BARRELHEAD SOLAR, LLC
SITE ASSESSMENT REPORT

Barrelhead Solar, LLC
2650 Locust Street, Suite 100
St. Louis, Missouri 63103

October 2025

CONTENTS

Appendices

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 Projectand 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 2025). A summary of land use on parcels adjoining theProject is taken from this report and provided in Table 1 below.

Table 1. Land Use Adjoining the Barrelhead Solar Project

Land Use	Percent of Total Adjoining Acres	Percent of Total Adjoining Parcels
Residential	12.14	62.50
Agricultural	60.55	29.16
Agricultural/Residential	27.12	4.17
Religious	0.19	4.17
Total	100.00	100.00

Source: Kirkland Appraisals, LLC (2025)

2 The Project survey boundary is depicted in Appendix B, and the legal descriptions of theparticipating properties are listed in Appendix C. Copies of the lease agreements are included in Appendix D.

3 As described in the Application, Section 2, “Perimeter fencing meeting the National Electric Safety Code (NESC) requirements, typically a six-foot fence with three strings of barbed wire at the top, will enclose the solar panels and associated infrastructure. A separate fence will enclose the substation. 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, Barrelhead 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 location of proposed Project transmission line interconnection 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 onPreliminary Site Layout in Appendix B. If the project requires auxiliary electrical service, it will be acquired from the retail electric supplier for the area, which is Eastern Kentucky Power Cooperative (EKPC). At this time, no utility water/sewage lines are expected to be built or used for the Project. Any water needs would be provided either via on-site groundwater wells or by delivery via water trucks.

7 As stated in Section 5 of the Application, there are two residential neighborhoods (as defined by KRS 278.700 (6)), within two thousand (2,000) feet of the Project, but no schools, hospitals, or nursing homes within that range. Pursuant to KRS 278.704(4), the Applicant will seek a deviation from this setback requirement.

8 The construction and operational noise study report provided in Appendix E identifies the noise levels expectedby the facility. The findings are further explained in Section 3 below.

Person Responsible: Trudie Grattan

2 COMPATIBILITY WITH SCENIC SURROUNDINGS

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

COMPLIANCE: The Project site is currently used as agricultural land, currently for corn, soybeans, and hay as well as forested areas. The surrounding areas are agricultural, rural residential, and forested. The Project site is located in an agricultural and rural residential area of Wayne 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."

Solar farms using fixed or tracking panels are a passive use of the land that is in keeping with a rural/residential area. As identified above, solar farms are comparable to larger greenhouses. This is not surprising given that a greenhouse is essentially another method for collecting passive solar energy. Greenhouse use is well received in residential/rural areas and has a similar visual impact as a solar farm.

Existing vegetation between site boundary 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.

To minimize viewshed impacts and provide screening, the Applicant will adhere to the landscape plan presented in Appendix F and will implement planting of native vegetation (e.g., trees and bushes) 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. A heavier planting will be implemented 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/screening will be done over the construction period; however, the Applicant will prioritize vegetative planting at all periods of construction to reduce viewshed impacts. All planting will be done prior to the operation of the facility. This will help ensure that the Project will be compatible with the scenic surroundings.

The Applicant will carry out visual screening consistent with the landscape plan 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, the Applicant will replace plantings as necessary.

A visual impact assessment was prepared for the Project to evaluate potential viewshed impacts (Attachment G). While the majority of receptors in the analysis area (40 in total) are expected to experience no or low visibility of the Project, approximately 4 receptors are anticipated to experience moderate or greater visibility. No schools or public or private parks are found within the visual impact assessment area.

A glare study was conducted to determine if the Project would result in glare to airports, roads, or other sensitive receptors in the vicinity of the Project (Appendix H). Three road segments and 22 observation points (OPs) were analyzed. No modeled glare occurred at the nearest airport, Wayne County Airport (approximately 9.5 miles away). No red glare occurred at any location on nearby roadways or observation points. Green glare only is predicted to occur at 14 OPs and on one roadway segment. Yellow glare is predicted to occur at 3 OPs and on two roadway segments. Green glare and yellow that has been predicted is expected to occur over the course of a handful of months for relatively short periods of time. As addressed in the study, a more detailed review indicates that little potential exists for glare to materially affect the Project surroundings.

Person Responsible: Marty Marchaterre

3 PROPERTY VALUE IMPACTS

REQUIREMENT: *per KRS 278.708 (3)(c); The potential changes in property values and land useresulting 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 (KirklandAppraisals LLC 2025). In his transmittal letter, Mr. Kirkland provides the following conclusions on page 1.

