

**CASE NO. 2020-00040**  
**TURKEY CREEK SOLAR, LLC**  
**RESPONSES TO SITING BOARD'S FIRST REQUEST FOR INFORMATION**

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1. Refer to the application, Volume 1, Section 2. Description of Proposed Site.
  - a. Provide a description of the land acquisition process in which Turkey Creek obtained the 520 acres of land for the proposed solar facility site.
  - b. State whether the solar panels consist of monocrystalline or polycrystalline solar cells and why Turkey Creek decided on that type of material.
  - c. With respect to the evergreen shrubs that will be planted, state how high those shrubs are expected to grow.

Response:

- a. Carolina Solar Energy located a transmission line in our GIS mapping system that was owned and operated by the East Kentucky Power Cooperative ("EKPC"), which is a member of the PJM interconnection region. After determining the size of the transmission line from PJM, and running internal analysis on our estimates of the capacity of the transmission line for a new solar project, Carolina Solar Energy began to locate large flat tracts of land that were beneath or adjacent to the existing transmission line. We then reached out to talk to the landowners. For Turkey Creek, the Curry Farms' tract was large enough that we only needed one landowner to provide all the land needed for the Project. Carolina Solar Energy then set up an in-person meeting with a representative of Curry Farms. We answered questions and further explained the process of developing and constructing a solar farm on their property, as well as letting them know the history of our company. After various further phone conversations over a period of time between Carolina Solar Energy and the landowner, we successfully signed a land purchase contract with them.
- b. The panels for this site have not yet been procured. When the project progresses to procurement, panels will be chosen based on a variety of factors including: price, site design, and supply chain constraints among other contributing factors.
- c. Assuming a common screening tree in Kentucky such as the Arborvitae Emerald Green is used, the expected growth height is between 12 and 14 feet tall at maturity.

Witness: Carson Harkrader

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2. Refer to the Application, Volume 1, Section 6. Public Notice Report.

a. Provide copies of all displays and handout materials that were used as part of the public outreach efforts of Turkey Creek.

b. Identify any concerns that were received by Turkey Creek resulting from the public outreach efforts and state how Turkey Creek addressed those concerns.

Response:

a. Please see Exhibit A.

b. Carolina Solar Energy heard concerns from two adjoining neighbors at our Neighborhood Dinner relating to their viewshed, and our communications with them are described below. We also received a call from a person who described a memory about an old historical map of a Native American site on the property. After significant investigation including interviews with local residents with knowledge of the history of the area, and hiring an archaeological consultant, we were not able to locate any evidence of this. These three comments were the only concerns that Carolina Solar Energy has received regarding the project.

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

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3. Refer to the application, Volume 1, Section 9, Effect on Kentucky Electricity Generation System. State the purpose of the Facilities Study and whether Turkey Creek anticipates any issues will be identified as part of that particular study.

Response: The transmission operator for the Project, PJM, describes the Facilities Study as follows: "A Facilities Study encompasses the engineering design work necessary to begin construction of required expansion plan upgrades identified by PJM to accommodate an interconnection request. This study also provides a good-faith cost estimate for attachment facilities, local upgrades and network upgrades, as well as an estimate of the time required to complete detailed design and construction of the facilities and upgrades." There are no issues anticipated from the Facilities Study. <https://learn.pjm.com/three-priorities/planning-for-the-future/connecting-grid.aspx>

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4. Refer to the application, Volume 1, Attachment G – Economic Impact Report, regarding the section discussing Regenerative Energy. Provide additional details on this method, discussing, among other things, how long Silicon Ranch Corporation (Silicon Ranch) has utilized this concept, how many other Silicon Ranch solar facilities implement Regenerative Energy land management techniques, the results from these other solar facilities that utilize Regenerative Energy, what specific Regenerative Energy farming practices will be implemented at the proposed Turkey Creek solar facility and whether any local farmers and ranchers have been recruited to implement these practices.

