

COMMONWEALTH OF KENTUCKY

BEFORE THE KENTUCKY STATE BOARD ON ELECTRIC GENERATION
AND TRANSMISSION SITING

In the Matter of:

ELECTRONIC APPLICATION OF RUSSELLVILLE)	
SOLAR LLC FOR A CERTIFICATE OF)	
CONSTRUCTION FOR AN APPROXIMATELY 173)	CASE NO.
MEGAWATT MERCHANT ELECTRIC SOLAR)	2021-00235
GENERATING FACILITY IN LOGAN COUNTY,)	
KENTUCKY PURSUANT TO KRS 278.700 AND)	
807 KAR 5:110)	

ORDER

On March 1, 2022, Russellville Solar LLC (Russellville Solar)¹ filed an application with the Kentucky State Board on Electric Generation and Transmission Siting (Siting Board) seeking a construction certificate to construct an approximately 173-megawatt ground mounted solar photovoltaic electric generating facility (Project) comprising of approximately 1,600 acres of land in Logan County, Kentucky located near Russellville, Kentucky.

There are no intervenors in this matter. Pursuant to a procedural schedule established on March 17, 2022, Russellville Solar responded to two rounds of discovery. A site visit was held on May 9, 2022. Siting Board consultant BBC Research & Consulting (BBC) filed its report (BBC Report) on June 9, 2022. Russellville Solar submitted its response to the BBC Report on June 17, 2022. As provided by KRS 278.712(1) a local

¹ Russellville Solar is being developed by Silicon Ranch Corporation (Silicon Ranch). Within the company, and with consultants hired by Silicon Ranch, the project is sometimes known as Logan County Solar. In filings made by the company the two names are used interchangeably. See Notice of Clarification filed on Mar. 2, 2022.

public hearing was held on June 15, 2022. A formal hearing was held on June 30, 2022. At the local public hearing and the formal hearing there were multiple public comments. Additionally, there were many written public comments filed. The Siting Board reviewed all the comments. Many of the comments focused on the loss of prime agricultural land in Logan County. Russellville Solar filed its responses to post hearing requests for information on July 11, 2022. The matter now stands submitted for a decision.

LEGAL STANDARD

The filing requirements and standard of review for requests to construct a merchant generating facility are set forth in KRS 278.700-.718. KRS 278.704(1) requires that an application be filed and approved by the Siting Board before the construction of a merchant electric generating facility can commence. KRS 278.706 requires that the application include evidence of public notice and compliance with local planning and zoning ordinances.

KRS 278.708(2) requires Russellville Solar to prepare a site assessment report (SAR) that includes (1) a detailed description of the proposed site; (2) an evaluation of the compatibility of the facility with scenic surroundings; (3) potential changes in property values and land use resulting from the siting, construction, and operation of the proposed facility for property owners adjacent to the site; (4) evaluation of anticipated peak and average noise levels associated with the facility's construction and operation at the property boundary; (5) the impact of the facility's operation on road and rail traffic to and within the facility, including anticipated levels of fugitive dust created by the traffic and any anticipated degradation of roads and lands in the vicinity of the facility; and (6) any

mitigating measures suggested by Russellville Solar to minimize or avoid adverse effects identified in the SAR.

KRS 278.710(1) delineates the criteria on which the Siting Board will grant or deny the certificate, which includes (1) impact on scenic surroundings, property values, and surrounding roads; (2) anticipated noise levels during construction and operation of the facility; (3) economic impact on the region and state; (4) whether the proposed facility will meet all local planning and zoning requirements existing on the date the application was filed; (5) impact of the additional load on the reliability of jurisdictional utilities; (6) setback requirements; (7) efficacy of mitigation measures proposed by Russellville Solar; and (8) whether Russellville Solar has good environmental compliance history.

PROPOSED FACILITY

The Project will be located on 1,600 acres two miles southwest of Russellville, Kentucky. The project will contain approximately 500,000 solar photovoltaic panels with associating ground-mounted racking, 260 inverters, and a substation transformer. The Project will connect to Tennessee Valley Authority's (TVA) Springfield-Logan Aluminum's 161 kV transmission line.²

DISCUSSION AND FINDINGS

I. KRS 278.708: SAR Filing Requirements and Mitigation Measures

Mitigation Measures Proposed by Russellville Solar and Siting Board Consultant

As required by KRS 278.708(4), Russellville Solar proposed various mitigation measures consistent with the statutes regarding traffic, noise, roadway preservation, permitting, setbacks, public safety, karst and water protection, and scenic preservation.

² Application unnumbered at 5.

In accordance with KRS 278.708(5), BBC recommended mitigation measures in the following areas: site development planning; compatibility with scenic surroundings; potential changes to property value and land use; peak and average noise levels; road traffic, dust, and road degradation; economic impacts; decommissioning; public outreach and communication; and complaint resolution.³ A majority of the mitigation measures recommended by the BBC Report are consistent with the proposed mitigation measures by Russellville Solar.

Russellville Solar agreed with all but one of the proposed mitigation measures of the Siting Board Consultant.⁴ The BBC report recommended that Russellville Solar prioritize vegetative screening before any construction begins. Russellville Solar indicated that flexibility on planting would be advisable because the project construction will be spread over the site at different times. Russellville Solar stated that the planting could be done within a particular section of the Project as it was being constructed. Russellville Solar also stated that seasonal weather could impact planting conditions.⁵

The Siting Board has reviewed the mitigation measures proposed by Russellville Solar and BBC, and finds that, in addition to those Russellville Solar initially proposed, the mitigation measures set forth in Appendix A, and discussed throughout this Order, are appropriate and reasonable because they achieve the statutory purpose of mitigating the adverse effects identified in the site assessment report and its consultant's report in accordance with KRS 278.708.

³ BBC Report at B-8–B-11 (filed June 9, 2022).

⁴ Response to BBC Research and Consulting's Report (Response to Consultant's Report) (filed June 17, 2022) at 1-2.

⁵ Response to Consultant's Report at 1-2.

Detailed Site Description

KRS 278.708(3)(a)(1-6) requires that the detailed site description in the SAR include a description of (1) surrounding land uses for residential, commercial, agricultural, and recreational purposes; (2) the legal boundaries of the proposed site; (3) proposed access control to the site; (4) the location of facility buildings, transmission lines, and other structures; (5) location and use of access ways, internal roads, and railways; and (6) existing or proposed utilities to service the facility.