The adjoining properties are well set back from the proposed solar panels with supplemental landscaping as needed to provide a landscaped buffer.

The sale/resale analysis and 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 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 is quiet, and there is minimal traffic.

Person Responsible: Rich Kirkland

4 ANTICIPATED NOISE LEVELS

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

COMPLIANCE: See Appendix E 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 23.

The Project would impact sensitive receptors primarily during construction. This includes both residential and non-residential receptors within 2,000 feet of the Project Area. Common sources of construction noise include equipment, such as delivery trucks, backhoes, pile drivers, chain saws, bush hogs, or other large mowers for clearing, that produce maximum sound levels of up to approximately 85 dBA at 50 feet. Construction activities will occur over approximately 8 – 12 months between the hours of 7am and 7pm Monday through Saturday, although activities that create a higher level of noise, such as pile driving, will be limited to 8am – 5pm, Monday through Friday. Construction impacts would be temporary and intermittent, as most equipment would be phased in and out according to the progress of the Project. 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.

Pile driving during solar array installation is anticipated to produce the greatest sound level for an extended period (approximately six months). Standard solar pile drivers are estimated to produce 84 dBA at a distance of 50 feet (Vermeer 2012). Pile driving may temporarily generate sound levels of 74 dBA at the nearest receptor, a residence, but only for 1 or 2 days when the closest array is being installed; when other arrays are installed, the sound level would be lower. These sound levels represent a worst-case scenario; actual sound levels would likely be lower due to attenuation from vegetation and topography. Construction sounds at a solar project are comparable to other common construction activities that require pile driving due to their temporary and intermittent nature (MAREC 2021).

Overall, construction-related noise impacts would be temporary and intermittent and would not contribute to a significant sound increase when compared to sound currently occurring on or near the site (i.e., the operation of farming equipment for agricultural activities and crop harvesting as well as moderate traffic on the nearby roads).

During operation, the ambient sound environment would return to existing levels. The moving parts of the solar panel arrays would produce minimal sound. The transformer at the substation would not produce sound at level above the threshold for human hearing because of the relatively low level of sound it is expected to produce and the distance away of each receptor. In addition, nighttime operation will result in lower sound emissions, as power would not be generated and therefore the solar inverters and substation transformer will be operating in stand-by mode. As a result, impacts of Project operation are anticipated to be minimal to negligible.

Light truck vehicle noise from maintenance employees commuting to the site or driving on the site would be negligible in the context of existing local traffic levels and sounds. Maintenance activities such as periodic mowing of vegetation surrounding the solar panels would produce sound levels comparable to those of agricultural operations in and near the Project Area.

Periodic mowing would produce sound levels comparable to roadway traffic in the surrounding area, although at less frequent intervals. The Applicant anticipates primarily using sheep and solar grazing to maintain vegetation and therefore, the Project will generate less noise during vegetation management than the average solar project. As a result, impacts of Project maintenance are anticipated to be negligible.

Person Responsible: Marty Marchaterre

5 EFFECT ON ROAD AND RAILWAYS

REQUIREMENT: *per KRS 278.708 (3)(e); The impact of the facility's operation on road and rail trafficto 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.*

COMPLIANCE: The report provided in Appendix I discusses the Project's impact on road and rail traffic, and including anticipated levels of fugitive dust created by the traffic possible degradation of roads as a result of the Project. The following is a summary of the conclusion of the report on page 6.

During construction, the traffic volume will temporarily increase because of the delivery of construction equipment, materials, and workers. While damages to the existing roadway infrastructure are not anticipated, the Applicant will seek a road use agreement with Wayne County to outline responsibilities, should damages occur.

The construction period will not produce significant operational changes to existing roadways. All roadways within the Project area will continue to operate at an acceptable LOS during peak construction traffic. Although no significant adverse traffic impacts are expected during project construction or operation, using mitigation measures such as ridesharing between construction workers, using appropriate traffic controls, or allowing flexible working hours outside of peak hours could be implemented to minimize any potential for delays during the AM and PM peak hours.

In the long term, during the operation and maintenance phase, a small maintenance crew will travel to the Project area on a regular basis and as needed to make repairs or for vegetation maintenance (e.g., 1-4 workers, several times a month). It is anticipated that workers will use small to medium trucks. This traffic is considered negligible, and the operation phase of the Project will have no measurable impact on the traffic and/or transportation infrastructure.

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.