Response: Silicon Ranch first developed and piloted Regenerative Energy (managed sheep grazing with mechanical backup) on a 50-acre solar power plant in 2018 in Mead, Colorado, where managed sheep grazing with mechanical backup was used to successfully manage vegetation to meet solar industry performance specifications, while keeping the land in agricultural production. In 2019, Silicon Ranch expanded the program and in 2020, based on the success of the 2018 Pilot project and 2019 operations, Silicon Ranch further expanded the program, with approximately 2,200 acres of Regenerative Energy management (managed sheep grazing with mechanical backup) on 14 projects in Tennessee, Mississippi, Colorado, and Georgia. Silicon Ranch is currently designing all new projects around the use of managed sheep grazing, with mechanical backup, as the long-term vegetation management strategy. A particular item to note, is that managed sheep grazing has shown to significantly improve the vegetation establishment and grassland restoration efforts post construction, as typical seeding equipment is prevented from accessing tight areas of the facility once solar modules are installed. This type of managed grazing is aligned with the USDA-NRCS Conservation Practice Code 528- Prescribed Grazing, where various species of grazing animals are used to meet land management goals in an ecologically-beneficial way. At Turkey Creek, specific Regenerative Energy practices will include, but not be limited to, the following: managed sheep grazing; pollinator habitat creation; carbon sequestration (and associated carbon credit generation); social impact quantification (via the Regenerative Energy EcoMetrics methodology, a quantification methodology that captures the full economic, social, and environmental value of a solar energy project). It is our intention to co-locate solar energy generation with agricultural production, in keeping with the agrarian ideals and agricultural history of this particular piece of property. Currently, no local farmers or ranchers have been recruited for Regenerative Energy service provision, nor have we approached any existing Regenerative Energy-approved contractors for service provision. Silicon Ranch remains open to how this particular Regenerative Energy project is designed and managed long-

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term, including appropriate local partners and community goals.

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5. Refer to the application Volume 1 generally. Provide copies of all written or electronic correspondence pertaining the project received from neighboring property owners and other members of the general public and any corresponding responses.

Response: Please see Exhibit F for our written communication with one of the neighbors of the Project. This Exhibit is being filed with a Petition for Confidentiality.

Witness: Carson Harkrader

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6. Refer to the application, Volume 1 at 5, 21, 23, 29, 36, and 37 of 92. Also, refer to Volume 2, Site Assessment Report, at 11 of 291, and Phase I Environmental Site Assessment Section 2.2 Scope at 169 of 291 and Section 4.2 Aerial Drone Reconnaissance at 173 of 291. The stated land areas of the proposed site do not agree.

a. Reconcile the various site descriptions, state which is the correct description of the site land area, and, if appropriate, provide any corrected pages to the application.

b. Explain why the Notice of Application and the Public Meeting Notices contain different site descriptions and whether the legal requirements for noticing the public have been satisfied.

c. Provide a copy of all handouts and materials prepared for and distributed at the public meeting.

d. Explain whether the aerial reconnaissance was performed over the appropriate land area and, if not, whether a new aerial reconnaissance will be performed.

Response:

- a. The correct description of the site land area is “up to 540 acres.” Please see Exhibit D for a corrected page in the application which referred to 520 acres.
- b. The initial public meeting notice stated: “The proposed Turkey Creek Solar Project will be located on approximately 320 acres off of Kentucky State Road 39, near the City of Lancaster in Garrard County, Kentucky.” However, the map shown at the Neighborhood Dinner on December 9, 2019 and the Public Meeting on December 10, 2019 (page 291 of Volume 2 of the application) depicts a potential project footprint of more than 540 acres. The “potential project footprint” in the map covers the entire site, with a guaranteed 300’ setback from the subdivision located at the NE corner of the Project, and a minimum 200’ property line setback throughout the rest of the Project.

The public notice printed at the time of the application, as well as the letters mailed to adjoining residents at the time of application, refer to “up to 540 acres”. The

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larger acreage was chosen to ensure that the Project will have enough land area once final geotechnical studies, surveys, and civil site design are complete.

Because the maps shown at the Neighborhood Dinner and Public Meeting are consistent with the acreage described in our application and in the public notice of our application, we believe all legal requirements in notifying the public have been satisfied.

