EXHIBIT F

COMMONWEALTH OF KENTUCKY

BEFORE THE KENTUCKY STATE BOARD ON ELECTRIC

GENERATION AND TRANSMISSION SITING

In the Matter of:

ELECTRONIC APPLICATION OF BLUE MOON ENERGY LLC FOR CERTIFICATES OF CONSTRUCTION FOR AN APPROXIMATELY 70 MEGAWATT MERCHANT ELECTRIC SOLAR GENERATING FACILITY AND NONREGULATED ELECTRIC TRANSMISSION LINE IN HARRISON COUNTY, KENTUCKY	))))))	Case No. 2021-00414

Site Assessment Report (SAR)

Blue Moon Energy LLC ("the Applicant" or "Blue Moon Solar"), a wholly-owned subsidiary of Recurrent Energy, LLC (RE), files this Site Assessment Report (SAR) as specified in KRS 278.708 contemporaneously with its application requesting from the Kentucky State Board on Electric Generation and Transmission Siting ("the Board") a certificate of construction for an approximately 70 megawatt (MW) photovoltaic (PV) solar energy conversion facility pursuant to KRS 278.704.

As part of the SAR, the Applicant submits herewith SAR Exhibits A–G. The facts on which the SAR are based are contained in the concurrently filed SAR Exhibits and other information and the statements further made by Blue Moon Solar as follows:

I. Description of Proposed Project Site

1. Pursuant to KRS 278.708(3)(a), the proposed Blue Moon Solar Project ("the Project") is situated on 1,581 acres located near Cynthiana, Kentucky, in Harrison County (SAR, Exhibit A). The site consists mainly of 17 parcels secured from 13 landowners pursuant to real estate agreements with each landowner. The parcels and those surrounding parcels have generally experienced row crop agriculture, pastureland, and residential use. The proposed project is a 70 MW solar facility capable of providing clean, renewable electricity. Photovoltaic (PV) solar modules are used to convert sunlight into direct current (DC) electricity which is then converted to alternating current (AC) electricity through inverters. Transformers step up the AC electricity to a higher voltage so that it can connect to the regional transmission grid.

2. Project components will include a PV solar field, which consists of modules mounted on metal structures anchored to the ground with pilings; panels will move to track the sun over the course of the day. Other Project components include: an onsite substation, a DC collection system of underground cabling and combiner boxes, and power conversion stations (PCS) with inverters, transformers, and emergency backup power to convert DC to AC. An underground and/or overhead collection system will be used to convey electricity from the solar array field to the substation. An operation and maintenance (O&M) area for the Project will also be installed and could include, as necessary, an O&M building, parking area, and other associated facilities such as above-ground water storage tanks, security gate, signage, and flagpoles. In addition, the Project will also include an onsite transmission line, fiber optic cable for communications underground or on overhead lines, a meteorological station mounted on a concrete foundation, interior access ways, and a Facility perimeter road. During construction, the Project will include a temporary construction mobilization and laydown area for construction trailers, construction workforce

parking, above ground water and fuel tanks, materials receiving, and materials storage.

3. Approximately 46,250 linear feet of private access roads will be utilized within the facility and will be constructed of all-weather gravel. Roads will not exceed 16 feet (4.9 meters) in width, except for turning radii, which will not exceed 50 feet (15.2 meters) in radius. All entrances and driveways will comply with applicable design requirements for safe access and egress. The Project solar arrays will be secured with approximately 65,785 linear feet of perimeter fence and will consist of six (6)-foot chain link fence with three strand barbed wire and colored green or black per requirements of Article 23 Section 4(B)(i)(3) of the Ordinance. Fixed lighting at the perimeter will be limited to gates and the substation area and will be motion-activated to minimize light spillage. The Project will utilize construction methods that minimize large-scale grading and removal of native soil. Clearing and grubbing will occur where necessary. Minimal grading may be required to level rough or undulating areas of the site and to prepare soils for concrete foundations for substation equipment and inverters. Access roads will also be grubbed, graded, and compacted. The site cut and fill will be appropriately balanced, with no anticipation of import/export necessary.

4. The PV solar arrays, consisting of modules in individual rows placed on a racking structure, will be supported by steel piles driven into the soil. Piles typically are spaced approximately 20 feet apart, and the maximum height of the PV arrays will not exceed 15 feet. The spacing between array rows is estimated to be approximately 8 to 15 feet. Modules will be oriented in rows running from north to south utilizing a single axis tracking system. The racking system will be supported by approximately 34,722 steel posts installed with a combination of pile-driving machines and augers. The center height of the racking structures will be approximately 4 feet (1.2 meters) to 6.8 feet (2.1 meters) above the ground. The modules will be connected using DC cables that can either

be buried in a trench or attached to the racking system. The DC cables gather at the end of racking systems to combiner boxes which are connected to cables routing to an inverter.

5. Approximately 19 inverters will be installed throughout the Project to convert the DC power from the 1,500 volt DC collection system to AC power, which will then be transmitted to a Project substation via the 34.5-kilovolt (kV) AC collection system. The AC collection system will include underground and/or overhead segments. Underground segments of the AC collection system will be buried a minimum of 3 feet (0.9 meters) below grade; and overhead portions will not exceed a maximum height of 45 feet (13.7 meters) above grade. The AC collection system will be comprised of medium voltage (MV) cable that will transfer electricity to the Project substation. Approximately 221,000 linear feet of DC collection system cables and 52,000 linear feet of AC collection cables would be installed throughout the Project. Collection cables are congregated into common trenches and run adjacent to one another. All electrical inverters and the transformer will be placed on concrete foundations or steel skids.

6. The Project will require one substation that will include one 81-mega volt ampere (MVA) transformer equipment, control building foundation, and oil containment area. Concrete pads will be constructed as foundations for substation equipment, and the remaining area will be graveled. Concrete for foundations will be brought on-site from an external batching plant. The substation area will serve as the general parking area for permanent employees and contain all necessary equipment to step up incoming MV electricity to the high voltage electricity necessary to interconnect into the existing 69kV Cynthiana Tie-Headquarters transmission line onsite owned and operated by East Kentucky Power Cooperative. The gen-tie line will be no more than 100 feet (30.48 meters) in length, will be located entirely within the project footprint, and will be constructed by the Applicant. East Kentucky Power Cooperative will be responsible for any

additional transmission equipment located within the switchyard for the Project. It is anticipated that the gen-tie poles and substation components will not exceed 85 feet (25.9 meters) above grade.

7. Pursuant to KRS 278.708(3)(a)(1), a detailed description of the surrounding land uses is identified in the Property Value Impact Study conducted by Kirkland Appraisals, LLC, and attached as SAR Exhibit B. A summary of the surrounding land use is contained in the chart below:

	Acreage	**Parcels**
Residential	5.86%	53.25%
Agricultural	54.99%	23.38%
Agri/Res	39.15%	23.38%

8. Pursuant to KRS 278.708(3)(a)(2), SAR Exhibit C contains the legal description of the proposed site.

9. Pursuant to KRS 278.708(3)(a)(3), the proposed facility layout is included in SAR Exhibit A and B as well as Exhibit A of the overall Siting Board Application. The layout shows the proposed access to the site. A security fence meeting National Electric Safety Code (NESC) requirements will consist of a six (6) foot chain link fence with three strings of barbed wire at the top, to secure the facility.

10. Pursuant to KRS 278.708(3)(a)(4), the proposed locations of all project infrastructure (buildings, transmission lines, and other structures) are included in the Preliminary Site Layout in SAR Exhibit A and B.

11. Pursuant to KRS 278.708(3)(a)(5), proposed access points are shown in SAR Exhibit A. There are no adjacent railways that could be used for construction or operational activities related to the Project.

12. Pursuant to KRS 278.708(3)(a)(6), there is one 69-kV transmission line, Cynthiana Tie-Headquarters bisecting the central portion of the project, connecting to the proposed switchyard to

be constructed and located in the central portion of the project. The proposed switchyard and transmission lines are owned by East Kentucky Power Cooperative. The location of the switchyard and transmission lines are shown in SAR Exhibit A and Exhibit A of the Siting Board Application. At this time, it is not anticipated that the Project will need to receive external utility services during typical plant operation.