Based on KYTC Active Rail Lines and historical data, there are no active or abandoned rail lines in Wayne County.

In addition, water may be applied to the internal road system to reduce fugitive dust during construction.

Person Responsible: Marty Marchaterre

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 measuresthat the board deems appropriate.*

COMPLIANCE: Specific mitigation measures are listed below.

1. A final site layout plan will be submitted to the Siting Board upon completion of the final site design prior to construction. Deviations from the preliminary site layout will 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. 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. Barrelhead 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.

5. Prior to construction, Barrelhead Solar will provide a finalized Emergency Response Plan to the local fire district, first responders, and any County Emergency Management Agency. Barrelhead Solar 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.

6. Barrelhead 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.

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

8. The 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.

9. 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. Barrelhead Solar will not remove any existing vegetation except to the extent it must remove such vegetation for the construction and operation of Project components.

10. Barrelhead Solar will 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 Barrelhead 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, Barrelhead Solar will prioritize vegetative planting at all periods of construction to reduce viewshed impacts. All planting will be done prior to the operation of the facility.

11. Barrelhead Solar will cultivate at least two acres of native, pollinator friendly species on-site.

12. Barrelhead Solar will carry out visual screening consistent with the landscape 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, Barrelhead Solar will replace plantings as necessary.

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

14. Barrelhead Solar will limit construction activity, process, and deliveries to the hours between 8 a.m. and 6 p.m. local time, Monday through Saturday. 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.

15. If the pile-driving activity occurs within 1,000 feet of a noise-sensitive receptor, Barrelhead Solar will 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). Barrelhead 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.

16. Barrelhead 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 at least one month prior to the start of construction.

17. Barrelhead Solar will place panels, inverters, and substation equipment consistent with the distances to noise receptors it has committed in its maps and site plans. However, Barrelhead Solar will 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. Barrelhead Solar will 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 will 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 will include language advising the participating landowners of the setbacks otherwise required herein. All agreements by participating landowners to lesser setbacks will be filed with the Siting Board prior to commencement of the Project.

18. Barrelhead 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. Barrelhead Solar will comply with all laws and regulations regarding the use of roadways.

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

22. Barrelhead Solar will consult with the Wayne County Road Department (WCRD) regarding truck and other construction traffic and obtain any necessary permits from the WCRD.

23. Barrelhead Solar will develop special plans and obtain necessary permits before transporting heavy loads, especially the substation transformer, onto state or county roads.

24. Barrelhead Solar will comply with any road use agreement executed with WCRD. Such an agreement might include special considerations for overweight loads, routes utilized by heavy trucks, road weight limits, and bridge weight limits.

25. Barrelhead 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 also identify any traffic-related noise concerns during the construction phase and develop measures that would address those noise concerns.

26. Barrelhead 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 will be kept at a minimal level. The Siting Board requires Barrelhead Solar's compliance with 401 KAR 63:010.

27. If any Person as defined by KRS 278.700(3) will acquire or transfer ownership of, or control, or the right to control Barrelhead Solar, by sale of assets, transfer of stock, or otherwise, or abandon the same, Barrelhead Solar or its successors or assigns will request explicit approval from the Siting Board with notice of the request provided to the Wayne County Fiscal Court. In any application requesting such abandonment, sale, or change of control, Barrelhead Solar and any proposed entity with an ownership interest in Barrelhead Solar will certify its compliance with KRS 278.710(1)(i).

28. As applicable to individual lease agreements, Barrelhead 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. Barrelhead Solar has filed a complete and explicit decommissioning plan with the Siting Board. If this decommissioning plan should change, Barrelhead Solar will submit an updated decommissioning plan pursuant to KRS 278.710(8).

30. Barrelhead Solar or its assigns will provide notice to the Siting Board, if, during any two-year (730 days) period, it replaces more than 20 percent of its facilities. Barrelhead Solar will commit to removing the debris and replaced facility components from the Project site and from Wayne County upon replacement. If the replaced components are properly disposed of at a permitted facility, they do not have to be physically removed from Wayne County. However, if the replaced facility components remain in the County, Barrelhead Solar will inform the Siting Board of the location where the components are being disposed.

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

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

33. Barrelhead Solar will provide Wayne County 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. Barrelhead Solar will update this contact information yearly, or within 30 days of any change in contact information.

34. Within 30 days of an application decision, Barrelhead Solar will send a copy of the Sting Board order approving the construction certificate to all the adjoining landowners who previously were required to receive notice of this Project.

Person Responsible: Marty Marchaterre