

SONG SPARROW SOLAR LLC

Ballard County, Kentucky

SITE ASSESSMENT REPORT

CLEARWAY ENERGY GROUP LLC

100 California Street, Suite 400
San Francisco, CA 94111



September 2023

CONTENTS

1	PROPOSED SITE DEVELOPMENT PLAN	2
2	COMPATIBILITY WITH SCENIC SURROUNDINGS	4
3	PROPERTY VALUE IMPACTS.....	5
4	ANTICIPATED NOISE LEVELS.....	6
5	EFFECT ON ROAD AND RAILWAYS.....	7
6	MITIGATION MEASURES	8

Appendices

Appendix A.	Property Value Impact Report
Appendix B.	Preliminary Site Layout
Appendix C.	Property Legal Boundaries
Appendix D.	Noise Analysis Report
Appendix E.	Visual Impact Illustrations
Appendix F.	Traffic Impact Study
Appendix G.	Glare Study

1 PROPOSED SITE DEVELOPMENT PLAN

REQUIREMENT: *per KRS 278.708 (3)(a); A description of the proposed facility that shall include a proposed site development plan that describes:*

- 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;*
- 6 *Existing or proposed utilities to service the facility;*
- 7 *Compliance with applicable setback requirements as provided under KRS 278.704(2), (3), (4), or (5); and*
- 8 *Evaluation of the noise levels expected to be produced by the facility*

COMPLIANCE: Please see the Application, Section 2 for a detailed description of the proposed Project and Project area. The following items provide information specifically in response to requirements 1 through 8 listed above.

- 1 A detailed description of surrounding land uses is provided in Appendix A: Property Value Impact Report (Kirkland Appraisals, LLC 2023). A summary of land use on parcels adjoining the Project is taken from this report and provided in Table 1 below.

Table 1. Land Use Adjoining the Song Sparrow Project

Land Use	Percent of Total Adjoining Acres	Percent of Total Adjoining Parcels
Residential	4.58	43.75
Agricultural	79.19	48.44
Agricultural/Residential	16.23	7.81
Total	100.00	100.00

Source: Kirkland Appraisals, LLC (2023)

- 2 The Project boundary is depicted in the preliminary site layout attached as Appendix B, and the legal descriptions of the participating properties are listed in Appendix C.
- 3 As described in the Application, Section 2, “A Perimeter fencing will enclose the modules and associated infrastructure and a separate fence will enclose the substation. The Project will comply with the National Electric Safety Code (“NESC”) and American National Standards Institute (“ANSI”) Z535 Safety Sign Standards for Electric Utility Power Plants and Substations to guide the placement of safety signage around the facility.” In addition, Song Sparrow 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.
- 4 The locations of proposed Project transmission lines and other structures are depicted within the Preliminary Site Layout in Appendix B.
- 5 The locations of preliminarily designed access control points and internal roads are

depicted on the Preliminary Site Layout in Appendix B. No railways are present within the proposed Project site.

- 6 The locations of existing and proposed utilities to service the Project are depicted on Preliminary Site Layout in Appendix B. If the project requires auxiliary electrical service, it will be acquired from the certified electric provider Jackson Purchase Energy Corporation and delivered to the Project substation. Similarly, if retail water service is needed, it will be requested from the nearest provider with adequate service.
- 7 As stated in Section 5 of the Application, pursuant to KRS 278.704(4), the Project There are no residential neighborhoods, schools, hospitals, or nursing home facilities within 2,000 feet of the Project. Therefore, no deviation from the statutory requirements is needed.
- 8 The construction and operational noise study report provided in Appendix D identifies the noise levels expected by the facility. The findings are further explained in Section 3 below.

Persons Responsible: Nick Benjamin and Richard Kirkland

2 COMPATIBILITY WITH SCENIC SURROUNDINGS

REQUIREMENT: *per KRS 278.708 (3)(b); An evaluation of the compatibility of the facility with scenic surroundings.*

COMPLIANCE: The Project site is located in agricultural land with surrounding rural low density residential development intermixed with forested land of western Ballard County. As noted by Richard Kirkland in his report attached as Appendix A, “larger solar farms using fixed or tracking panels are a passive use of the land that is in keeping with a rural/residential area. The solar panels are less than 15 feet high, which means that the visual impact of the solar panels will be similar in height to a typical greenhouse and lower than a single-story residential dwelling. Were the subject property developed with single family housing, that development would have a much greater visual impact on the surrounding area given that a two-story home with attic could be three to four times as high as these proposed panels.”