13. Pursuant to KRS 278.708(3)(a)(7), Harrison County has enacted Article 23 of the Cynthiana-Harrison County-Berry Joint Planning Commission Ordinance, the Applicant has designed the project to be consistent with Harrison County's Zoning Ordinance. Buffers and setbacks will be included along the boundaries of the Project and from sensitive resources such as homes, businesses, and wetlands or streams. Pursuant to the Conditional Use Permit granted to the project (SAR Exhibit G), condition number 3, setbacks will be as follows:

> Except for fencing and any pole mounted electric lines, consistent with the County ordinance, all above-ground equipment will have a minimum front setback of at least one hundred (100) feet to frontage boundary lines and fifty (50) feet to side and rear boundary lines of any non-participating properties and roadways. No setbacks are required between the boundary lines of parcels that are part of a single project. Above-ground equipment shall be located no closer than 150' from any participating residential structures and no closer than 200' feet from any non-participating landowner.

Setbacks are included on the project layout in SAR Exhibit A. The Zoning Ordinance is enclosed as SAR Exhibit F.

14. Pursuant to KRS 278.708(3)(a)(8), two noise assessments were completed for the Project in October 2021: Cardno conducted a construction noise assessment while Hessler Associates assessed operational noise (SAR Exhibit D). The noise assessment indicates that during site operation, minimal intermittent noise related to the panel tracking system and the noise of the inverters is expected. The noise is negligible due to both the vertical and horizontal distances between the panels/inverters and the nearest noise sensitive receptors. The nearest sensitive receptor is more than 300 feet from any solar panels and approximately 850 feet from an inverter.

While the exact model for inverter and transformer has not yet been selected, operational sound was modeled using Cadna/A software. According to manufacturer specifications, the maximum operational sound of the transformer during daytime is 97 dBA while the proposed inverter has a maximum noise production of 99 dBA. Sound quickly dissipates away from transformer, inverters, and substation locations. At the nearest receptors no prolonged noise levels above background levels are expected during operation of the Project. As demonstrated on the Hessler Associates Plots 1 and 2, all residences, whether participating or not, are well outside of the 45 dBA sound contour and all non-participating residences are outside of the 40 dBA contour. This contour generally represents a sound level that is so low in absolute terms that complaints are highly unlikely. The nearest concentration of sensitive receptors is along Jill Lane on the western side of the Project. The nearest non-participating residence will be located more than 500 feet from proposed inverters and substation. The nearest public sensitive receptor will be the Ashford Acres Inn, over 2,000 feet west of the nearest proposed solar panels. Due to distance of receptors to operational components, noise emitted from the Project during operation would be less than typical background noise. Site visits and maintenance activities including single vehicular traffic and mowing will be negligible as they are similar to the background agricultural noise characteristics. As discussed further below, the Cardno study demonstrates that construction will not contribute to a significant sound increase when compared to sound currently occurring onsite and baseline ambient sound levels.

15. All site visits, outside of emergency maintenance, will occur during daylight hours. Operationally, the Project will not produce any potentially disturbing prominent discrete tones due to distances from the substation to any receptors. Motors operate intermittently through the day to tilt each solar panel array a few degrees to optimize its angle toward the sun, however, this sound source is

not significant with respect to for-site receptor locations. At night all inverters are inactive, and noise is restricted to the substation.

II. Compatibility with Scenic Surroundings

16. Pursuant to KRS 278.708(3)(b), a Property Value Impact Study was completed for the Project by Kirkland Appraisals, LLC in July 2021 (SAR Exhibit B). Please refer to Sections VII-XI from SAR Exhibit B which address appropriate setbacks, topography, impacts during construction, scope of research, and compatibility in detail.

17. An excerpt from Section XI, page 115, reads as follows:

> "[L]arger 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."

18. General rolling terrain with some distant solar panel views show no impact on adjoining property value. Solar facilities using panels of 15 feet in height have a similar visual impact as large greenhouse. Further, ample vegetative screening will be implemented to mitigate any visual impacts of the Facility.

III. Property Value Impacts

19. Pursuant to KRS 278.708(3)(c), see SAR Exhibit B for a report studying potential property value impacts to owners adjacent to the proposed facility by a certified real estate appraiser. The

conclusion of the report, Section XII on page 117, reads as follows:

> "The matched pair analysis shows no negative impact in home values due to abutting or adjoining a solar farm as well as no impact to abutting or adjacent vacant residential or agricultural land. The criteria that typically correlates with downward adjustments on property values such as noise, odor, and traffic all support a finding of no impact on property value.
>
> Very similar solar farms in very similar areas have been found by hundreds of towns and counties not to have a substantial injury 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 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 negative impact on the value of adjoining or abutting property. 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 no traffic."

IV. Anticipated Noise Levels at Property Boundary

20. Pursuant to KRS 278.708(3)(d), noise will occur temporarily and intermittently during the construction phase of the project due to increases in vehicular traffic, construction equipment and assembly of the solar facility components. This construction noise is expected to be of short duration at any given location within the Project. As a majority of the Project area is currently used for crop production, the need for extensive tree removal and earthmoving to prepare the site is anticipated to be relatively minor. Construction of the solar facility will use equipment typical for site development, such as dozers, graders, loaders, pile drivers, and trucks. The U.S. Department of Transportation, Federal Highway Administration (FHWA), publishes sound levels for typical construction equipment, which are shown in Table 2 below. No sound generated by typical construction equipment will violate Harrison County Ordinance 254. Construction for the Project will consist of roads, fencing, solar arrays, a substation and associated electrical infrastructure

(buried lines, etc.).

Table 2. Typical noise level for construction equipment at 50-feet.

Equipment	Typical Noise Level (dBA) 50 Feet from Sources
Air Compressor	81
Backhoe	80
Dozer	85
Generator	81
Pickup Truck	55
Pile Driver (Impact)	84-101
Pneumatic Tool	85
Pump	76
Spike Driver	77
Tie Cutter	84
Tie Handler	80
Tie Inserter	85
Tractor	84
Truck	88
Welder/Torch	73

21. The amount of sound generated during construction will vary depending on the type of activities occurring on a given day. Grading equipment, bobcats, pile drivers, and other construction equipment typically emit sounds between 76 to 90 dBA at 50 feet (FHWA 1999, 2006). Sounds associated with these types of equipment will primarily occur during the initial site set up – grading and access road construction, which is expected to last approximately 9 to 12 months. It is anticipated that pile driving for rack support foundations will create the loudest sound (98 and 101 dBA at 50 feet, FHWA 1999, 2009). Installation of each rack support foundation takes between 30 seconds to 2 minutes, depending on soil conditions; it is anticipated this activity will take up to 6 to 8 months across the entire Project. Finally, installation of the solar panels on the tracking racks will emit sound levels similar to general construction (75 to 85 dBA at 50 feet). Typically, a forklift is used to place individual panels on the tracking rack system. The sounds from all construction

activities will dissipate with distance and will be audible at varying levels, depending on the locations of the equipment and receptors. Note that the Project is approximately 3 miles from North to South; hence construction noise will not be isolated to a particular area for long periods of time (i.e. 30-days), for the exception of prime access ways and laydown areas. These areas would experience noise from worker vehicles and delivery trucks. The noisiest portion of the construction includes the use of pile drivers to install the solar panel supports. Typical noise level within 50-feet of pile driving equipment is 84-101 dBA.

22. Construction traffic will use the existing county roadway system to access the Project facilities and deliver construction materials and personnel. Based upon the sound levels published by FHWA, the sounds contributed by construction vehicles such as semi-trucks, light passenger cars, and trucks fall within acceptable ranges if the sounds do not occur between 11:00 p.m. and 6:00 a.m. Construction traffic sounds will be similar to common farm equipment and typical vehicles on local roadways. Sound generated during construction is expected to only occur during daylight hours and will be generated by heavy equipment, passenger cars and trucks, and tool use during assembly of the Project. Sound will be present in the Project during construction; however, because of the size of the Project and the distance to the nearest receptors, construction will not contribute to a significant sound increase when compared to sound currently occurring onsite (i.e., the operation of farming equipment and crop harvesting) and baseline ambient sound levels. See SAR Exhibit D for the full report studying anticipated peak and average noise levels associated with the facility's construction at the Project boundary.

23. The nearest concentration of sensitive receptors is near the town of Cynthiana along Jill and Midden Lane on the western side of the Project area and Hedges Lane near the central eastern portion of the Project. The nearest non-participating residence will be more than 300 feet from

proposed Project Components. The nearest public sensitive receptor will be the Ashford Acres Inn, which is located over 2,000 feet west of the nearest proposed solar panels. Since the nearest non-participating residential receptor is more than 1,200ft from the substation, transformers are not expected to add additional noise above background noise. These homes are well outside of the 40dBh noise threshold as seen in SAR Exhibit D.

24. There are two principal sound sources associated with normal daytime operation of the Project: the substation step-up transformer and the electric current inverters, which are distributed through the panel arrays. The only other sound that emanates from the Project is from the small tracking system motors that intermittently tilt each panel array a few degrees to optimize its angle towards the sun. These motors are only active for a few seconds at a time and are normally only faintly audible when standing within the panel array itself consequently, this sound source is not significant with respect to off-site receptor locations.