Russellville Solar submitted the required SAR with its application. The SAR contained a preliminary site plan, that has been subsequently updated.⁶ The updated site plan included existing roadways, project boundaries, property lines, overhead electric transmission lines, railroad, hydrography, and vegetation. The updated site plan also included the proposed features for the site including setback lines, security fencing, access roads, entrances, solar arrays, substation, exclusion areas, basins, laydown yards, and vegetative buffer plantings are also included.⁷ A battery energy storage system will be built adjacent to the proposed substation.⁸ The project site contains four properties, totaling 1,569 acres.⁹ The legal boundaries of the proposed project were included in the SAR.¹⁰

The surrounding area is primarily rural agricultural land with scattered rural

⁶ See SAR, Exhibit D and Russellville Solar's Response to Siting Board Staff's Second Request for Information (Response to Staff's Second Request) (filed May 31, 2022), Item 4.

⁷ Russellville Solar's Response to Staff's Second Request for Information, Item 4.

⁸ SAR unnumbered at 4.

⁹ BBC Report, Section B at 1.

¹⁰ SAR, Exhibit B.

residential properties. The land use is 51 percent agricultural, 45 percent agricultural/residential, and 4 percent residential.¹¹ There are 11 neighborhoods within the two-mile radius surrounding the proposed project.¹² There are no public or private parks within the two-mile radius of the project site.¹³

Security fences meeting the National Electrical Safety Code (NESC) will enclose the site and the proposed substation.¹⁴ The gates will be locked at all times.¹⁵ Russellville Solar does not anticipate requiring auxiliary power during construction or operation, if it is needed, it will be received from Pennyryle Rural Electric Cooperative Corporation.¹⁶ Retail water is not planned for the project, if water is required a private well will be used.¹⁷

BBC reviewed and evaluated the SAR and concluded that Russellville Solar generally complied with the statutory requirements for describing the facility and site development plan as required by KRS 278.708.¹⁸

Having reviewed the record of this proceeding, the Siting Board finds that Russellville Solar has complied with the requirements for describing the facility and a site development plan, as required by KRS 278.708. However, the Siting Board finds it necessary to impose specific mitigation measures and requirements related to the

¹¹ BBC Report at B-2.

¹² BBC Report at C-11.

¹³ Application unnumbered at 5.

¹⁴ SAR unnumbered at 4.

¹⁵ SAR unnumbered at 4.

¹⁶ SAR unnumbered at 4.

¹⁷ SAR unnumbered at 4.

¹⁸ BBC Report at C-14.

description of the facility and the proposed site development plan. Specifically, the Siting Board will require that Russellville Solar keep the Siting Board apprised of changes throughout the development of the Project and, as such, will order Russellville Solar to provide the final site plan before the commencement of construction. The final site plan should indicate and highlight any change, including those to the design and boundaries of the Project from the proposed site plan provided to the Siting Board during the pendency of this matter. Additionally, based on the findings and proposals of the BBC Report, the Siting Board further finds additional mitigation measures are required. These mitigation measures are outlined in Appendix A to this Order, and in particular, mitigation measures 1 through 7.

Compatibility with Scenic Surroundings

Russellville Solar indicated the project is located in an agricultural and residential area of Logan County. The site is predominately flat to gently sloping terrain.¹⁹ Russellville Solar indicated this site was chosen because it is less than 12 percent grade.²⁰ The view will be impacted by the structures that will be built on the site, including the solar panels, and the glare from panels. Russellville Solar has planned landscaping and setbacks to mitigate potential visual impacts.²¹ Logan County Ordinance No. 19-920-06, requires Russellville Solar to leave any existing vegetation to the extent feasible.²² Additionally, Russellville Solar has created a vegetative screen plan that includes a

¹⁹ SAR unnumbered at 6.

²⁰ Hearing Video Testimony (HVT) of the June 30, 2022 Hearing at 01:19:15.

²¹ SAR unnumbered at 6.

²² SAR unnumbered at 6.

double row of eight-foot-high native trees for any areas where existing vegetation does not sufficiently shield the site from view.²³ A security fence with green screening will also mitigate the view of the project.²⁴ The anti-reflective coating of the panels will minimize glare from the panels.²⁵ The BBC Report found that the project will be compatible with scenic surroundings with the proposed vegetative screening.²⁶

Having reviewed the record, the Siting Board finds that, while there will always be an impact on the scenery of neighboring properties, the impact of this project is minimal. The proposed vegetative buffer, along with other mitigation measures proposed by Russellville Solar and BBC, will minimize the effect that the proposed facility will have on the scenic surroundings of the site. However, the Siting Board will require mitigation measures in addition to those proposed by Russellville Solar. Those are set forth in Appendix A to this Order, and in particular mitigation measures 8 to 12.

Impact on Property Values

Russellville Solar submitted a property value impact report from Kirkland Appraisals, LLC (Kirkland Report), a certified real estate appraiser.²⁷ The Kirkland Report found that, based upon a comparative analysis, the solar facility will have no impact on the property values of abutting or adjacent residential or agricultural properties.²⁸ The Kirkland Report indicated that the solar facility would function harmoniously with the

²³ SAR unnumbered at 6.

²⁴ SAR unnumbered at 6.

²⁵ SAR unnumbered at 6.

²⁶ BBC Report at B-3.

²⁷ SAR, Exhibit A.

²⁸ SAR, Exhibit A at 2.

nearby surroundings, which is mostly agricultural, and that operation of the solar facility would not generate the level of noise, odor, or traffic impacts to negatively impact the nearby surroundings as compared to a fossil fuel generating facility or other industrial facilities.²⁹

The BBC Report noted that the central issue regarding the Project's impact on property values is whether, and to what extent, the development and operation of the Russellville Solar facility will cause nearby property values to change.³⁰ The BBC Report reviewed the Kirkland Report, and noted that the report contained matched pair analysis and a comparative study analyzing data from numerous solar facilities across the country of property values in proximity to such facilities.³¹ BBC based its evaluation of the effect of the Project on property values upon multiple sources, including; the SAR, the discovery responses, independent research, and information obtained based on practical observations during the site visit.³²

BBC concluded since the Project area is predominantly rural and the Project's proposed vegetative buffers will help conceal the physical view of the Project from nearby residences, the proposed Project is unlikely to have a measurable adverse impact on property values of most adjacent properties.³³ BBC stated the property values of some adjacent residential properties with small lots, specifically those with lots smaller than five acres and in closest proximity to the solar panels, might be at risk of a reduction in value.

²⁹ SAR, Exhibit A at 2 and 116.

³⁰ BBC Report at C-26.

³¹ BBC Report at C-28.

³² BBC Report at C-30 and C-31.

³³ BBC Report at C-30 and C-31.

BBC suggested that the inclusion of new and existing vegetative screening buffers to protect the viewshed may help to minimize any adverse value impacts on these nearby residential properties. Russellville Solar has indicated that additional screening for those properties as proposed by the BBC report would be reasonable.³⁴

Having reviewed the record, the Siting Board finds sufficient evidence to conclude that the proposed Russellville Solar facility will more than likely not have any adverse impact on nearby property values as long as proper mitigation measures are implemented. The characteristics of the solar facility's operations are passive, and the facility will be temporary, with the land returned to its natural state after a few decades of operation. The facility does not produce any air, noise, waste, or water pollution nor does it create any traffic issues during operations.

