

BLUEBIRD SOLAR: SITE ASSESSMENT REPORT

BayWa r.e, Solar Projects LLC
18575 Jamboree Road, Suite 850
Irvine, CA 92612
949 398 3915

February 2022

CONTENTS

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

Appendices

Appendix A.	Property Value Impact Report
Appendix B.	Preliminary Site Layout
Appendix C.	Property Legal
Appendix D.	Noise Analysis Report
Appendix E.	Reflectivity and Visibility Analysis
Appendix F.	Traffic Impact Study

Tables

Table 1.	Land Use Adjoining the Bluebird Solar Project	1
----------	---	---

This page intentionally left blank.

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 278.7 04(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 2021). 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 Bluebird Solar Project

Land Use	Percent of Total Adjoining Acres	Percent of Total Adjoining Parcels
Residential	2.24	42.11
Agricultural	22.76	31.58
Agricultural/Residential	75.01	26.32
Total	100.00	100.00

Source: Kirkland Appraisals, LLC (2021)

- 2 The Project survey boundary is depicted in Appendix B, and the legal descriptions of the participating properties are listed in Appendix C.
- 3 As described in the Application, Section 2, “A fence meeting the National Electric Safety Code requirements, typically a six-foot fence with three strings of barbed wire at the top, will enclose the solar panels and associated infrastructure. The Project will comply with the 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, Bluebird 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.
- 4 The locations of proposed Project transmission lines and other structures are depicted on 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 Blue Grass Energy and delivered to the project substation.
- 7 The applicable setback requirements are identified in Section 4 of the Application. The Harrison County Conditional Use Permit established setbacks of a minimum of 100 feet to frontage boundary lines and 50 feet to side and rear boundary lines of any non-participating properties and roadways from the Applicant's solar energy system.
- 8 The operational noise study report provided in Appendix D identifies the noise levels expected to be produced by the facility. The findings are further explained in Section 3.

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 an agricultural and rural residential area of southern Harrison 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 all 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."

The Project will adhere to the landscape plans presented in Attachment B to the Application. This will help ensure that the Project will be compatible with the scenic surroundings.

In addition, see Appendix E for a Reflectivity and Visibility Analysis report written by Aztec studying potential visual impacts to the community surrounding the proposed facility. Section 6 on page 48 shows the summary of results indicating some reflectivity events would take place without any mitigation. Section 7 on page 49 shows the proposed mitigation steps necessary to reduce the reflectivity impact of the project. The report concludes that reflectivity impacts can be mitigated by adding visual barriers (i.e. tree barriers) or altering the trackers' cut-off angle dependent on time of year or as needed. Bluebird Solar is obligated pursuant to the CUP to modify tracker rotation limits in the plant controller during times when glare is present.

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 2021). In his transmittal letter, Mr. Kirkland provides the following conclusions on page 1.

The matched pair analysis shows no impact on home values due to abutting or adjoining a solar farm as well as no impact to abutting or adjacent vacant residential or agricultural

land where the solar farm is properly screened and buffered. 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.

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 15 of Appendix D.

Based on background noise monitoring and noise analysis for the project operation, it is expected that the ambient noise levels in the project vicinity could be low in the 40s dBA Ldn. The project generated noise from equipment within the site is less than 30 dBA Ldn and less than 20 dBA Ldn at the sensitive receptors, which are far below ambient noise levels. Noise from project generated vehicular traffic and maintenance activities are minimal and will not contribute noticeably to the nearby sensitive receptors. In conclusion, the project operation noise complies with EPA standard of 55 dBA Ldn threshold and no noise impact would occur.

Additionally, the Harrison County Board of Adjustments has mandated that all construction activities shall be limited to daylight hours between 7:00 a.m. to 9:00 p.m. and will not be conducted on Sundays unless it is necessary to make up for delays or to meet deadlines. Construction workers may arrive on site prior to 7 a.m., but construction activities shall not take place until that time.

During construction, it is anticipated that the loudest noise will be generated from the temporary and migrant pile driving of the panel-racking system, which has been evaluated by the U.S. Department of Transportation Federal Highway Administration to be 101 dBA at 50 feet. Bluebird Solar is familiar with prior noise studies submitted to the Siting Board by other projects and believes the anticipated noise generated during construction by those projects is consistent with the noise anticipated to be generated by

this project. Consistent with other projects, Bluebird Solar will commit to the following mitigation measure:

If the pile driving activity occurs within 1,500 feet of a noise sensitive receptor, Bluebird Solar shall implement a construction method that will mitigate 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).

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: The report provided in Appendix F discusses the Project's impact on road and rail traffic, and possible degradation of roads as a result of the Project. The following is the conclusion of the report on page 12.