25. The precise main transformer model, rating, and manufacturer for this Project has not yet been completely finalized, but the best estimate at this time is for a unit with a rating of 81 MegaVolt Ampere (MVA). SAR Exhibit D fully models operational sound using these two-unit ratings, however, all models illustrate that sound power level of the transformer during daytime is less than 100 dBA (94-99 dBA) at the source. Power spectrum for Design 80 MVA is shown below:

Design 80 MVA ONAF2 Main Step-up Transformer Sound Power Level (Lw) Spectrum - Daytime										
OBCF2, Hz	31.5	63	125	250	500	1k	2k	4k	8k	**dBA**
Lw, dB re 1 pw	94	100	102	97	97	91	86	81	74	**97**

*ONAF2: oil natural air forced, radiator fans on high speed (worst case daytime operations during peak of summer using 80 MVA rating)

26. It is important to note that the algorithm used to model noise of the transformer tends to over-predict the sound power levels of modern transformers. At night, the Project shuts down

completely; however, the substation transformer remains energized and back feeds a small amount of house load power to the Project (rather than delivering power to the grid) and could also interact with the grid by supplying some reactive compensation. The sound level associated with this mode of operation is probably very minimal, but to be conservative, the minimum 48 MVA rating for this transformer was assumed for noise studies, yielding a sound power level of 94 dBA at the source during nighttime operations:

Design 48 MVA ONAN Main Step-up Transformer Sound Power Level (Lw) Spectrum - Nighttime										
OBCF, Hz	31.5	63	125	250	500	1k	2k	4k	8k	**dBA**
Lw, dB re 1 pw	90	96	98	93	93	87	82	77	70	**94**

*ONAN: oil natural air natural, no radiator fans on

27. Solar facilities generate minimal sound while in operation during daylight hours. Inverters are the main source of sound within a solar facility with typical noise levels averaging 75 dBA at the point source, comparable to a vacuum cleaner, and sound dissipates quickly from the point source. Due to landscaping, setbacks, fence lines, and perimeter roads, noise-generating equipment will not be located in proximity to sensitive receptors or near the Project boundary. At the present time, the specific inverter model for the Project has not yet been confirmed, but the TMEIC Ninja-5 4200kW is currently anticipated (see below). Sound information for this model obtained from a field sound test from the manufacturer indicates that a five-module grouping produces an average near field sound pressure level of 80.5 dBA. After accounting for the physical size of a 5-unit group and a 1 m measurement distance the nominal sound power level comes out to 99 dBA.

Design Inverter Sound Power Level (Lw) Spectrum (TMEIC Ninja-5, 422 kw)										
OBCF, Hz	31.5	63	125	250	500	1k	2k	4k	8k	**dBA**

Lw, dB re 1 pw	97	97	97	98	93	90	88	93	90	**99**

28. A sound level of 45 dBA is a common design goal and regulatory limit for nighttime sound emissions. This value originates from guidelines published years ago by the U.S. environmental Protection Agency, where a maximum day-night average (Ldn) sound of 55 dBA is recommended for "outdoors in residential areas and farms and other outdoor areas where people spend widely varying amounts of time and other places in high quiet is a basis for use." All residences, whether participating or not, in the Project are well outside of the 45 dBA sound contour. Moreover, all non-participating residences are outside of the 40 dBA contour, which generally represents a project sound level that is so low in absolute terms that complaints are highly unlikely even in quiet rural environments with very low background levels. Consequently, little to no adverse community reaction is anticipated during normal daytime operations.

29. At night all inverters are inactive and any possible noise from the Project would be confined to the immediate vicinity of the substation. Further, the potentially tonal character of the sound from transformer must also be considered. In this case, the sound emissions from the substation transformer are not expected to contain any prominent discrete tones at the nearest non-participating residences, which are roughly 1,400 feet from the substation. The nearest participant is about 1,200 feet away. Transformers are normally tonal in the near field, but the prominence of any tones drops away quickly with distance and becomes insignificant, usually within 150-500 feet. The 81 MVA solar project transformer discussed above had no prominent tones remaining at only 45 meters. The transformer itself produces a 60 Hz tone which is not significant or even audible. Consequently, it can be reasonably concluded that due to the distances from the substation to any homes that the Project will not produce any potentially disturbing prominent discrete tones.

30. Offsite noise is not anticipated to be a material issue within the Project for both construction and

operation. Per County Ordinance No. 254 and 283, Series 2014, noise levels at the Project boundary will comply with the Harrison County Noise Ordinance and will not cause disturbance or destroy the enjoyment of dwelling houses in the vicinity of the Project. Project operational noise levels will not exceed 57 dBA from 7:00 AM to 10:00 PM and 52 dBA from 10:00 PM to 7:00 AM. Operational noise assessment was modeled by Hessler Associates, Inc. and is included in SAR Exhibit D.

V. Effect on Road, Railways and Fugitive Dust

31. Pursuant to KRS 278.708(3)(e), a traffic impact study was completed for the Project by Fisher Associates in September 2021 (SAR Exhibit E). It evaluates the Project's impact on road and rail traffic and transportation, and anticipated levels of fugitive dust created by vehicles and degradation of roads.

32. Any transportation impacts will be temporary in nature as they will occur only during the construction phase of the Project. There are no railroads near the Project site and therefore no impact. The Peak of Project construction activities is expected to generate up to 32 daily trips, including 369 worker vehicle trips and 24 truck haul trips. This includes up to 196 AM and 196 PM peak hour trips, with 184 peak hour worker vehicle trips and 12 truck haul trips each peak hour. All study segments are projected to operate acceptably at LOS D or better with only slight degradations in operations, therefore, the Project is not expected to cause a significant impact with respect to traffic. Any other roadway segments that Project travel may travel on will have acceptable operations. The total design hour VMT on the study segments is projected to increase by approximately 551 miles which is an approximately 36.5% increase, primarily due to low volume of existing traffic on the study segments and will be temporary during construction. The Project would not substantially increase hazards nor alter any roadways or create any traffic

conditions, thus, the Project would result in less-than-significant impacts to transportation and emergency access.

33. Construction and associated land disturbance associated with the proposed Project may temporarily contribute airborne materials. The Project will utilize Best Management Practices (BMPs) such as: dewatering procedures, stormwater runoff quality control measures, concrete waste management, watering for dust control, and construction of perimeter silt fences, as needed. Water for dust control and operations will be obtained from several potential sources, including an on or off-site groundwater well, or trucked from an offsite water purveyor. During the construction phase, water will be used for dust suppression and other purposes. Additionally, open-bodied trucks transporting dirt will be covered while moving. During construction activities, water may be applied 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. The Project will comply with dust control regulations and all other applicable requirements to manage erosion, sedimentation, and stormwater runoff that will include submitting a stormwater pollution prevention plan and notice of intent for use of the Kentucky stormwater construction permit KYR10 to the Kentucky Department for Environmental Protection, Division of Water for review and approval.

34. The Project will likely not be using railways for any construction or operational activities.

VI. Mitigation Measures

35. The Facility will be compatible with the existing land uses in the area. Construction methods will be implemented to minimize potential impacts on noise, dust, and traffic. The Project design also incorporates avoidance and mitigation measures for sensitive resources such as wetlands, listed plant and animal species, and sensitive cultural resources. Vegetative screening will be

implemented to mitigate any visual impacts of the Facility. Once the Facility enters the operational phase, there will be no hazardous materials, pollutant emissions, or discernible sound outside of the Facility. Pursuant to KRS 278.708(4), the Applicant has implemented or intends to implement the following mitigation measures for the Project:

36. *Viewscape*: Adjoining property values are not affected by the general rolling terrain with some distant solar panel views. The Project will utilize construction methods that minimize large-scale grading and removal of native soil. Clearing and grubbing will occur where necessary. The Project is not expected to negatively impact public road glint and glare such that any mitigation measures are necessary. Blue Moon Energy LLC provide landscape buffers of double row evergreen trees spaced on 15-feet centers, per the county zoning ordinance, along the public roadways where the arrays could be visible.

37. The Cynthiana-Harrison County Airport has one runway (11-29) with the end of the runway being within 2 miles of a portion of the facility. Glint and glare analysis were performed for the approach of Runway 29 to determine any potential impacts to approaching pilots. Modeling indicates that the southern array is directly in the flight path and has the potential to produce yellow glare and all but one of the arrays could produce green glare. Project layout data including panels and proposed substation were submitted to the Federal Aviation Administration (FAA) for potential Project impacts upon the existing runway. The FAA conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, Part 77 and found that the project would have no effect on navigable airspace or air navigation. Final approval will be secured from the Kentucky Airport Zoning Commission prior to commencing construction.