Anticipated Noise Level

HDR, Inc. (HDR) provided the noise assessment for Russellville Solar.³⁵ HDR found that there are approximately 49 noise sensitive residences surrounding the Project site that are not participating in the Project.³⁶ The normal noise in this area is farming, or other agricultural noise, that typically generates sound levels of 45 to 55 dBA.³⁷ Other existing noises in the area are road noise and trains on the nearby railway. These produce noise ranging from 70-88 dBA at 50 feet.³⁸ HDR used the United States

³⁴ See Response to the Consultant's Report at 2.

³⁵ SAR, Exhibit E.

³⁶ Russellville Solar's Response to Staff's Second Request, Item 9, Updated Noise Memo at 2-6. The Application originally cited 113 noise receptors which was subsequently revised to 49.

³⁷ SAR, Exhibit E at 3.

³⁸ SAR, Exhibit E at 3.

Environmental Protection Agency (EPA) standard to assess noise impacts on adjacent residences, which is a day-night average sound (Ldn).³⁹ A Ldn above 65 dBA is considered not suitable for residential use while a level of sound below an Ldn of 55 dBA is considered to not have an adverse impact on the human ear.⁴⁰ HDR estimated noise impacts to adjacent properties occurring during the construction phase using typical construction equipment would produce noise of 84 to 85 dBA at 50 feet.⁴¹ HDR estimated the maximum potential pile driving of 110 dBa at the project boundary.⁴² This estimate was made by using the assumption that all 10 pile drivers were operating simultaneously side by side and set back from the property boundary a minimum of 100 feet.⁴³ Using this assumption, HDR found the maximum sound expected at the property boundaries would be 102 dBA.⁴⁴ This is comparable to a locomotive horn.⁴⁵ In reality, during construction the pile drivers will be in various locations on the property making the noise level less than 102 dBA.⁴⁶ HDR stated that five residences are located within 500 feet of where pile driving will occur. The closest residence is 58 feet from the property line and 194 feet from the fence line.⁴⁷ To mitigate the noise from construction, Russellville Solar

³⁹ SAR, Exhibit E at 2.

⁴⁰ SAR, Exhibit E at 2.

⁴¹ SAR, Exhibit E at 3 and Environmental Assessment, Chapter 3 at 58 (filed May 12, 2022).

⁴² Russellville Solar's Response to Staff's Second Request, Item 9, Updated Noise Memo at 9-10.

⁴³ Russellville Solar's Response to Staff's Second Request, Item 9, Updated Noise Memo at 9-10.

⁴⁴ Russellville Solar's Response to Staff's Second Request, Item 9, Updated Noise Memo at 9-10.

⁴⁵ HTV of the June 15, 2022 Hearing at 15:30:30.

⁴⁶ HTV of the June 15, 2022 Hearing at 15:32:45.

⁴⁷ Russellville Solar's Response to Staff's Second Request, Item 9, Updated Noise Memo, Table 4 at 12.

stated that it would notify adjacent residents at least two weeks in advance, keep the hours of noise causing construction to Monday through Saturday from 8 a.m. to 6 p.m., and respond to any complaints from nearby residents to determine if additional mitigation is necessary during that portion of construction.⁴⁸

HDR used Cadna-A 3-dimensional noise modeling software to evaluate noise from project operations.⁴⁹ The loudest noise during the project's operational phase is the substation transformer, with an average noise level of 50 dBA at a distance 300 feet.⁵⁰ HDR stated that no prolonged substation noise levels above 50 dBA are expected to affect adjacent residences because all are over 300 feet from the Project substation.⁵¹

There will also be operational noise coming from the inverters. The sound from the inverters is approximately 65 dBA at 33 feet. The sound would dissipate rapidly as it travelled further from the source and would not be a factor at any adjacent residence.⁵² An additional source of noise during operations would be the tracking motors, which tilt and rotate the solar panels throughout the daytime.⁵³ Finally, there will be operational noise from the tracking motors. HDR modeled potential tracking motor noise to the nearest receptors which ranged from 51 dBA to 57 dBA.⁵⁴ Russellville stated that no

⁴⁸ Russellville Solar's Response to Siting Board Staff's First Request for Information (Response to Staff's First Request), Item 6c.

⁴⁹ Russellville Solar's Response to Staff's Second Request, Item 9, Updated Noise Memo at 10.

⁵⁰ SAR, Exhibit E at 5 and Russellville Solar's Response to Second Request for Information, Item 9, Updated Noise Memo at 10 and Figure 2 at 11.

⁵¹ SAR, Exhibit E at 4.

⁵² SAR, Exhibit E at 4-5.

⁵³ Russellville Solar's Response to Staff's Second Request, Item 9, Updated Noise Memo at 2.

⁵⁴ Russellville Solar's Response to Staff's Second Request, Item 9, Updated Noise Memo, Table 1, at 2.

residences will be disturbed by tracking motor noise as they produce too few decibels to be heard unless in the immediate vicinity. Russellville Solar also noted that the vegetative buffer will provide additional sound mitigation.⁵⁵

BBC reviewed Russellville Solar's Application, SAR, as well as supplemental information available during the report preparation process relating to expected noise from construction and operation of a solar facility.⁵⁶ For its analysis BBC used the noise level limit from the National Institute for Occupational Health and Safety (NIOSH) of 85 dBA.⁵⁷ BBC compared the projected noise levels during construction phase of this project with other solar projects approved in the last two years and concluded that the noise levels are comparable.⁵⁸ BBC concluded that the pile driving phase will cause the maximum level of construction noise and noted that the NIOSH recommended 85 dBA could be reached quickly using HDR's model of 10 pile drivers operating simultaneously.⁵⁹ BBC stated that pile driving is an intermittent activity and the machines are moved around frequently, so the NIOSH maximum level at nearby residences is unlikely to be reached. BBC noted that the noise buffering from the vegetative screening is not factored in the analysis. BBC concluded that the pile driving noise could have a substantial impact on nearby residents.⁶⁰

⁵⁵ Russellville Solar's Response to Staff's Second Request, Item 10.

⁵⁶ BBC Report at B-2.

⁵⁷ BBC Report at C-38.

⁵⁸ BBC Report at C-39 and Figure C-20.

⁵⁹ BBC Report at C-39 and C-40.

⁶⁰ BBC Report at C-40.