- c. Please see Exhibit A for a copy of all handouts and materials prepared for and distributed at the public meeting.
- d. Carolina Solar Energy flew this site with a drone, capturing video and still images that we used in our initial due diligence work. The ALTA surveyor for the project, VANTAGE Engineering PLC, prepared a topo survey using Kentucky State Plane, single zone horizontal coordinates and NAVD 88 elevation datum, and did not perform aerial reconnaissance. No new aerial reconnaissance is currently anticipated.

Witness: Carson Harkrader

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7. Refer to the application, Volume 2, Site Assessment Report (SAR), Attachment A – Property Value Impact Report.

a. Describe Kirkland Appraisals, LLC's experience with performing commercial appraisals evaluating the impact of utility scale solar facilities' impact on property values.

b. On page 1, the report states that the solar farm is proposed to be constructed on approximately 297 acres out a parent tract assemblage of approximately 753 acres. Explain what is meant by this land description and why it differs from the 520 acres as referenced in other parts of the application.

c. Refer page 5 regarding the research of solar farms in Kentucky. Explain why the solar facilities developed jointly by Louisville Gas and Electric Company and Kentucky Utilities Company in Shelby and Mercer counties, Kentucky, were not part of the research.

Response:

- a. Please see pages 1-3 of the Property Value Report for a description of Kirkland Appraisals, LLC's experience in evaluating the impact of utility scale solar facilities on property values.
- b. For a correction on the number of acres used for construction of the Project, please refer to item number 1 in the letter from Rich Kirkland dated May 27, 2020 attached as Exhibit B, which updates his report to refer to 540 acres.

Witness: Richard C. Kirkland, Jr., MAI

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8. Refer to the application generally. Provide a breakdown of the total cost of the project, including contingencies.

Response: [REDACTED]

Witness: Carson Harkrader

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9. Refer to the SAR, Attachment C – Noise and Traffic Assessment, page 1, Section 1.1, regarding the end of life condition. Provide the expected useful life of the propose solar facility and state how Turkey Creek or Silicon Ranch will approach the decommissioning of the solar facility in an environmentally impactful manner and maintain the land so that it can be returned to farming or other development.

Response: Unlike most solar project developers, Silicon Ranch prefers to purchase the land under its projects. By purchasing the land, Silicon Ranch is able to become a full participant in the local community where it develops, designs, funds, constructs, owns, operates, and maintains solar projects as long-term infrastructure assets. We have found this approach enables Silicon Ranch to implement its' proprietary Regenerative Energy land management practices; as well as, plan for future repowering efforts that will provide certainty and sustainable energy to the region well past the 40 year useful life of current technologies.

Witness: Erick Bauman

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10. Refer to the SAR, Attachment D – Phase I Environmental Site Assessment Section 4.2.1 On-Site Structures at 173 of 291. Explain the disposition of the 26 structures referenced in the report.

Response: There is potential for the on-site structures to be demolished prior to the commencement of Project construction. Structures which lie outside of the Project area, or which can be used for storage, will likely be stabilized and maintained.

Witness: Carson Harkrader

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11. Refer to the SAR, Attachment D – Phase I Environmental Site Assessment Section 7.0 at 175 of 291.

a. Explain whether the construction of the solar facility will disturb the underground storage and heating oil tanks in a way that could potentially cause an environmental concern.

b. Explain whether Turkey Creek foresees a need to remove the underground storage and heating oil tanks for any reason and, if so, will the removal be completed prior to construction of the solar facility.

Response:

- a. The Engineering, Procurement and Construction (“EPC”) contractor for the Project will be required to have an environmental plan, including spill and hazmat plans, in place in case there is for some reason a disturbance within the tank boundaries. These environmental/spill/hazmat plans are designed to prevent any releases and ensure cleanup per EPA guidelines. By utilizing surveying and underground locating services, the design engineers for the EPC will ensure all underground work (pile installation, trenching, etc) will not encroach near the locations of the underground tanks. During construction, physical locating services will be used by the EPC contractor to flag the boundaries that they are not allowed to encroach into to limit any potential accidental digging in the vicinity of the underground tanks.
- b. Turkey Creek does not foresee the need to remove the underground storage tanks, however, it has not yet determined if racking will be placed in these specific areas. If the site is later designed so that the underground storage tanks need to be removed, they will be removed in compliance with relevant state and federal regulations.