38. *Vegetation*: The Project has been designed to minimize the amount of tree clearing required. The landscaping plan focuses on preservation of existing vegetation, augmented by supplemental

vegetation to provide an effective screen and enhance the biological habitat of the area. Pre-existing vegetation will remain preserved to the extent practical to retain visual consistency for adjacent properties and to achieve screening for adjacent properties and ROW. Where pre-existing vegetation was removed or considered insufficient, supplemental landscaping will be installed as depicted in the landscape plan (Exhibit A) and on the site plan to meet Ordnance requirements. Supplemental screening will consist of two rows of a combination of locally adapted evergreen species on 15-foot centers to mitigate visual impact. Supplemental plantings, where necessary, will be a minimum of six (6) feet at the time of planting, no more than 15 feet apart, and consisting of single or double rows. Proposed vegetation will size at minimum of 8 feet at maturity.

39. The interior of the Project will be reseeded with a native seed mixture of grasses and interior vegetation will be maintained at 12 inches in height to prevent shading effects and protect from safety hazards.

40. *Impacts to cultural resources.* A search for sensitive site receptors (adjacent historic residences, churches, schools, cemeteries, hospitals, etc.) within 1,000 feet of the Project boundary was performed. One cemetery and two historic homes were identified within this search area. Three additional historic homes were identified outside of the Project boundary and would not be affected due to vegetation screening as implemented in the landscape plan. The Project has been designed to avoid impacts to historic homes and preserve access to one cemetery located within 500 feet of the Project.

41. *Setbacks*. Buffers and setbacks will be included along the boundaries of the Project and from sensitive resources such as homes, businesses, and wetlands or streams. In compliance with Article 23, Section 4 of the Ordinance, and the Conditional Use Approvals and Conditions SAR Exhibit G, Setbacks are included on the Project layout (Exhibit A and Exhibit F, SAR Exhibit F).

42. *Stormwater*: The Project will comply with all applicable requirements to manage erosion,

sedimentation, and stormwater runoff. This will include submitting a stormwater pollution prevention plan (SWPPP) and a notice of intent (NOI) for use of the Kentucky stormwater construction permit KYR10 to the KY department for Environmental Projection, Division of Water for review and approval. The SWPPP prepared by a qualified engineer or erosion control specialist and will be implemented before and during construction. The SWPPP will be designed to reduce potential impacts related to erosion and surface water quality during construction activities and will include Project information and best management practices (BMPs). BMPs will include dewatering procedures, stormwater runoff quality control measures, concrete waste management, stormwater detention, watering for dust control, and construction of perimeter silt fences, as needed.

43. *WOTUS*: The Project has been designed to avoid impacts to Waters of the U.S. (WOTUS) delineated on site. If impact to such features becomes necessary, then the impact will be minimized to the extent practicable, and the appropriate Clean Water Act (CWA) Section 404/401 permit will be obtained from the U.S. Army Corps of Engineers (USACE) and the Kentucky Energy & Environment Cabinet – Department for Environmental Protection – Division of Water ("Kentucky DOW").

44. The regulation and permitting of utility scale solar impacts to stormwater and WOTUS will be addressed separately to this Siting Board application. Stormwater discharge is addressed in paragraph 42 and WOTUS are addressed in paragraph 43.

45. *Regulatory Agency:* Kentucky DOW: The Project will obtain a Kentucky Department of Environmental Protection Stormwater Construction General Permit from the Kentucky DOW in compliance with the CWA.

46. *Regulatory Agency:* USACE – Louisville District: The Project has been designed to avoid impacts to WOTUS. However, if impact becomes necessary then Blue Moon Solar will coordinate with

the USACE – Louisville District and the appropriate CWA Section 404 permit will be obtained. If necessary, a CWA Section 401 Water Quality Certification will be obtained from the Kentucky DOW. As required, the applicant will obtain permit coverage for crossings from the USACE-Louisville District.

Dated this 7th day of February 2022.

Respectfully submitted,

FROST BROWN TODD LLC

/s/ Gregory T. Dutton

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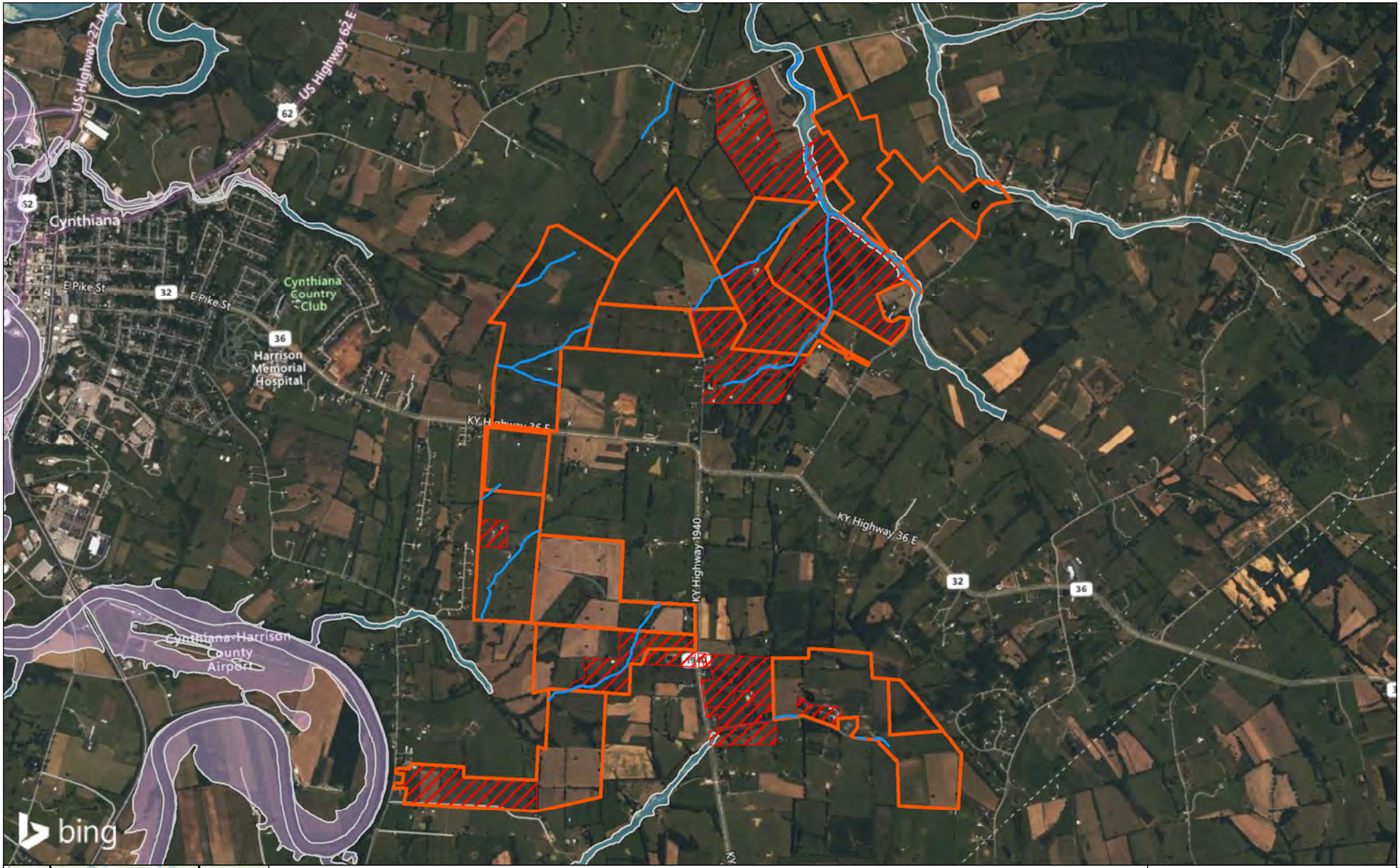
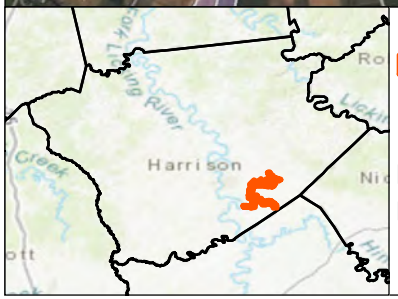
EXHIBIT F

SAR EXHIBIT A





Legend

- Project Boundary
- Excluded Parcels
- NHD Streams
- 100-Year Floodplain (Unstudied BFE)
- 100-Year Floodplain (Studied BFE)