For operational noise, BBC noted that the nearest noise receptors are between 3,000 and 5,200 feet away from the substation. This would create an expected noise level of 40 to 44 dBA during daytime operations.⁶¹ BBC concluded that the noise levels during the normal operation of the inverters, substation transformer, and the tracking motors, are unlikely to be disruptive to the nearby residents.⁶²

The Siting Board finds that noise from the construction phase will be intermittent and temporary, but will be significant to the nearest residences. As indicated by both Russellville Solar and BBC, the noise will be loudest during the pile driving phase of the construction but will not be permanently damaging to nearby residents. The Siting Board further finds that the operational noise from the solar inverters, substations, transformers, and tracking motors should have little-to-no effect on residences in the area.

Based on the case record, the Siting Board finds that Russellville Solar's application is in compliance with the statutory requirements in disclosing noise levels. However, the Siting Board finds, based on the entire record, and in order to ensure the impact of construction noise does not unduly impact nearby residents, Russellville Solar shall implement specific mitigation measures. The mitigation measures required by the Siting Board are designed to limit the effects of construction noise by controlling the hours of construction in general, as well as the time and manner in which pile driving can occur. Russellville Solar may forego noise suppression if it employs a panel installation method that does not involve pile driving, so long as the method does not produce noise levels

⁶¹ BBC Report at C-37.

⁶² BBC Report at C-40.

similar to pile driving. These mitigation measures are further outlined in Appendix A to this Order, and in particular, mitigation measures 13 through 15.

Impact on Roads, Railways, and Fugitive Dust

Construction is expected to take 12 to 15 months.⁶³ During that time there will be intermittent and temporary impacts on traffic flow on roads near the Project.⁶⁴ Watermelon Road, US 79, and US 431 will be the main routes for construction traffic.⁶⁵ A.P. Miller Road has a 30-foot county ingress-egress easement. There is a gravel road that splits north off the end of A.P. Miller Road that is used by neighboring landowners for access to their property. Russellville Solar has committed to provide the neighboring landowners continued use of this gravel road, even though there is no easement in place.⁶⁶ This will be done by maintaining at least 50 feet between project fence lines.⁶⁷ Russellville Solar stated safety precautions including signage, signaling, flagmen, and prioritizing access for local residents will limit traffic impacts in the area.⁶⁸

⁶³ Russellville Solar's Motion for Expedited Issuance of Final Order unnumbered at 2 (filed Mar. 14, 2022).

⁶⁴ SAR unnumbered at 11.

⁶⁵ SAR unnumbered at 11.

⁶⁶ Russellville Solar's Response to Siting Board Staff's Post-Hearing Request for Information (Response to Post-Hearing Request) (filed July 11, 2022), Item 7.

⁶⁷ Russellville Solar's Response to Post-Hearing Request, Item 7 and Attachment.

⁶⁸ SAR unnumbered at 11.

The project will not use railways during construction or operations.⁶⁹ BBC found there will be traffic impacts on the roads near the project, but with mitigation measures this will be alleviated.⁷⁰

The operational phase will have little impact on roads and traffic. Few permanent employees or deliveries are expected.⁷¹

The Siting Board finds that traffic and road degradation issues can be addressed with Russellville Solar's mitigation measures, the additional mitigation measures proposed by BBC, and mitigation measures set forth in Appendix A to this Order, in particular, mitigation measures 17 through 25.

The Siting Board anticipates some fugitive dust from the construction phase. Russellville Solar stated it will use water for dust control.⁷² Russellville Solar further stated that vegetative buffers along the boundaries of the project will help minimize fugitive dust.⁷³ Dust will not be a factor during final operations. This Siting Board requires additional mitigation to reduce any potential harmful effect on the area, which are outlined in Appendix A to this Order, in particular, mitigation measure 26.

II. KRS 278.710(1) – Criteria

Economic Impact on Affected Region and the State

According to Russellville Solar LLC's economic impact report, the proposed solar facility will invest approximately \$150 million in Logan County including land acquisition,

⁶⁹ SAR unnumbered at 11.

⁷⁰ BBC Report at C-45.

⁷¹ SAR unnumbered at 11.

⁷² SAR unnumbered at 11.

⁷³ SAR unnumbered at 11.

site preparation, solar panel and electrical equipment installation, landscaping, and security fencing.⁷⁴ The project is expected to generate significant positive economic impacts for Logan County. Such impacts include the creation of hundreds of construction jobs, expansion of the local tax base, and the benefit of having a long-term employer and corporate citizen in the region. The project will have two phases: a construction phase and an operation phase.⁷⁵

An IMPLAN model used for the economic impact analysis focused on Logan county only.⁷⁶ During the project construction phase, Russellville Solar estimates that the direct employment effect will result in approximately 415 temporary full time jobs with a direct payroll of approximately \$20.75 million.⁷⁷ This equates to an average wage of \$50,000 per construction job as compared to the 2020 average annual pay for all jobs in Logan County of \$47,849.⁷⁸ The indirect and induced economic impacts are estimated to contribute another 114 jobs with an additional \$4.35 million in payroll.

The total construction phase economic impact is estimated to be 529 total full-time equivalent jobs in Logan County with a new payroll of \$25.1 million.⁷⁹ The vast majority of these jobs will be filled by craft workers and contractors such as fencers, electricians,

⁷⁴ Application, Attachment G at 2.

⁷⁵ Application, Attachment G at 1.

⁷⁶ Application, Attachment G at 4-5.

⁷⁷ Application, Attachment G at 3.

⁷⁸ Application, Attachment G at 3.

⁷⁹ Application, Attachment G at 4. The calculation is as follows: \$25.1 million from total effect minus \$20.75 million from direct effect yields \$4.35 million from indirect and induced effects and 529 new job from total effect minus 415 new jobs from direct effect yields 114 new jobs from indirect and induced effects.

panel installers, equipment operators and construction managers.⁸⁰ The ongoing economic impact from the project's operational phase is estimated to be very small relative to the one-time impacts from the construction phase. The ongoing operational phase of the project is expected to modestly support approximately six jobs.⁸¹

Expanding the economic impact area to include the surrounding four counties of Warren, Todd, Muhlenberg, and Butler a separate five county regional IMPLAN model was ran. The five-county model results in a relatively small change in the economic impact for the project. The five-county model yields an estimated 93 one-time additional jobs. Shifting the IMPLAN model to encompass the entire state of Kentucky is not significantly different when compared to using only the five-county region.⁸²

Russellville Solar has negotiated an Industrial Revenue Bond (IRB) and a Payment in Lieu of Taxes (PILOT) Agreement with Logan County.⁸³ Russellville Solar estimated that if an IRB and PILOT is reached it would pay \$6 million over a period of 30 years to local jurisdictions, including the public schools. These payments would average about \$200,000 annually.⁸⁴

In addition, the nine parcels of land designated for the project have a current combined taxable value of \$1.826 million. The parcels generated \$14,100 in property

⁸⁰ Application, Attachment G at 3.