When comparing the no build analysis to the build analysis it was determined that the roadways in the study area will continue to operate at a LOS (level of service) similar to existing conditions. The analysis determined that existing and proposed conditions operated with a LOS "C" or better for all roadways in the study area and the average speed for all roadways are near or above the speed limit for all roadways. The turn lane analysis determined that no additional turn lanes are warranted for any roadways based on the traffic volumes on the road. The sight distance analysis determined that traffic entering US 62 at Allen Pike and the proposed entrances to KY 353 and Allen Pike meet all sight distance requirements. Some clearing along right of way may be required at these entrances to ensure proper sight distance is provided.

Based on the analyses performed, no changes to the roadway network are recommended within the study area in order for traffic conditions to operate within acceptable conditions.

Construction and associated land disturbance associated with the proposed project may temporarily contribute airborne materials. The Project will utilize Best Management Practices such as: appropriate revegetation measures, application of water, or covering of spoil piles, to minimize dust. Additionally, open-bodied trucks transporting dirt will be covered while moving. During construction activities water may be applied to internal road system to reduce dust generation. Water used for dust control is authorized under the Kentucky Pollutant Discharge Elimination System (KPDES) as a non-stormwater discharge activity, which will be required for the proposed project.

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. These measures are the Harrison County Conditional Use Permit conditions for the project.

1. All construction activities shall be limited to daylight hours between 7:00 a.m. to 9:00 p.m. and will not be conducted on Sundays unless it is necessary to make up for delays or to meet deadlines. Construction workers may arrive on site prior to 7 a.m., but construction activities shall not take place until that time.
2. The Applicant shall adhere to its Landscape Plan as submitted to the Planning Commission for the site plan review. However, along KY-353 the applicant shall at the minimum supplement existing landscape and plant either evergreens as listed in the Segment 5 planting plan or Segment 4 planting plan.
3. The Applicant shall maintain setbacks of a minimum of 100 feet to frontage boundary lines and 50 feet to side and rear boundary lines of any non-participating properties and roadways from the Applicant's solar energy system.
4. The Applicant's solar energy system, excluding utility poles, antennas, and substation equipment, shall not exceed 20 feet in height.
5. The Applicant shall prepare stormwater management plans that meet or exceed the Kentucky Stormwater Management Program regulations for all regulated activities at all stages of construction, operation, and decommissioning.
6. The Applicant shall obtain all required regulatory permits including a KPDES General Permit for Stormwater Discharges Associated with Construction Activity and a certificate of construction from the Kentucky State Board on Electric Generation and Transmission.
7. Following construction of the Project, the Project Site shall be fenced and locked at all times. The Project Site shall also be secured during construction. The Developer will install and maintain a permanent perimeter/boundary fence that meets the requirements of the National Electrical Safety Code.
8. Prior to the issuance of a Building Permit, a Decommissioning Plan and Cost Estimate shall be prepared by a licensed and Registered Professional Engineer from the Commonwealth of Kentucky who is not an employee of the Applicant or the landowner. The Decommissioning Plan shall comply with the minimum requirements of Article 23 of the Harrison County Fiscal Court's Zoning Ordinance. The Decommissioning Plan and Cost Estimate shall be approved by the Planning Commission prior to issuance of a Building Permit.

9. The Decommissioning Plan and Cost Estimate shall be updated every five years, submitted to the Planning Commission for approval, and the Security revised as appropriate based upon the revised cost estimate.
10. The Applicant shall post a combination performance and warranty surety in the amount indicated by the Cost Estimate in the form of either a Cash Deposit, Irrevocable Letter of Credit, or Surety Bond, which shall be both to ensure repair of defective materials and/or abandonment of the site. The Security shall be made in favor of the Cynthiana - Harrison County - Berry Joint Planning Commission in a form approved to the satisfaction of the Planning Commission.
11. The Applicant and the County shall enter into a recorded agreement in a form approved by the Planning Commission that ensures that the decommissioning is carried out in accordance with this Ordinance. The agreement at a minimum shall include a Decommissioning Plan, Cost Estimate, and language binding the applicant or landowner and the County to implement the decommissioning activities.
12. The project will be addressing any glare events through controls limiting the angle of rotation for the trackers on-site during periods of backtracking, typically early morning and late afternoon. During the first year of operation should glare events occur, Bluebird Solar will respond accordingly by modifying the tracker rotation limits in the plant controller during times when glare is present. The project will put together an Operations and Maintenance Glare plan, to be submitted to the Building Inspector before project permits. The plan will detail when onsite Operations and Maintenance (O&M) personnel would on-site mobilize to critical viewpoints during certain times of the year during specific early morning and late afternoon hours. As detailed in the Reflectivity and Visibility Analysis, implementing limitations on backtracking cut off angles would achieve the desired effect of reducing or preventing a glare event. The backtracking limits will be implemented during the hours and seasons as determined by the combined Reflectivity and Visibility Analysis and verified by the Operations and Maintenance team.
13. Ground shall be remain free of debris and damaged solar materials at all times after construction has been completed.
14. Prior to construction the Applicant shall prepare an emergency management plan acceptable to the local fire district and County and should be responsible for training of local personnel as needed.
15. We recommend the Applicant contact the agricultural department and property owners and have a discussion on appropriate landscaping for the area.