0 550 1,100 2,200
Feet

Cardno
Shaping the Future

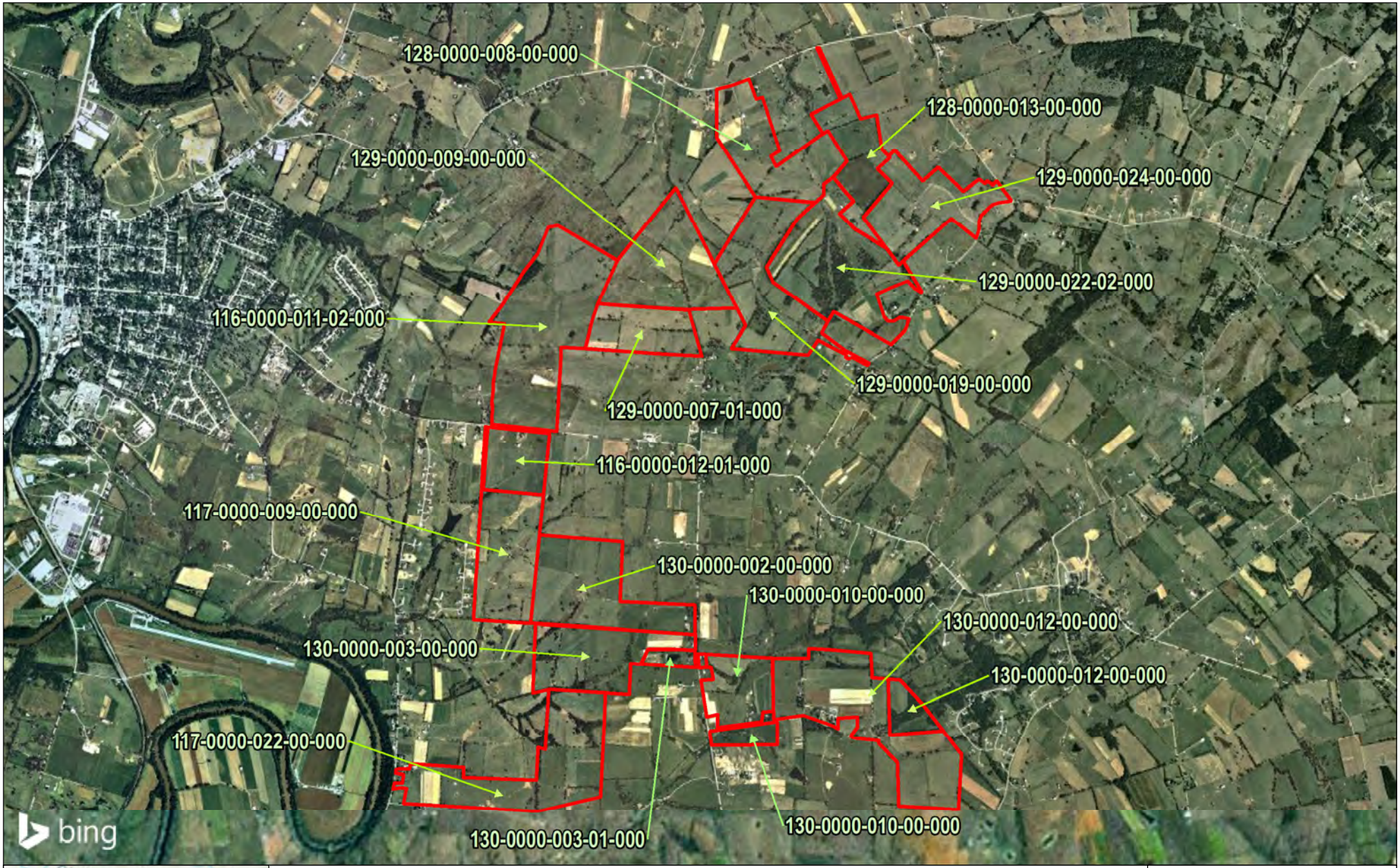
Blue Moon Energy LLC Solar Project
Critical Issues Analysis
Harrison County, Kentucky

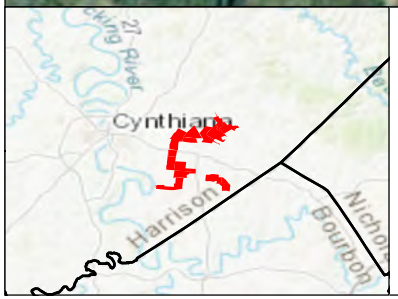
Project Overview Map

Date:	Project No:	Figure No:
June 2021	E320201803	2-1

Date Created: 7/8/2021 Date Revised: 7/8/2021 File Path: S:\PROJECTS\RecurrentEnergy\E320201803 – Blue Moon CUP_KSB Applications\GIS\MXD\2-1 Project Overview.mxd
GIS Analyst: corbin.hoffmann

Data Source: Basemap: Bing Maps Aerial (2020)





Legend

Project Boundary

0 550 1,100 2,200

Feet

RECURRENT ENERGY

Figure 2 - Parcel Data

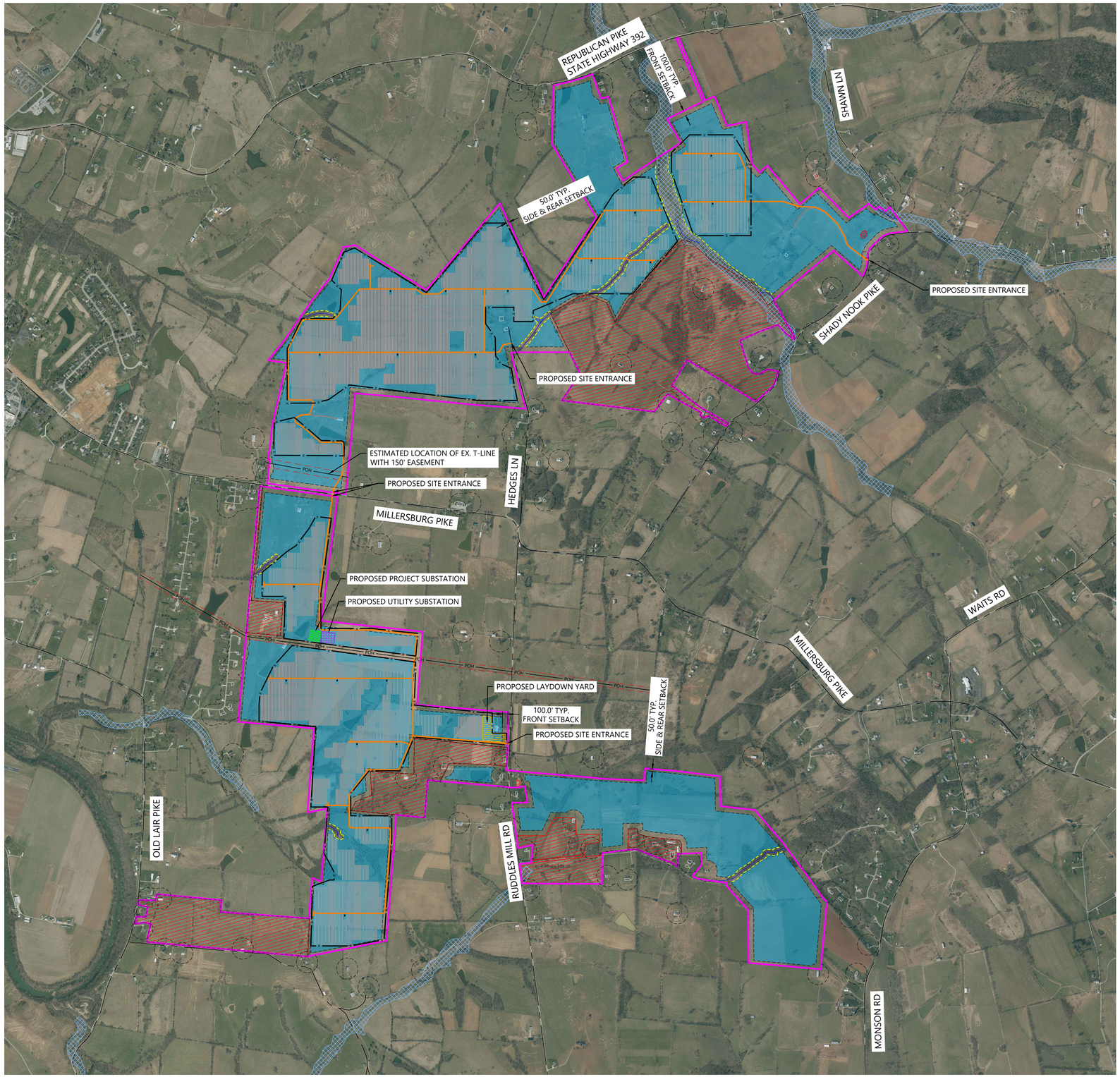
Property Owner Map

Date:	Project No:	Figure No:
June 2021	E320201803	

Date Created: 9/30/2021 Date Revised: 9/30/2021 File Path: S:\PROJECTS\RecurrentEnergy\E320201803 – Blue Moon CUP_KSB Applications\GIS\Parcel Data Map3.mxd