⁸¹ Application, Attachment G at 5.

⁸² Application, Attachment G at 4-5.

⁸³ HVT of the June 15, 2022 Hearing at 14:13:00. See also Russellville Solar's Response to Post-Hearing Request, Item 5.

⁸⁴ Application, Attachment G at 7.

taxes in 2020, almost all of which went to local jurisdictions.⁸⁵ The taxable value of the land would increase from \$1,400 to \$9,500 per acre due to the project development. Combined with the proposed PILOT payments, the local jurisdictions, including the school system, would receive an average of \$484,000 in property taxes per year for the next thirty years. Additionally, the increased real tangible property tax payments will continue for another decade to the completion of the 40-year expected life of the project.⁸⁶

There will also be increases in sales and income tax revenue for Logan County because of the project. Kentucky income taxes average about 4.87% of wages and salaries, while Kentucky sales taxes average about 4.00% of wages and salaries. Applying those to the predicted payroll impact in Logan County from construction yields \$1.2 million in state income taxes and \$1.0 million in state sales taxes for the project.⁸⁷

Having reviewed the record, the Siting Board finds that the Russellville Solar facility will have a positive economic impact on the region.

Existence of Other Generating Facilities

Russellville Solar indicated there are no existing facilities near the proposed site that generate electricity.⁸⁸ Russellville Solar stated the Project will connect with the TVA's existing Springfield-Logan Aluminum 161-kV transmission line in the northeast corner of the project site.⁸⁹

Local Planning and Zoning Requirements

⁸⁵ Application, Attachment G at 7.

⁸⁶ Application, Attachment G at 7.

⁸⁷ Russellville Solar's Response to Staff's First Request, Item 16.

⁸⁸ Application unnumbered at 12.

⁸⁹ Application unnumbered at 12.

Logan County does not have Planning and Zoning.⁹⁰ However, Logan County Fiscal Court has adopted an ordinance governing setbacks for solar facilities.⁹¹ Russellville Solar stated it will comply with the setback ordinance and any other local ordinances that are applicable.⁹²

Impact on Transmission System

The Project is located within TVA's electric system in Kentucky. TVA manages the interconnection and is also the owner of the transmission line the Project will connect with.⁹³ TVA conducted a Feasibility Study in August 2019.⁹⁴ Another Feasibility Study was conducted for the battery storage component in November 2021.⁹⁵ TVA also conducted a System Impact Study in September 2021.⁹⁶ TVA is in the process of conducting a Facilities Study.⁹⁷

Based upon the case record, the Siting Board finds that Russellville Solar has satisfied the requirements of KRS 278.710(f) and that the additional load imposed on the electricity transmission system, created by the generation of electricity at the Russellville Solar facility, will not adversely affect the reliability of service for retail customers of

⁹⁰ Russellville Solar Notice of Intent (filed June 11, 2021) *and* Russellville Solar Restated Notice of Intent (filed Jan. 21, 2022).

⁹¹ See Application, Attachment C.

⁹² Application unnumbered at 7.

⁹³ Application, unnumbered at 14.

⁹⁴ Application, unnumbered at 14. See Application, Attachment E for the entire Feasibility Study.

⁹⁵ Application unnumbered at 14. See Application, Attachment E for the entire Feasibility Study relating to battery storage.

⁹⁶ Application unnumbered at 14. See Application, Attachment F for the entire System Impact Study.

⁹⁷ Application unnumbered at 14.

electric utilities regulated by the Kentucky Public Service Commission. This finding is based upon Russellville Solar's commitment to the interconnection process and protocols consistent with the requirements of KRS 278.212.

Compliance with Setback Requirements

Logan County Fiscal Court has adopted an ordinance addressing setbacks.⁹⁸ Therefore, Russellville Solar has not requested a deviation, pursuant to KRS 278.704, from the statutory setback requirements for the Project. Logan County Ordinance 22-920-03, amending Ordinance 19-920-06, provides the setback requirements: 100 feet from adjacent property lines; 250 feet from a residence; 250 feet from a building, structure, or appurtenance; 250 feet from a residential neighborhood, school, church, hospital, nursing facility, or cemetery; and 100 feet from right-of-way for municipal road or railway.⁹⁹ The ordinance also permits landowners to waive the setback requirements if they own a minimum of 1,000 feet of continued property adjoining the perimeter of a solar facility.¹⁰⁰ Russellville Solar has committed to the setbacks required by the Logan County Ordinances.¹⁰¹ Nevertheless, in consideration of the visual and noise impacts of the proposed facilities on its surroundings, as evidenced by Russellville Solar's own SAR, the Siting Board finds that Russellville Solar shall not place solar panels or string inverters if used, closer than 150 feet from a residence, church, or school, 25 feet from nonparticipating adjoining parcels, and 50 feet from adjacent roadways. Russellville Solar

⁹⁸ Application, Attachment C.

⁹⁹ Application, Attachment C.

¹⁰⁰ Application, Attachment C.

¹⁰¹ Application unnumbered at 7-8.

shall not place a central inverter, and if used, energy storage systems, closer than 450 feet from a residence, church, or school. Exceptions to these setback requirements for participating landowners are included in Appendix A, mitigation measure 16.

History of Environmental Compliance

No information appears in the record of any environmental violations by the applicant. Russellville Solar states that neither it, nor anyone with an ownership interest in it, has violated any environmental laws, rules, or administrative regulations that resulted in a criminal confiscation, or a fine of greater than \$5,000. Further it is not the subject of any pending judicial or administrative actions.¹⁰²

Transfer of Ownership

Solar developments are often sold to other companies during the planning, construction, and operation of projects. When a certificate to construct a solar facility is sought the project and the developers are thoroughly evaluated to ensure that the project will comply with all statutory and regulatory requirements. After the review, the construction certificate is granted on the condition of full compliance with all mitigation measures, some of which continue throughout the operation of the facility. Without a requirement for the Siting Board to approve a potential transfer of ownership of the project, the construction certificate could be transferred to a company without the financial, technical, or managerial capabilities that are necessary to construct or operate a solar facility under the imposed requirements, or an owner without a good environmental history. The Siting Board will require approval before the transfer of ownership of Russellville Solar to ensure that the project will continue to meet all statutory

¹⁰² Application unnumbered at 16.

and regulatory requirements and mitigation measures established by the Siting Board. The measures related to the transfer of ownership are set forth more fully in Appendix A to this Order in mitigation measure 27.