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12. Refer to the questions propounded by BBC Consulting, which are attached as an Appendix to this information request, and provide responses to those questions.

Response: See Responses to BBC Consulting's requests.

Witness: Carson Harkrader

# Exhibits Included:

A, B, E

F (confidential)

Exhibit A1

Exhibit A2

Filed separately

# Exhibit B



# Kirkland Appraisals

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May 27, 2020

Carson Harkrader  
Carolina Solar Energy  
400 West Main Street, Suite 503  
Durham, NC 27701

**RE: Turkey Creek Solar Impact Study, Garrard County, KY**

Ms. Harkrader

The purpose of this letter is to address question from the Kentucky Siting Board related to the market impact analysis that I completed on this project on March 4, 2020.

For simplicity, I have the following responses to the questions forwarded to me and this letter should be attached to the original impact analysis.

1 - The first issue to address is the acreage involved in the project. The impact analysis identifies 297.05 acres to be impacted. The updated siteplan identifies up to 540 acres could be impacted. According to Carson Harkrader, the updated acreage impact is related to providing a more conservative estimate of the total area impacted including buffer areas. I reviewed the updated map and find no basis for changing the opinion of the original impact analysis. The layout is essentially the same with a minimum setback of 200 feet from the property lines and 300 feet from the nearest neighborhood. The distance between panels to adjoining homes remain unchanged. The comparable solar farms identified in the original report include numerous projects in a similar size showing no impact which supports this conclusion.

2 - I was asked why I did not include Louisville Gas and Electric Company and Kentucky Utilities Company in Shelby and Mercer counties in the Kentucky research. The short answer is that I looked at projects identified by Solar Energy Industries Association (SEIA) major projects, which does not identify those two projects. The only projects indicated by that map not included are related to the roof mounted L'oreal solar plant in Florence, Kentucky.

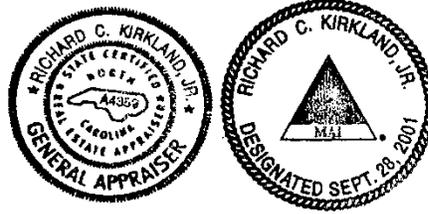
But I have since pulled data on both of the solar farms asked about. The E. W. Brown 10 MW solar farm was built in 2014 and adjoins three coal-fired units. Given that research studies that I have previously read regarding fossil fuel power plants including "The Effect of Power Plants on Local Housing Values and Rents" by Lucas W. Davis and published May 2010, it would not be appropriate to use any data from this solar farm due to the influence of the coal fired power plant that could have an impact on up to a one-mile radius. I note that the closest home to a solar panel at this site is 565 feet and the average distance is 1,026 feet. The homes are primarily clustered at the Herrington Lake frontage. Again, no usable data can be derived from this solar farm due to the adjoining coal fired plant.

The Cooperative solar farm in Shelby County is a 0.5 MW facility on 35 acres built in 2020 that is proposed to eventually be 4 MW. This project is too new and there have been no home sales adjoining this facility. The research on Kentucky was completed in November 2019 with an update in March 2020 and no data was pulled on this facility as it was still in

construction. Until there are sales of property next to this project, I cannot pull any usable data from this solar farm.

If you have any further questions please call me any time.