GIS Analyst: chad.martin

Data Source: Basemap: Bing Maps Aerial (2020)



LEGEND:

- PROJECT BOUNDARY
- EASEMENT LINES
- EX. PAVED ROADS
- EX. GRAVEL ROADS
- EX. OVERHEAD POWER
- EX. FIELD DELINEATED STREAM CHANNEL
- EX. FIELD DELINEATED WETLAND
- EX. STRUCTURE
- BUILDABLE AREA
- EXCLUSION AREA
- FEMA FLOOD ZONE - 100 YEAR
- PROPOSED SECURITY FENCE
- PROPOSED 25' WETLAND AND 50' STREAM BUFFER
- PROPOSED PROJECT SETBACK
- PROPOSED ACCESS ROAD
- PROPOSED SOLAR ARRAY
- PROPOSED ELECTRICAL EQUIPMENT
- POTENTIAL SINKHOLE
- PROPOSED PROJECT SUBSTATION LOCATION
- PROPOSED UTILITY SUBSTATION LOCATION
- PROPOSED LAYDOWN YARD

PROJECT DATA

PARCEL AREA	1581.33 ACRES
PARCEL AREA WITHOUT EXCLUSION AREAS	1249.22 ACRES
BUILDABLE AREA	1041.24 ACRES
PROJECT FENCED AREA	648.84 ACRES
ARRAY AREA (ACREAGE UNDER PANELS)	122.14 ACRES
FENCE PERIMETER LENGTH (LINEAR FEET)	65,780.5
SYSTEM SIZE - DC	98.11 MW
SYSTEM SIZE - AC (AT INVERTER)	79.80 MW
SYSTEM SIZE - AC (AT POI)	70.08 MW
DC/AC (AT INVERTER)	1.23
DC/AC (AT POI)	1.40
DC SYSTEM VOLTAGE	1500 V
MODULE MODEL	CSI Module
MODULE RATING	490 W
MODULE QUANTITY	200,226
STRINGS (26 MODULES PER STRING)	7,701
INVERTER MODEL	TMEIC
INVERTER RATING (MVA @50C) (kVA)	4.2
INVERTER QUANTITY	19
RACKING SYSTEM	ATI DuraTrack HZ v3 Tracker – assume 2-st ring and 3-string tracker rows.
ROW SPACING	26.48'
GCR	28%

NOTES:

1. PROJECT AREAS ARE SUBJECT TO CHANGE PENDING FUTURE DESIGN CONSTRAINTS

Westwood

Phone (952) 937-5150
Fax (952) 937-5822
TollFree (888) 937-5150

12701 Whitewater Drive, Suite #300
Minnetonka, MN 55343
westwoodps.com

Westwood Professional Services, Inc.

PREPARED FOR:

RECURRENT ENERGY
A subsidiary of Canadian Solar

3000 E Cesar Chavez, Ste. 400
Austin, TX 78702

REVISIONS:

0	10/06/2021	PRELIMINARY SITE PLAN

0' 1000' 2000' 3000'

Blue Moon Solar

Harrison County, Kentucky

Overall Site Plan

NOT FOR CONSTRUCTION

DATE: 10/06/2021

SHEET: C.200

SAR EXHIBIT B

Kirkland
Appraisals, LLC

Richard C. Kirkland, Jr., MAI
9408 Northfield Court
Raleigh, North Carolina 27603
Phone (919) 414-8142
rkirkland2@gmail.com
www.kirklandappraisals.com

July 31, 2021

Chad Martin
Cardno
76 San Marcos Street
Austin, Texas 78702

RE: Blue Moon Solar Project, Harrison County, KY

Mr. Martin,

At your request, I have considered the impact of a 70 MW solar farm proposed to be constructed on 949.87 acres out of a parent tract assemblage of 1,113.07 acres on Ruddles Mill Road, Cynthiana, Harrison County, Kentucky. Specifically, I have been asked to give my professional opinion on whether the proposed solar farm will have any impact on adjoining property value and whether "the location and character of the use, if developed according to the plan as submitted and approved, will be in harmony with the area in which it is to be located."

To form an opinion on these issues, I have researched and visited existing and proposed solar farms in Kentucky as well as other states, researched articles through the Appraisal Institute and other studies, and discussed the likely impact with other real estate professionals. I have not been asked to assign any value to any specific property.

This letter is a limited report of a real property appraisal consulting assignment and subject to the limiting conditions attached to this letter. My client is Cardno represented to me by Chad Martin. My findings support the Kentucky Siting Board Application. The effective date of this consultation is July 31, 2021.

While based in NC, I am also a Kentucky State Certified General Appraiser #5522.

Conclusion

The adjoining properties have sufficient setbacks from the proposed solar panels and supplemental vegetation is proposed to enhance the areas where the existing trees are insufficient to provide a proper screen.

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.

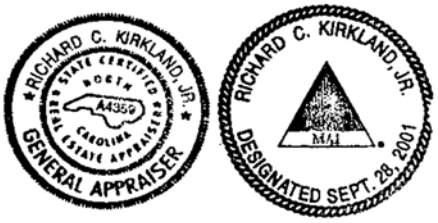
Data from the university studies, broker commentary, and other appraisal studies support a finding of no impact on property value adjoining a solar farm with proper setbacks and landscaped buffers.

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.

If you have any questions please contact me.

Sincerely,



Richard C. Kirkland, Jr., MAI
Kentucky Certified General Appraiser #5522

Table of Contents

I. Proposed Project and Adjoining Uses

Proposed Use Description

This 70 MW solar farm proposed to be constructed on 949.87 acres out of a parent tract assemblage of 1,113.07 acres on Ruddles Mill Road, Cynthiana, Harrison County, Kentucky. Adjoining land is a mix of residential and agricultural uses, which is very typical of solar farm sites.

Adjoining Properties

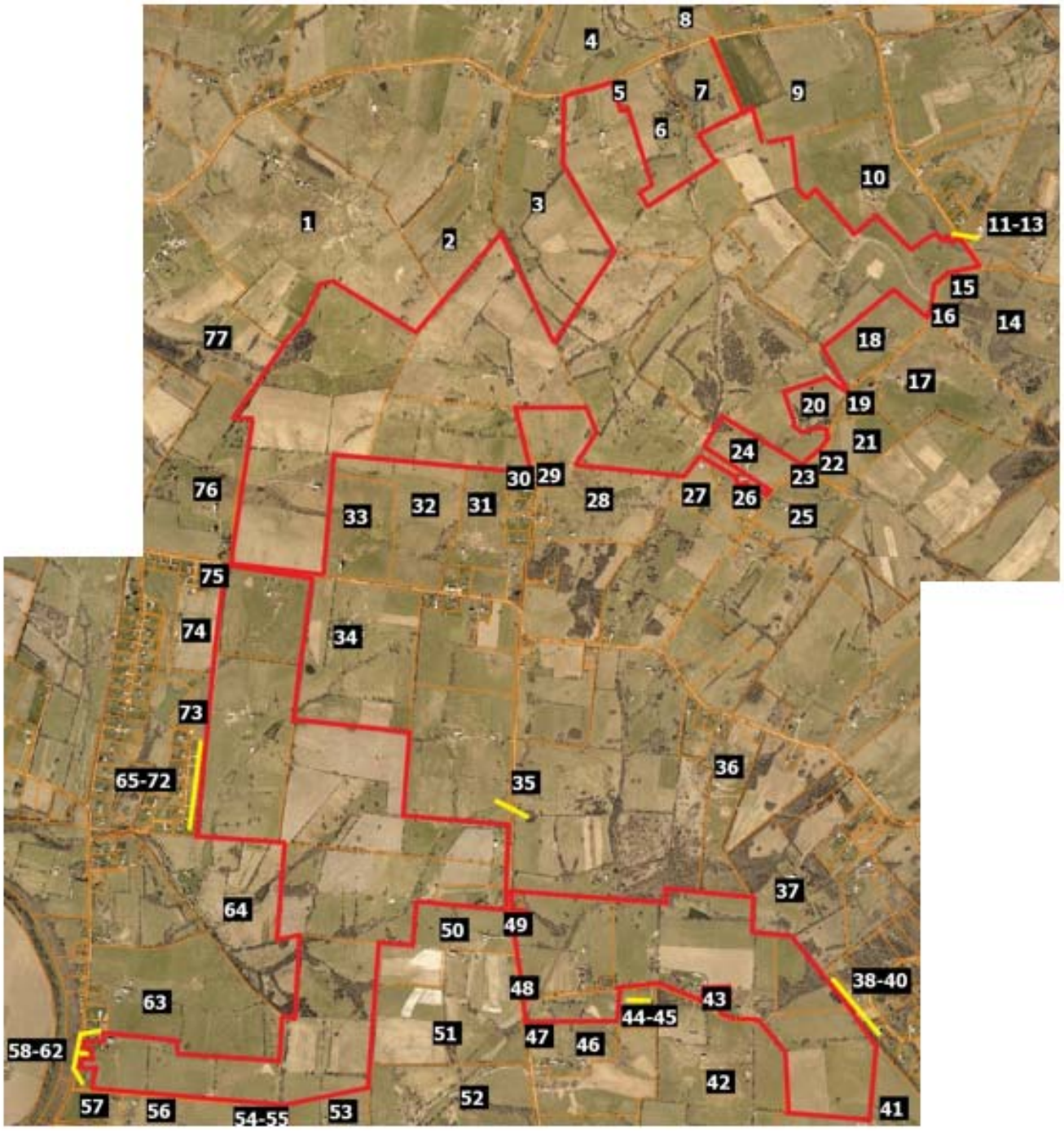
I have considered adjoining uses and included a map to identify each parcel's location. The closest adjoining home will be 250 feet from the closest solar panel and the average distance to adjoining homes will be 1,545 feet to the nearest solar panel. These setbacks are much larger than what is typically found and will go beyond what is needed to protect adjoining property values.