Decommissioning

Russellville Solar has not finalized a decommissioning plan.¹⁰³ The applicable property leases contain covenants to the property owners regarding decommissioning.¹⁰⁴ Russellville Solar indicated it is the typical practice of the company to only decommission a project to the dept of three feet.¹⁰⁵

The Siting Board finds that Russellville Solar must return the land to its original use, to the extent possible, at the end of the Project's life. Returning the land back to its original state and use after decades of operation is an important part of the Siting Board's finding regarding the impact of the facilities on scenic surroundings, property values and the economy. The relatively "temporary" nature of the facilities compared to other types of more permanent development, such as thermal merchant generation facilities, industrial operations, or housing, is a prime consideration of the Siting Board in granting a certificate, with conditions, in this matter. An inability or unwillingness to return the land back to its prior state after the life of the facility, including leaving underground facilities in excess of three feet, increases the permanence of the facility. As such, the Siting Board requires the removal of all components above and below ground. Removal of all underground components and regrading or recompacting the soil for agricultural use will

¹⁰³ HVT of the June 15, 2022 Hearing at 01:05:41.

¹⁰⁴ See Russellville Solar's Response to Staff's First Request, Item 1.

¹⁰⁵ HVT of the June 15, 2022 Hearing at 01:05:58.

mitigate any damage to the land, thus returning the land to a state that provides at least as great of an economic impact as it does today. The Siting Board will also require additional mitigation measures related to decommissioning, which are outlined in Appendix A to this Order, mitigation measures 28 through 32.

CONCLUSION

The Siting Board is a creature of statute and has only such powers as have been granted to it by the General Assembly. Thus, the Siting Board's consideration of an application for a construction certificate is limited to the factors enacted by the General Assembly in KRS 278.110(1)(a)-(i), which have been discussed throughout this order. The Siting Board does not have the statutory authority to consider the best use of land or to select a different location for the project. The Siting Board notes that there have been many written public comments regarding this project. The Siting Board has reviewed all the written comments and has listened to comments at the public meeting and the hearing. A majority of the comments raise the concern that the land this project is to be constructed on is high quality farmland and there are other locations within Logan County that, the commentors state, would be better suited for solar development. Although the public comments indicate displeasure with the project, the scope of the Siting Board's authority is whether this project meets the requirements of KRS 278.110(1)(a)-(i) based upon the case record.

After carefully considering the criteria outlined in KRS Chapter 278, the Siting Board finds that Russellville Solar has presented sufficient evidence to support the issuance of a Construction Certificate to construct the proposed merchant solar facility. The Siting Board conditions its approval upon the full implementation of all mitigation

measures and other requirements described herein and listed in Appendix A to this Order. A map showing the location of the proposed solar generating facility is attached to this Order as Appendix B.

IT IS THEREFORE ORDERED that:

1. Russellville Solar's application for a Construction Certificate to construct an approximately 173 MW merchant solar electric generating facility in Logan County, Kentucky is conditionally granted subject to full compliance with the mitigation measures and conditions prescribed in Appendix A.
2. Russellville Solar shall fully comply with the mitigation measures and conditions prescribed in Appendix A.
3. In the event mitigation measures within the body of this Order conflict with those prescribed in Appendix A, the measures in Appendix A shall control.
4. This case is closed and removed from the Siting Board's docket.

KENTUCKY STATE BOARD ON ELECTRIC
GENERATION AND TRANSMISSION SITING

[Signature]
Chairman, Public Service Commission

Vice Chairman, Public Service Commission

[Signature]
Commissioner, Public Service Commission

[Signature]
Secretary, Energy and Environment Cabinet,
or her designee

by KAC
w/permission

[Signature]
Secretary, Cabinet for Economic Development,
or his designee

[Signature]
Logan Chick, ad hoc member

[Signature]
Martha Jane King, ad hoc member

ATTEST:

[Signature]
Executive Director
Public Service Commission
on behalf of the Kentucky State
Board on Electric Generation
and Transmission Siting

ENTERED
AUG 23 2022
rcs
KENTUCKY PUBLIC
SERVICE COMMISSION

APPENDIX A

APPENDIX TO AN ORDER OF THE KENTUCKY STATE BOARD ON ELECTRIC GENERATION AND TRANSMISSION SITING IN CASE NO. 2021-00235 DATED AUG 23 2022

MITIGATION MEASURES AND CONDITIONS IMPOSED

The following mitigation measures and conditions are hereby imposed on Russellville Solar LLC (Russellville Solar) to ensure that the facilities proposed in this proceeding are constructed as ordered.

1. A final site layout plan shall be submitted to the Siting Board upon completion of the final site design. Deviations from the preliminary site layout should be clearly indicated on the revised graphic. Those changes could include, but are not limited to, location of solar panels, inverters, transformers, substation, operation and maintenance building, transmission line route, or other Project facilities and infrastructure.

2. Any change in the Project boundaries from the information that formed this evaluation shall be submitted to the Siting Board for review.

3. The Siting Board will determine whether any deviation in the boundaries or site layout plan is likely to create a materially different pattern or magnitude of impacts.

4. Prior to construction, Russellville Solar shall provide a finalized Emergency Response Plan to the local fire district, first responders, and any County Emergency Management Agency. Russellville Solar shall provide site specific training for local emergency responders at their request. Access for fire and emergency units shall be set up after consultation with local authorities.

5. Russellville Solar or its contractor will control access to the site during construction and operation. All construction entrances will be gated and locked when not in use.

6. Russellville Solar's access control strategy shall also include appropriate signage to warn potential trespassers. Russellville Solar must ensure that all site entrances and boundaries have adequate signage, particularly in locations visible to the public, local residents, and business owners.

7. The security fence must be installed prior to activation of any electrical installation work in accordance with NESC standards. The substation shall have its own separate security fence and locked access installed in accordance with NESC standards.

8. Existing vegetation between solar arrays and nearby roadways and homes shall be left in place to the extent feasible to help minimize visual impacts and screen the Project from nearby homeowners and travelers. Russellville Solar will not remove any existing vegetation except to the extent it must remove such vegetation for the construction and operation of Project components.

9. Russellville Solar shall implement planting of native evergreen species as a visual buffer to mitigate visual viewshed impacts, in areas where those viewshed impacts occur from residences or roadways directly adjacent to the Project and there is not adequate existing vegetation. If it is not adequate, then vegetation ten feet thick reaching six feet at maturity (in four years) will be added by Russellville Solar between project infrastructure and residences, or other occupied structures, with a line of sight to the facility to the reasonable satisfaction of the affected adjacent property owners. Planting of vegetative buffers may be done over the construction period; however, Russellville

Solar should prioritize vegetative planting at all periods of construction to reduce viewshed impacts. All planting shall be done prior to the operation of the facility.

10. Russellville Solar shall cultivate at least two acres of native, pollinator-friendly species onsite.

11. Russellville Solar shall carry out visual screening consistent with the plan proposed in its application, SAR, and the maps included, and ensure that the proposed new vegetative buffers are successfully established and developed as expected over time. Should vegetation used as buffers die over time, Russellville Solar shall replace that as appropriate.