Sincerely,

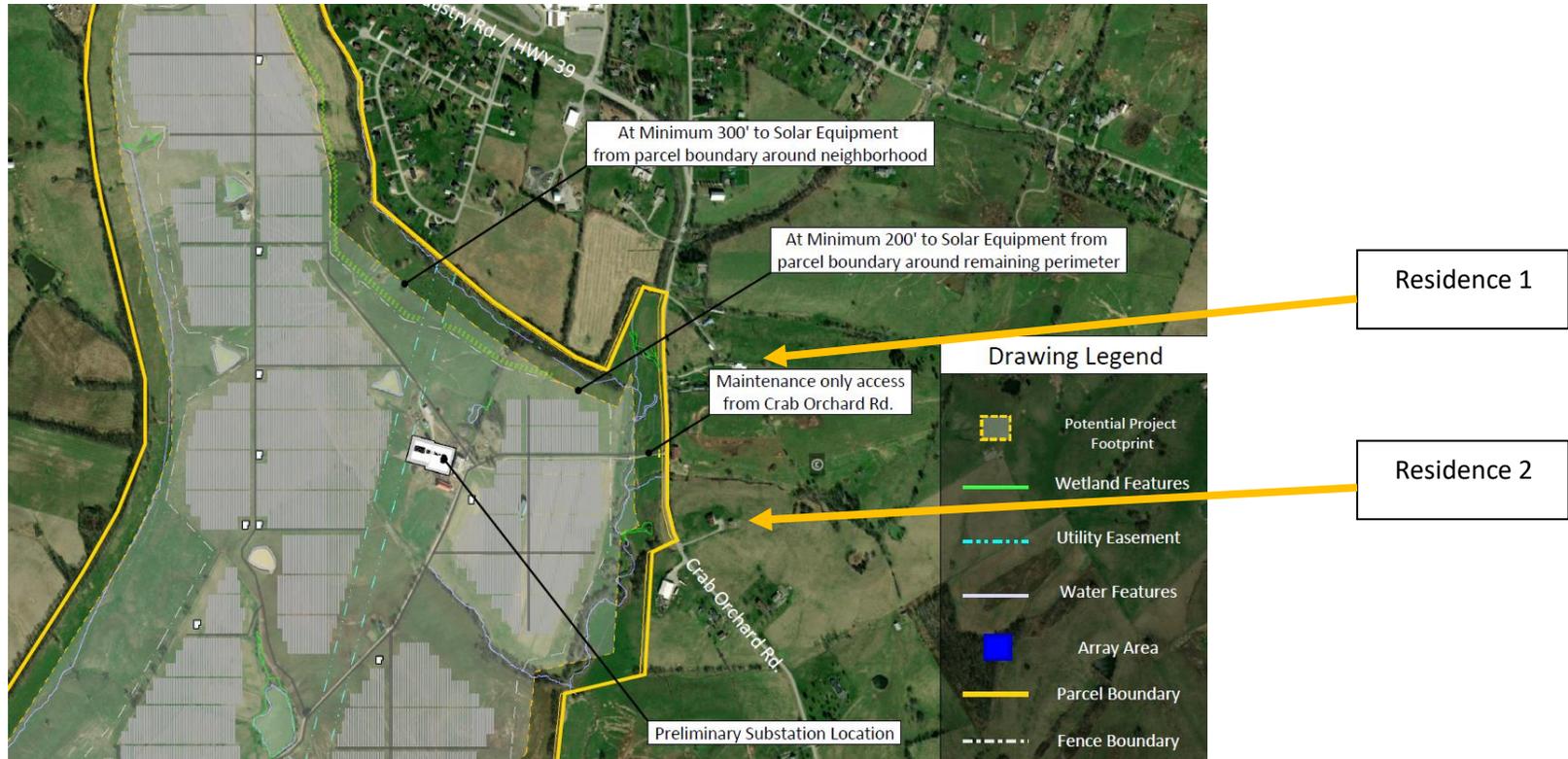


Richard C. Kirkland, Jr., MAI  
Kirkland Appraisals, LLC

# Exhibit E

EXHIBIT E: Simulation from 2 neighboring properties

These two properties were chosen because of the topography of the area. Both properties sit up on a hillside, looking onto the Curry Farms property.





Solar Array

Viewshed toward Solar Farm



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Suite 503

**ISSUE**  
5.28.20  
3.9.20

**PROJECT**  
Turkey Creek

**DRAWN BY**  
CJ

**a**

**01**