The breakdown of those uses by acreage and number of parcels is summarized below.

Adjoining Use Breakdown

	Acreage	**Parcels**
Residential	5.86%	53.25%
Agricultural	54.99%	23.38%
Agri/Res	39.15%	23.38%
Total	**100.00%**	**100.00%**

Tax Parcel Map



Surrounding Uses

#	MAP ID	Owner	GIS Data Acres	Present Use	Distance (ft) Home/Panel	L.F Adjacent	Fair Cash Value
1	115-0000-038-00-000	MSJ	196.09	Agricultural	N/A	3,580	$618,944
2	128-0000-003-00-000	Bradford	66.59	Agri/Res	3,185	1,410	$377,471
3	128-0000-007-00-000	Florence	99.09	Agricultural	N/A	6,350	$429,200
4	128-0000-004-00-000	Nichols	82.00	Agri/Res	3,055	755	$283,930
5	128-0000-009-00-000	Fowler	1.72	Residential	2,505	631	$138,935
6	128-0000-010-00-000	Thomas	40.00	Agri/Res	1,650	3,495	$235,030
7	128-0000-013-01-000	Whalen	25.49	Agricultural	N/A	1,982	$256,178
8	128-0000-012-00-000	Nichols	30.00	Agricultural	N/A	34	$104,210
9	128-0000-016-00-000	Bradford	92.00	Agricultural	N/A	2,413	$350,390
10	128-0000-025-00-000	Obryan	70.65	Agri/Res	870	4,065	$269,200
11	128-0000-026-00-000	Wiglesworth	0.58	Residential	N/A	255	$10,000
12	140-0000-009-03-000	Corbin	5.53	Residential	2,450	235	$40,500
13	141-0000-005-01-000	Hostetler	80.00	Agri/Res	2,370	440	$316,900
14	141-0000-004-00-000	Berry	110.00	Agri/Res	3,641	774	$241,886
15	141-0000-003-00-000	Arnold	2.16	Residential	2,105	227	$76,800
16	141-0000-002-00-000	Brewer	2.03	Residential	1,940	305	$172,000
17	129-0000-023-00-000	Whitaker	65.00	Agricultural	N/A	1	$227,260
18	129-0000-023-02-000	Moore	29.32	Agri/Res	1,060	2,975	$295,000
19	129-0000-023-01-000	May	6.86	Residential	1,450	35	$215,000
20	129-0000-022-00-000	Reno	13.75	Residential	1,385	2,350	$166,483
21	129-0000-023-03-000	Whitaker	19.08	Residential	N/A	305	$56,455
22	129-0000-023-04-000	Sparks	4.88	Residential	N/A	420	$25,000
23	129-0000-021-00-000	Dampier	0.95	Residential	2,375	1	$95,165
24	129-0000-019-02-000	Midden	19.35	Residential	2,315	3,325	$410,077
25	129-0000-020-00-000	Moore	50.00	Agri/Res	2,840	65	$232,870
26	129-0000-019-01-000	Carrel	9.40	Residential	2,910	1,160	$228,054
27	129-0000-016-00-000	Batte	14.71	Residential	2,845	580	$280,000
28	129-0000-007-01-000	Cook	131.60	Agricultural	N/A	4,685	$284,200
29	129-0000-008-00-000	Cook	3.51	Residential	705	130	$169,300
30	129-0000-002-06-000	Zimmerman	2.02	Residential	665	400	$178,900
31	129-0000-002-00-000	Craycraft	40.81	Agri/Res	2,075	680	$342,975
32	116-0000-011-03-000	Craycraft	51.23	Agricultural	N/A	2,400	$133,960
33	116-0000-011-04-000	Bennett	39.14	Agricultural	N/A	1,605	$178,096
34	116-0000-012-00-000	McGee	100.00	Agri/Res	670	4,215	$459,610
35	130-0000-001-00-000	McGee	311.11	Agricultural	N/A	7,400	$1,298,545
36	130-0000-017-00-000	McCloskey	36.81	Agri/Res	2,180	880	$280,000
37	130-0000-020-05-000	Hemlock	70.25	Agri/Res	1,080	1,950	$332,585
38	130-0000-026-00-000	Ingram	5.05	Residential	435	855	$204,910
39	130-0000-032-02-000	Sing	2.02	Residential	250	285	$41,500
40	130-0000-032-01-000	Sanders	2.00	Residential	350	255	$189,375
41	130-0000-022-00-000	Perraut	90.97	Agri/Res	1,190	2,600	$489,487
42	130-0000-013-00-000	Clyde	166.20	Agricultural	N/A	3,070	$628,500
43	130-0000-012-02-000	Asher	3.39	Residential	460	1,155	$340,000
44	130-0000-007-01-000	Mcilvain	5.11	Residential	680	310	$195,622
45	130-0000-007-02-000	Grayson	5.11	Residential	590	290	$48,000
46	130-0000-007-00-000	Rose	25.50	Agri/Res	1,605	1,160	$240,000
47	130-0000-007-05-000	Rose	2.13	Residential	1,605	340	$140,758
48	130-0000-010-02-000	Owsley	1.46	Residential	1,455	545	$111,580
49	130-0000-010-01-000	Carter	2.00	Residential	1,670	830	$158,320

#	MAP ID	Owner	GIS Data Acres	Present Use	Distance (ft) Home/Panel	L.F Adjacent	Fair Cash Value
50	130-0000-005-00-000	Whitaker	40.00	Agri/Res	1,335	3,460	$295,895
51	130-0000-006-00-000	Whitaker	89.00	Agricultural	N/A	1,210	$346,050
52	130-0000-008-00-000	Curtis	100.27	Agri/Res	960	390	$337,500
53	117-0000-025-00-000	Mckee	84.11	Agri/Res	825	1,400	$316,870
54	117-0000-024-04-000	Mckee	2.00	Residential	320	150	$110,000
55	117-0000-024-01-000	Stinson	40.64	Agricultural	N/A	550	$174,983
56	117-0000-024-03-000	Saurer	28.78	Agricultural	N/A	1,915	$106,303
57	117-0000-024-02-000	Grinstead	12.52	Residential	2,775	475	$145,438
58	117-0000-022-02-000	Moore	2.46	Residential	3,205	660	$225,370
59	117-0000-020-00-000	Lucky	11.00	Residential	3,320	215	$106,000
60	117-0000-023-00-000	Mckee	0.95	Residential	3,145	550	$170,720
61	117-0000-022-01-000	Neace	0.77	Residential	3,085	430	$89,400
62	117-0000-021-00-000	Lemons	2.07	Residential	3,140	40	$156,000
63	117-0000-008-02-000	Boone	104.78	Agricultural	N/A	3,765	$412,012
64	117-0000-008-00-000	Lusby	91.92	Agri/Res	785	4,910	$395,096
65	117-0000-045-00-000	Ishmael	1.20	Residential	450	1	$148,846
66	117-0000-044-00-000	Royalty	1.80	Residential	360	375	$195,500
67	117-0000-043-00-000	Simpson	1.26	Residential	375	185	$140,000
68	117-0000-042-00-000	Stubbs	1.26	Residential	350	245	$143,000
69	117-0000-041-00-000	Gasser	1.26	Residential	N/A	170	$26,000
70	117-0000-040-00-000	Vallandingham	1.26	Residential	340	185	$284,015
71	117-0000-039-00-000	Landrum	1.26	Residential	300	175	$178,600
72	117-0000-038-00-000	Kinsey	1.46	Residential	300	185	$208,125
73	116-0000-009-09-000	Martin	29.26	Agricultural	N/A	1,100	$283,000
74	116-0000-010-00-000	Wade	23.48	Agricultural	N/A	1,480	$138,760
75	116-0000-010-01-000	Anderson	1.74	Residential	550	280	$152,080
76	116-0000-011-00-000	Levi	1.98	Residential	435	3,235	$102,500
77	116-0000-001-00-000	Colson	175.59	Agricultural	N/A	925	$656,952
		Total	**3088.730**		1,545	1,336	$242,132

N/A indicates that there is no adjoining home to which to measure.