12. To the extent that an affected adjacent property owner indicates to Russellville Solar that a visual buffer is not necessary, Russellville Solar will obtain that property owner's written consent and submit such consent in writing to the Siting Board.

13. Russellville Solar is required to limit construction activity, process, and deliveries to the hours between 8 a.m. and 6 p.m. local time, Monday through Saturday. The Siting Board directs that construction activities that create a higher level of noise, such as pile-driving, will be limited to 9 a.m. to 5 p.m. local time, Monday through Friday. Non-noise causing and non-construction activities can take place on the site between 7 a.m. and 10 p.m. local time, Monday through Sunday, including; field visits, arrival, departure, planning, meetings, mowing, surveying, etc...

14. If the pile driving activity occurs within 1,500 feet of a noise-sensitive receptor, Russellville Solar shall implement a construction method that will suppress the noise generated during the pile driving process (i.e., semi-tractor and canvas method; sound blankets on fencing surrounding the solar site; or any other comparable method).

Russellville Solar can forego using noise suppression measures if it employs a panel installation method that does not use pile driving, so long as that method does not create noise levels similar to pile driving.

15. Russellville Solar shall notify residents and businesses within 2,400 feet of the project boundary about the construction plan, the noise potential, any mitigation plans, and its Complaint Resolution Program referred to in Item 33 of this Appendix, at least one month prior to the start of construction.

16. Russellville Solar shall place panels, inverters, and substation equipment consistent with the distances to noise receptors to which it has committed in its maps and site plans. The Siting Board approves Russellville Solar's proposed setback from residences of 150 feet from any panel or string inverter. The Siting Board also approves a distance of 300 feet between any solar panel or string inverter and any residential neighborhood and 100 feet from any exterior property line. Nevertheless, Russellville Solar shall not place solar panels or string inverters, if used, closer than 150 feet from a residence, church, or school, 25 feet from non-participating adjoining parcels, or 50 feet from adjacent roadways. Russellville Solar shall not place a central inverter, and if used, energy storage systems, closer than 450 feet from any adjacent residences, church, or school. These further setbacks shall not be required for residences owned by landowners involved in the project that explicitly agree to lesser setbacks and have done so in writing. All agreements by participating landowners to lesser setbacks must include language advising the participating landowners of the setbacks otherwise required herein. All agreements by participating landowners to lesser setbacks must be filed with the Siting Board prior to commencement of the project.

17. Russellville Solar shall fix or pay for repairs for damage to roads and bridges resulting from any vehicle transport to the site. For damage resulting from vehicle transport in accordance with all permits, those permits will control.

18. Russellville Solar shall comply with all laws and regulations regarding the use of roadways.

19. Russellville Solar shall implement ridesharing between construction workers when feasible, use appropriate traffic controls, or allow flexible working hours outside of peak hours to minimize any potential traffic delays during AM and PM peak hours.

20. Russellville Solar shall consult with the Kentucky Transportation Cabinet (KYTC) regarding truck and other construction traffic and obtain necessary permits from the KYTC.

21. Russellville Solar shall consult with the Logan County Road Department (LCRD) regarding truck and other construction traffic and obtain any necessary permits from the LCRD.

22. Russellville Solar shall develop special plans and obtain necessary permits before transporting heavy loads, especially the substation transformer, onto state or county roads.

23. Russellville Solar shall comply with any road use agreement executed with LCRD. Such an agreement might include special considerations for overweight loads, routes utilized by heavy trucks, road weight limits, and bridge weight limits.

24. Russellville Solar shall continue to provide access the existing gravel road that splits north off A.P. Miller Road for the use of neighboring landowners.

25. Russellville Solar shall develop and implement a traffic management plan to minimize the impact on traffic flow and keep traffic safe. Any such traffic management plan shall also identify any traffic-related noise concerns during the construction phase and develop measures that would address those noise concerns.

26. Russellville Solar shall properly maintain construction equipment and follow best management practices related to fugitive dust throughout the construction process, including the use of water trucks. Dust impacts shall be kept at a minimal level. The Siting Board requires Russellville Solar's compliance with 401 KAR 63:010.

27. If any person shall acquire or transfer ownership of, or control, or the right to control the project, by sale of assets, transfer of stock, or otherwise, or abandon the same, Russellville Solar or its successors or assigns shall request explicit approval from the Siting Board with notice of the request provided to the Logan County Fiscal Court. In any application requesting such abandonment, sale, or change of control, Russellville Solar shall certify its compliance with KRS 278.710(1)(i).

28. As applicable to individual lease agreements, Russellville Solar, its successors, or assigns will abide by the specific land restoration commitments agreed to by individual property owners, as described in each executed lease agreement.

29. Russellville Solar shall file a complete and explicit decommissioning plan with the Siting Board. This plan shall commit Russellville Solar to remove all facility components, above-ground and below-ground, regardless of depth, from the project site. Upon its completion, this plan shall be filed with the Siting Board or its successors. The decommissioning plan shall be completed at least one month before the construction of the Project.

30. Russellville Solar shall file a bond with the Logan County Fiscal Court, equal to the amount necessary to effectuate the explicit or formal decommissioning plan naming Logan County as a third-party obligee (or secondary, in addition to individual landowners) beneficiary, in addition to the lessors of the subject property insofar as the leases contain a decommissioning bonding requirement so that Logan County will have the authority to draw upon the bond to effectuate the decommissioning plan. For land with no bonding requirement otherwise, Logan County shall be the primary beneficiary of the decommissioning bond for that portion of the Project. The bond shall be filed with the Logan County Treasurer or with a bank, title company, or financial institution reasonably acceptable to the county. The acceptance of the county of allowing the filing the bond with an entity other than the Fiscal Court, through the Logan County Treasurer, can be evidenced by a letter from the Judge-Executive, the Fiscal Court, or the County Attorney. The bond(s) shall be in place at the time of commencement of operation of the Project. The bond amount shall be reviewed every five years at Russellville Solar's expense to determine and update the cost of removal amount. This review shall be conducted by an individual or firm with experience or expertise in the costs of removal or decommissioning of electric generating facilities. Certification of this review shall be provided to the Siting Board or its successors and the Logan County Fiscal Court. Such certificate shall be by letter and shall include the current amount of the anticipated bond and any change in the costs of removal or decommissioning.

31. Russellville Solar or its assigns shall provide notice to the Siting Board, if, during any two-year (730 days) period, it replaces more than 20 percent of its facilities. Bluebird Solar shall commit to removing the debris and replaced facility components from

the Project site and from Logan County upon replacement. If the replaced components are properly disposed of at a permitted facility, they do not have to be physically removed from Logan County. However, if the replaced facility components remain in the County, Russellville Solar must inform the Siting Board of the location where the components are being disposed.

