediate foreground; in such locations, fencing and vegetation soften and screen the view. None of the locations from which direct views are possible are designated scenic resources. No significant adverse effect on visual quality is anticipated.

(f) Proposed Mitigation Measures

Retaining the majority of the wooded areas within the Project Area is expected to provide natural screening for the majority of the Project. Should a viewer in close proximity to the Project be adversely affected by views, potential screening methods can be considered. This could include fencing enhancement or potential plantings to screen line-of-sight. The Project will also be designed to mitigate the effects of nighttime lighting, using only lighting necessary for safety and security. Features that may be incorporated in the design are downward-facing lights with side shields, motion activated lighting, or manually operated task lighting.

(E) AGRICULTURAL DISTRICTS

(1) Agricultural Land Mapping

As shown on Figure 08-16, and outlined in Table 08-6, agricultural land (specifically, cultivated crops) is the dominant land use in the Project Area. Most of the Project Area is in active agricultural use, and there are approximately 2.25 acres of

agricultural district land within the Project Area, as designated by Clermont and Brown Counties.

(2) Potential Impact to Agricultural Land

(a) Acreage Impacted

Table 08-13 quantifies the proposed temporary and permanent impacts to agricultural land from the proposed Project. Note that the impacts to Agricultural District land is a subset of the total agricultural land, and not reflective of additional impacts.

TABLE 08-13
PROPOSED PROJECT IMPACTS TO AGRICULTURAL LAND

Land Use	Temporary Disturbance (acres)	Permanent Alteration (acres)
Agricultural Land		
Solar Panels	425.6	425.6
Collector System	16.3	0
Project Substation	2.3	2.3
Access Roads	16.3	8.1
Inverter Pads	0.12	0.12
Agricultural District Land		
Solar Panels	0	0
Collector System	0.6	0
Project Substation	0	0
Access Roads	0	0
Inverter Pads	0	0

(b) Impact of Project Activities

As outlined in Table 08-13, construction of the Project will result in the alteration of approximately 470 acres of agricultural land that will be used for

this purpose for approximately 50 years. Areas surrounding the fenced Project features can continue to be used for agricultural purposes.

Since irrigation systems are not prevalent throughout the Project Area, potential interference to irrigation operations is anticipated to be very limited and coordination with affected landowners should alleviate potential for significant disruption.

Construction of the Project could result in damage to subsurface drainage systems. The Project will be designed to avoid damaging drainage systems, and mitigation measures will be implemented, as further detailed in Section 4906-4-08(E)(2)(c).

The Project does not involve physically impacting any existing agricultural structures other than the barns associated with residences that will be demolished within the Project Area.

The Project will support the long-term economic viability of the affected farms by supplementing the income of participating farmers. The presence of solar panels should help to preserve existing agricultural land and avoid conversion to other land uses. Following decommissioning of the Project, restoration of agricultural uses is expected to be possible.

(c) Agricultural Mitigation Practices

Mitigation practices have been incorporated to Project design in order to reduce impacts to agricultural land within the Project Area. These practices will be employed during Project construction, operation, and maintenance.

(i) Drainage Field Tile Systems

Where Project components are proposed on agricultural fields, an attempt will be made to determine the location of any subsurface drainage tiles through consultation with the landowner and/or review of public records.

Any drainage tiles damaged during construction will immediately be identified, documented, and repaired. It is anticipated that a local drain tile contractor or the farmer tending the land will be involved in repair activities.

(ii) Topsoil

The Project Area has been selected, in part, due to the ability to install Project components with minimal ground disturbance and/or grading. Therefore, relatively little topsoil will be disturbed. Installation of the arrays will not involve topsoil movement. The foundations for the substation, inverter/transformers, and meteorological tower as well as the road beds will involve construction of permanent features requiring removal of topsoil. Temporary impacts to topsoil will occur in association with underground collector system installation.

(iii) Vegetative Cover

Vegetation within the Project Area will be enhanced with a robust, low growing seed mix consisting primarily of native grasses and other low-maintenance species. Pollinator species will be

included in the seed mix where practical. Maintaining this ground cover will absorb precipitation, provide species habitat, eliminate the need for herbicides, and filter stormwater flows to reduce the potential for erosion and sedimentation.

4906-4-09 Regulations Associated with Wind Farms

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(A) CONSTRUCTION, LOCATION, USE, MAINTENANCE, AND CHANGE

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(1) Adherence to Other Regulations

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(2) Construction, Operations, and Maintenance Safety

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(a) Equipment Safety

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(b) Geological Features

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(c) Blasting

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(3) Location

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(4) Maintenance and Use

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(a) Equipment Maintenance

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(b) Construction and Maintenance Access Plan

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(c) Vegetation Management Plan

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(d) Limitation of Herbicide Use

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(e) Post-Construction Site Restoration

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(5) Change, Reconstruction, Alteration, or Enlargement

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(a) Amendment to a Wind Farm Certificate

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(b) Modification(s)

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(c) Review of Proposed Modification(s)

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(B) EROSION CONTROL

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(1) Stabilization with Seeding

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(2) Erosion Control Inspection and Repair

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(3) Delineation of Watercourses During Construction

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(4) Avoidance of Wetland and Watercourses by Construction Equipment

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(5) Avoidance of Materials Storage in Wetlands or Watercourses

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(6) Avoidance of Placing Structures in Wetlands or Watercourses

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(7) Storm Water Management

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(C) AESTHETICS AND RECREATIONAL LAND USE

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(1) Abatement of Vandalism

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(2) Prohibition of Commercial Signage or Advertisements

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(3) Lighting

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(4) Structure Surface Finish

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(5) Avoidance of Adverse Impacts on Landmarks

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(6) Visual Simulations

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(D) WILDLIFE PROTECTION

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(1) Coordination with State and Federal Agencies

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(2) Listed Species Encounter During Construction

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(3) Restricted Dates/Restricted Habitats

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(4) Post-Construction Avian and Bat Monitoring

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(5) Operational Curtailment Periods

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(6) Mitigation or Adaptive Management

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(E) ICE THROW

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(1) Ice Throw Analysis

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(2) Potential Impact Minimization

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(3) Ice Throw Safety Metric

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(F) NOISE

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(1) Construction Noise Requirements

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(2) Operational Noise Requirements

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(G) BLADE SHEAR

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(H) SHADOW FLICKER

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(1) Shadow Flicker Impact Metric

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(2) Complaint Resolution Plan

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(I) DECOMMISSIONING AND REMOVAL

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(1) Decommissioning Plan

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(2) Five-Year Updates

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

Timing of Decommissioning This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(3) Timing of Decommissioning

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(4) Removal and Restoration Requirements

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(5) Material Recycling and Disposal

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(6) Avoidance of Electric Grid Disruption

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(7) Costs

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(8) Performance Bond

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(9) Repair of Public Roads and Bridges

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

(10) Release of Performance Bond

This section is not applicable, as the Project proposed is a photovoltaic solar facility.

This foregoing document was electronically filed with the Public Utilities

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Summary: Application Text electronically filed by Mr. Michael J. Settineri on behalf of Nestlewood Solar I LLC