As noted in Section 6 of the Siting Board Application, representatives from the Project have met personally on various occasions with adjoining landowners to address their concerns, which they voiced to us, about the viewsheds from their particular properties. To mitigate viewshed impacts we have considered these concerns by placing vegetative buffers in specific locations. This buffer will consist of two staggered rows of either just shrubs or a combination of shrubs and evergreen trees, approximately 15 feet wide and at least three feet in height at time of planting. The preliminary site layout submitted as Appendix B depicts the proposed locations of the vegetative screening.

A glare study was conducted to determine if the Project would result in glare to any airports, roads, or other sensitive receptors in the vicinity of the Project. Based on the solar array parameters provided and the current site design, no glare is predicted for the Barkley Regional Airport or the associated air traffic control tower. Glare is also not predicted for nine roads included in the analysis or for the 52 structures included in the analysis. These results assumed that a minimum 60 degree resting angle will be used.

Person Responsible: Nick Benjamin

3 PROPERTY VALUE IMPACTS

REQUIREMENT: *per KRS 278.708 (3)(c); The 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 facility.*

COMPLIANCE: Please refer to the Property Value Impact Report provided as Appendix A (Kirkland Appraisals LLC 2023). In his transmittal letter, Mr. Kirkland provides the following conclusions on pages 1 and 2.

The matched pair analysis shows no impact on home values due to abutting or adjoining a solar farm at the distances proposed for Song Sparrow Solar LLC with a landscaped buffer. Similarly, paired sale data has shown no impact to abutting or adjacent vacant residential or agricultural land where the solar farm is properly screened and buffered such as what is offered at Song Sparrow Solar LLC. The criteria that typically correlates with downward adjustments on property values such as noise, odor, and traffic all indicate that a solar farm is a compatible use for rural/residential transition areas and that it would function in a harmonious manner with this area.

Data from the university studies, broker commentary, and other appraisal studies support a finding of no impact on property value adjoining a solar farm with proper setbacks and landscaped buffers.

Very similar solar farms in very similar areas have been found by hundreds of towns and counties not to have a substantial negative effect to abutting or adjoining properties, and many of those findings of no impact have been upheld by appellate courts. Similar solar farms have been approved with adjoining agricultural uses, schools, churches, and residential developments.

Based on the data and analysis in this report, it is my professional opinion that the solar farm proposed at the subject property will have no impact on the value of adjoining or abutting properties and that the proposed use is in harmony with the area in which it is located. I note that some of the positive implications of a solar farm that have been expressed by people living next to solar farms include protection from future development of residential developments or other more intrusive uses, reduced dust, odor and chemicals from former farming operations, protection from light pollution at night, it's quiet, and there is minimal traffic.

Person Responsible: Richard Kirkland

4 ANTICIPATED NOISE LEVELS

REQUIREMENT: *per KRS 278.708 (3)(d); Evaluation of anticipated peak and average noise levels associated with the facility's construction and operation at the project boundary*

COMPLIANCE: See Appendix D for a report studying the anticipated operational and construction noise levels as studied and measured at nearby Sensitive Receptors (SR). The excerpt below is a brief summary found on page 9.

A construction sound analysis was completed considering impact pile driving and other typical construction equipment. The estimated sound levels of 64 to 70 dBA during construction at the nearest sensitive receptor are comparable to sound levels of a location 50 feet from highway traffic, and construction sound levels are expected to be lower at other receptors. The distance to a sound level of 55 dBA resulting from the use of three pile drivers in a solar field was estimated to be approximately 1,000 feet. Construction related activity is expected to occur mainly during the daylight hours (6:00 a.m. to 7:00 p.m. or dusk if sunset occurs after 7:00 p.m.) At times, construction activities will be audible to nearby residences or other sensitive receptors; however, not all equipment will be operating at the same time, and activities will be temporary in duration and spread throughout the Project area.