32. Any disposal or recycling of Project equipment, during operations or decommissioning, shall be done in accordance with applicable laws and requirements.

33. Russellville Solar shall initiate and maintain the Complaint Resolution Program provided to the Siting Board in the case record to address any complaints from community members. Russellville Solar shall also submit annually a status report associated with its Complaint Resolution Program, providing, among other things, the individual complaints, how Russellville Solar addressed those complaints, and the ultimate resolution of those complaints identifying whether the resolution was to the complainant's satisfaction.

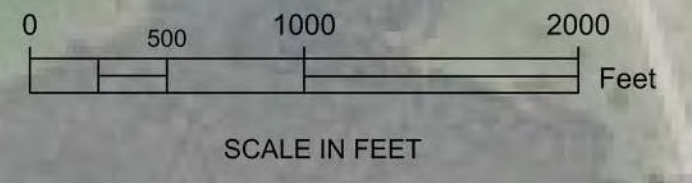
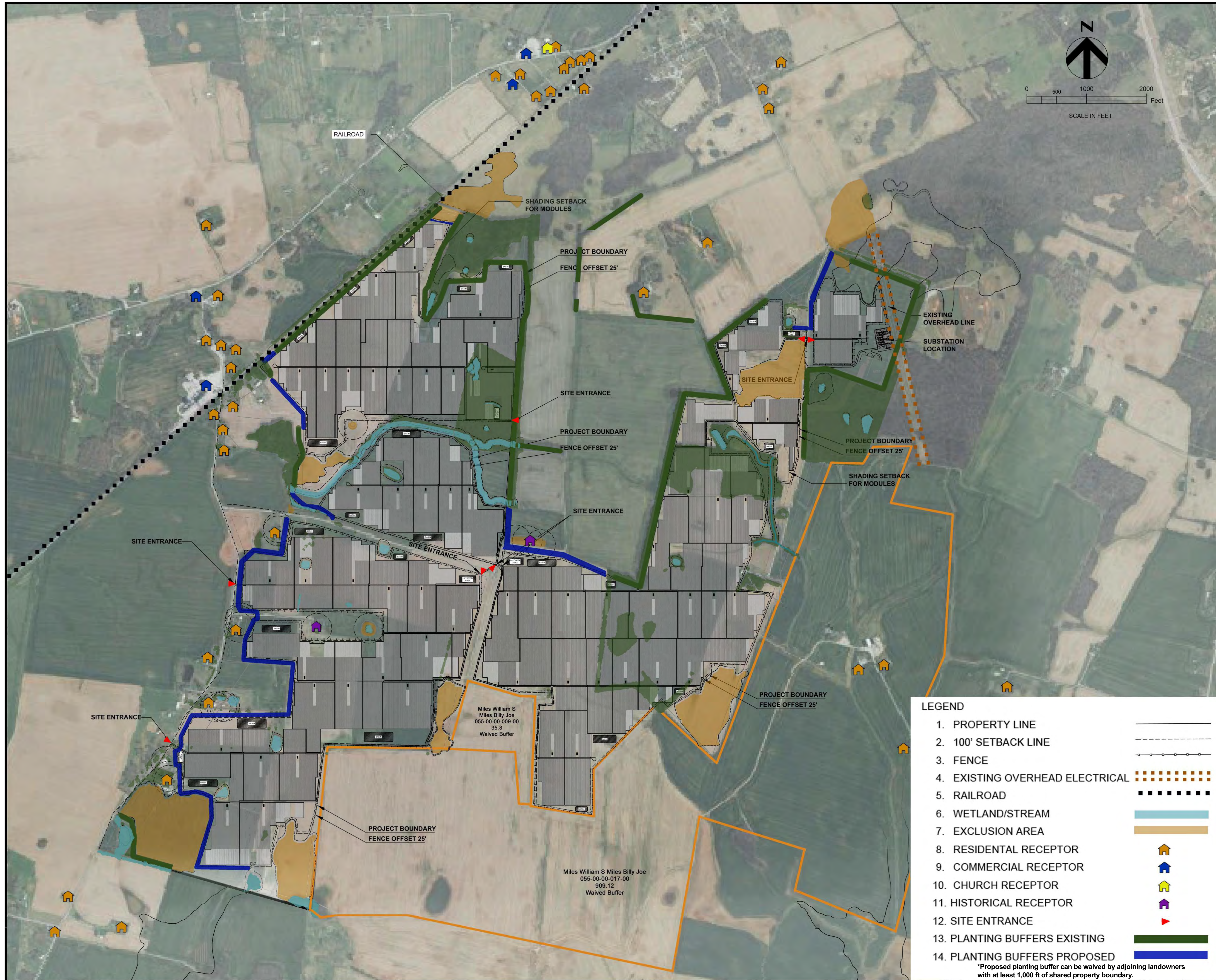
34. Russellville Solar shall provide the Logan County Fiscal Court contact information for individuals within the company that can be contacted with concerns. This shall include contact information for the general public to reach individuals that can address their concerns. Russellville Solar shall update this contact information yearly, or within 30 days of any change in contact information.

35. Within 30 days of entry, Russellville Solar shall send a copy of this Order to all the adjoining landowners who previously were required to receive notice of this project.

APPENDIX B

APPENDIX TO AN ORDER OF THE KENTUCKY STATE BOARD ON
ELECTRIC GENERATION AND TRANSMISSION SITING IN
CASE NO. 2021-00235 DATED AUG 23 2022

ONE PAGE TO FOLLOW



NOT FOR
CONSTRUCTION

**LOGAN COUNTY
SOLAR**
RUSSELLVILLE, KY
LAT: 36.788944°N
LON: -86.947884°W

LEGEND

1. PROPERTY LINE	—
2. 100' SETBACK LINE	- - - - -
3. FENCE	—●—●—●—●—
4. EXISTING OVERHEAD ELECTRICAL	—●●●●—●●●●—
5. RAILROAD	- - - - -
6. WETLAND/STREAM	—
7. EXCLUSION AREA	—
8. RESIDENTAL RECEPTOR	🏠
9. COMMERCIAL RECEPTOR	🏢
10. CHURCH RECEPTOR	🏛️
11. HISTORICAL RECEPTOR	🏡
12. SITE ENTRANCE	▶
13. PLANTING BUFFERS EXISTING	—
14. PLANTING BUFFERS PROPOSED	—

*Proposed planting buffer can be waived by adjoining landowners with at least 1,000 ft of shared property boundary.

REV. NO	DESCRIPTION	DATE

SHEET TITLE:
**PRELIMINARY
SITE LAYOUT**

PROJ. MGR. HRS	PROJ. ENGR. MWB	DATE: 04/26/2022
DRAWN BY: KH/AM	CHECKED BY:	SCALE: 1" = 700'
DRAWING NO.		

L100

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Judge Executive Logan County
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