An operational sound analysis was completed for the Project, considering 27 solar inverters and one substation in full operation. The results of the operational sound modeling demonstrate that the highest expected daytime sound level at nearby sensitive receptors is 46 dBA, which is in the northeast portion of the study area. This receptor has a slightly higher noise level than the closest receptor to project inverters due to its proximity to two inverters. Nighttime operation will result in lower sound emissions, as power will not be generated and therefore the solar inverters and substation transformer will be operating in stand-by mode. A sound level of 35 dBA is comparable to a quiet suburban nighttime environment and 50 dBA is comparable to outdoor daytime sound levels in rural to quiet urban environments. The nearest sensitive receptor to solar arrays with tracking motors is expected to be approximately 256 feet away from the edge of the nearest solar array. The sound level from the tracking system is expected to be less than 32 dBA at 256 feet. During the approximately four minutes per hour that tracker motors are operating, the sound generated by the motors is likely to be masked by existing daytime ambient sound sources and inaudible at this distance.

Person Responsible: Shane Kelley

5 EFFECT ON ROAD AND RAILWAYS

REQUIREMENT: *per KRS 278.708 (3)(e); The impact of the facility's operation on road and rail traffic to and within the facility, including any anticipated degradation of roads and lands in the vicinity of the facility*

COMPLIANCE: A Traffic Impact Study, submitted as Appendix F, discusses the Project's impact on road and rail traffic, and anticipated degradation of roads and lands in the vicinity of the facility. The following is the conclusion of the report on page 9.

Based on the analyses performed, the construction period will not produce significant operational changes to the existing roadways. The Project will not be using railways for any construction or operational purposes.

Additionally, during operation it is expected that there will be up to three full-time employees on site for 40 hours per week for site inspections and repair. This additional volume of traffic is considered negligible, and the operational phase of the Project will have no measurable impact on the traffic and/or transportation infrastructure.

Person Responsible: Nick Benjamin

6 MITIGATION MEASURES

REQUIREMENT: per KRS 278.708(4): *The site assessment report shall also suggest any mitigating measures to be implemented by the applicant to minimize or avoid adverse effects identified in the site assessment report; and per KRS 278.708(6); The applicant shall be given the opportunity to present evidence to the board regarding any mitigation measures. As a condition of approval for an application to obtain a construction certificate, the board may require the implementation of any mitigation measures that the board deems appropriate.*

COMPLIANCE: Specific mitigation measures are listed below and represent conditions that Song Sparrow Solar will adhere to for the Project.

1. A final site layout plan will 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 will be submitted to the Siting Board for review.
3. Song Sparrow Solar will provide the date construction will commence to the Siting Board and the Kentucky Energy and Environment Cabinet (“EEC”) 30 days prior to that date.
4. Song Sparrow Solar will adhere to the setbacks set forth in Ballard County Resolution 2023-04-18-01 that was adopted on April 18, 2023
5. Song Sparrow Solar will initiate and maintain a Complaint Resolution Program provided to the Siting Board to address any complaints from community members. Song Sparrow Solar will also submit annually a status report associated with its Complaint Resolution Program, providing, among other things, the individual complaints, how Song Sparrow Solar addressed those complaints, and the ultimate resolution of those complaints identifying whether the resolution was to the complainant's satisfaction.
6. Song Sparrow Solar will provide the Ballard County Fiscal Court contact information for individuals within the company that can be contacted with concerns. This will include contact information for the general public to reach individuals that can address their concerns. Song Sparrow Solar will update this contact information yearly, or within 30 days of any change in contact information.
7. Prior to construction, Song Sparrow Solar will provide a finalized Emergency Response Plan to the local fire district, first responders, and any County Emergency Management Agency. Song Sparrow will provide site specific training for local emergency responders at their request. Access for fire and emergency units will be set up after consultation with local authorities.
8. Song Sparrow 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.

9. Song Sparrow Solar's access control strategy will also include appropriate signage to warn potential trespassers. Song Sparrow Solar will ensure that all site entrances and boundaries have adequate signage, particularly in locations visible to the public, local residents, and business owners.
10. Perimeter security fence will be installed prior to activation of any electrical installation work in accordance with NESC standards. The substation will have its own separate security fence and locked access installed in accordance with NESC standards.
11. Existing vegetation between solar arrays and nearby roadways and homes will be left in place to the extent feasible to help minimize visual impacts and screen the Project from nearby homeowners and travelers. Song Sparrow Solar will not remove any existing vegetation except to the extent it must remove such vegetation for the construction and operation of Project components.
12. To mitigate viewshed impacts, Song Sparrow shall place vegetative buffers in specific locations as shown in the preliminary site plan filed with the Siting Board application. This buffer will consist of two staggered rows of either just shrubs or a combination of shrubs and evergreen trees, approximately 15 feet wide and at least three feet in height at time of planting. The development of Song Sparrow's proposed screening plan included consideration of potentially affected property owners, this is also reflected in the preliminary site plan.
13. Song Sparrow Solar will 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, Song Sparrow will replace plantings as necessary.
14. Ballard County Resolution 2023-04-18-01 adopted on April 18, 2023 permits Song Sparrow Solar is required to limit construction activity, process, and deliveries to the hours between 6 a.m. and 7 p.m. local time, Monday through Saturday.
15. Based on previous experience constructing solar projects, Song Sparrow believes that noise concerns resulting from pile driving activities are most effectively managed through limiting pile driving activities within a certain radius to certain hours during the day to avoid potentially impacting nearby receptors. To this end, Song Sparrow proposes to limit pile driving activities within 1,000 feet of potentially impacted receptors to a reduced period.
16. Song Sparrow Solar will 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 5 of this Appendix, at least one month prior to the start of construction.
17. Song Sparrow Solar will place panels, inverters, and substation equipment consistent with the distances to noise receptors to which it has committed in its maps and site plans, as well as the Ballard County Resolution 2023-04-18-01 adopted on April 18, 2023.
18. Song Sparrow Solar will 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.

19. Song Sparrow will comply with all laws and regulations regarding the use of roadways.
20. Song Sparrow Solar will 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.
21. Song Sparrow Solar will consult with the Kentucky Transportation Cabinet (KYTC) regarding truck and other construction traffic and obtain necessary permits from the KYTC.
22. Song Sparrow Solar will consult with Ballard County regarding truck and other construction traffic and obtain any necessary permits needed.
23. Song Sparrow Solar will develop special plans and obtain necessary permits before transporting heavy loads, especially the substation transformer, onto state or county roads.
24. Song Sparrow Solar will comply with any road use agreement executed with Ballard County. Such an agreement might include special considerations for overweight loads, routes utilized by heavy trucks, road weight limits, and bridge weight limits.
25. Song Sparrow Solar will develop and implement a traffic management plan to minimize the impact on traffic flow and keep traffic safe. Any such traffic management plan will identify any traffic-related noise concerns during the construction phase and develop measures that would address those noise concerns.
26. Song Sparrow Solar will 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 and will comply with 401 KAR 63:010.
27. If any Person as defined by KRS 278.700(3) acquires or transfers ownership of, or control, or the right to control Song Sparrow Solar, by sale of assets, transfer of stock, or otherwise, or abandon the same, Song Sparrow Solar, or its successors or assigns, will request explicit approval from the Siting Board with notice of the request provided to the Ballard County Fiscal Court. In any application requesting such abandonment, sale, or change of control, Song Sparrow Solar and any proposed entity with an ownership interest in Song Sparrow Solar will certify its compliance with KRS 278.710(1)(i).
28. Song Sparrow will comply with the decommissioning requirements set forth in 2023 HB 4.
29. Song Sparrow 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. Song Sparrow shall commit to removing the debris and replaced facility components from the Project site and from Ballard County upon replacement. If the replaced components are properly disposed of at a permitted facility, they do not have to be physically removed from Ballard County. However, if the replaced facility components remain in the County, Song Sparrow must inform the Siting Board of the location where the components are being disposed.
30. Any disposal or recycling of Project equipment, during operations or decommissioning, shall be done in accordance with applicable laws and requirements.

31. Song Sparrow Solar will provide Ballard County with contact information for individuals within the company that can be contacted with concerns. This will include contact information for the general public to reach individuals that can address their concerns. Song Sparrow will update this contact information yearly, or within 30 days of any change in contact information.

32. Within 30 days of entry, Song Sparrow Solar will send a copy of the Siting Board's Order to all the adjoining landowners who previously were required to receive notice of this Project.

Person Responsible: Nick Benjamin