Linear feet of adjacency listed in red means that the property is across a right of way from the subject property.

Linear feet of adjacency of 1 foot was assigned where properties meet at a corner.

The Fair Cash Value was derived from the Harrison County PVA website and the map and parcel information was derived from the Harrison County GIS/PVA website.

II. Methodology and Discussion of Issues

Standards and Methodology

I conducted this analysis using the standards and practices established by the Appraisal Institute and that conform to the Uniform Standards of Professional Appraisal Practice. The analyses and methodologies contained in this report are accepted by all major lending institutions, and they are used in Kentucky and across the country as the industry standard by certified appraisers conducting appraisals, market analyses, or impact studies and are considered adequate to form an opinion of the impact of a land use on neighboring properties. These standards and practices have also been accepted by the courts at the trial and appellate levels and by federal courts throughout the country as adequate to reach conclusions about the likely impact a use will have on adjoining or abutting properties.

The aforementioned standards compare property uses in the same market and generally within the same calendar year so that fluctuating markets do not alter study results. Although these standards do not require a linear study that examines adjoining property values before and after a new use (e.g. a solar farm) is developed, some of these studies do in fact employ this type of analysis. Comparative studies, as used in this report, are considered an industry standard.

The type of analysis employed is a Matched Pair Analysis or Paired Sales Analysis. This methodology is outlined in **The Appraisal of Real Estate**, Twelfth Edition by the Appraisal Institute pages 438-439. It is further detailed in **Real Estate Damages**, Third Edition, pages 33-36 by Randall Bell PhD, MAI. Paired sales analysis is used to support adjustments in appraisal work for factors ranging from the impact of having a garage, golf course view, or additional bedrooms. It is an appropriate methodology for addressing the question of impact of an adjoining solar farm. The paired sales analysis is based on the theory that when two properties are in all other respects equivalent, a single difference can be measured to indicate the difference in price between them. Dr. Bell describes it as comparing a test area to control areas. In the example provided by Dr. Bell he shows five paired sales in the test area compared to 1 to 3 sales in the control areas to determine a difference. I have used 3 sales in the control areas in my analysis for each sale developed into a matched pair.

Determining what is an External Obsolescence

An external obsolescence is a use of property that, because of its characteristics, might have a negative impact on the value of adjacent or nearby properties because of identifiable impacts. Determining whether a use would be considered an external obsolescence requires a study that isolates that use, eliminates any other causing factors, and then studies the sales of nearby versus distant comparable properties. The presence of one or a combination of key factors does not mean the use will be an external obsolescence, but a combination of these factors tend to be present when market data reflects that a use is an external obsolescence.

External obsolescence is evaluated by appraisers based on several factors. These factors include but are not limited to:

1) Traffic. Solar Farms are not traffic generators.

2) Odor. Solar farms do not produce odor.

3) Noise. Solar farms generate no noise concerns and are silent at night.

4) Environmental. Solar farms do not produce toxic or hazardous waste. Grass is maintained underneath the panels so there is minimal impervious surface area.

5) Appearance/Viewshed. This is the one area that potentially applies to solar farms. However, solar farms are generally required to provide significant setbacks and landscaping buffers to address that concern. Furthermore, any consideration of appearance of viewshed impacts has to be considered in comparison with currently allowed uses on that site. For example if a residential subdivision is already an allowed use, the question becomes in what way does the appearance impact adjoining property owners above and beyond the appearance of that allowed subdivision or other similar allowed uses.

6) Other factors. I have observed and studied many solar farms and have never observed any characteristic about such facilities that prevents or impedes neighbors from fully using their homes or farms or businesses for the use intended.

Relative Solar Farm Sizes

Solar farms have been increasing in size in recent years. Much of the data collected is from existing, older solar farms of smaller size, but there are numerous examples of sales adjoining 75 to 80 MW facilities that show a similar trend as the smaller solar farms. This is understandable given that the primary concern relative to a solar farm is the appearance or view of the solar farm, which is typically addressed through setbacks and landscaping buffers. The relevance of data from smaller solar farms to larger solar farms is due to the primary question being one of appearance. If the solar farm is properly screened, then little of the solar farm would be seen from adjoining property regardless of how many acres are involved.

Larger solar farms are often set up in sections where any adjoining owner would only be able to see a small section of the project even if there were no landscaping screen. Once a landscaping screen is in place, the primary view is effectively the same whether you are adjoining a 5 MW, 20 MW or 100 MW facility.

I have split out the data for the matched pairs adjoining larger solar farms only to illustrate the similarities later in this report. I note that I have matched pairs adjoining solar farms up to 620 MWs in size showing no impact on property value.

Steps Involved in the Analysis

The paired sales analysis employed in this report follows the following process:

1. Identify sales of property adjoining existing solar farms.
2. Compare those sales to similar property that does not adjoin an existing solar farm.
3. Confirmation of sales are noted in the analysis write ups.
4. Distances from the homes to panels are included as a measure of the setbacks.
5. Topographic differences across the solar farms themselves are likewise noted along with demographic data for comparing similar areas.

There are a number of Sale/Resale comparables included in the write ups, but most of the data shown is for sales of homes after a solar farm has been announced (where noted) or after a solar farm has been constructed.

III. Research on Solar Farms

A. Appraisal Market Studies

I have also considered a number of impact studies completed by other appraisers as detailed below.

CohnReznick – Property Value Impact Study: Adjacent Property Values Solar Impact Study: A Study of Eight Existing Solar Facilities

Patricia McGarr, MAI, CRE, FRICS, CRA and Andrew R. Lines, MAI with CohnReznick completed an impact study for a proposed solar farm in Cheboygan County, Michigan completed on June 10, 2020. I am familiar with this study as well as a number of similar such studies completed by CohnReznick. I have not included all of these studies but I submit this one as representative of those studies.

This study addresses impacts on value from eight different solar farms in Michgian, Minnesota, Indina, Illinois, Virginia and North Carolina. These solar farms are 19.6 MW, 100 MW, 11.9 MW, 23 MW, 71 MW, 61 MW, 40 MW, and 19 MW for a range from 11.9 MW to 100 MW with an average of 31 MW and a median of 31.5 MW. They analyzed a total of 24 adjoining property sales in the Test Area and 81 comparable sales in the Control Area over a five-year period.

The conclusion of this study is that there is no evidence of any negative impact on adjoining property values based on sales prices, conditions of sales, overall marketability, potential for new development or rate of appreciation.

Christian P. Kaila & Associates – Property Impact Analysis – Proposed Solar Power Plant Guthrie Road, Stuarts Draft, Augusta County, Virginia

Christian P. Kaila, MAI, SRA and George J. Finley, MAI developed an impact study as referenced above dated June 16, 2020. This was for a proposed 83 MW facility on 886 acres.

Mr. Kaila interviewed appraisers who had conducted studies and reviewed university studies and discussed the comparable impacts of other development that was allowed in the area for a comparative analysis of other impacts that could impact viewshed based on existing allowed uses for the site. He also discussed in detail the various other impacts that could cause a negative impact and how solar farms do not have such characteristics.

Mr. Kaila also interviewed County Planners and Real Estate Assessor's in eight different Virginia counties with none of the assessor's identifying any negative impacts observed for existing solar projects.

Mr. Kaila concludes on a finding of no impact on property values adjoining the indicated solar farm.

Fred Beck, MAI, CCIM – Impact Analysis in Lincoln County 2013

Mr. Fred Beck, MAI, CCIM completed an impact analysis in 2013 for a proposed solar farm that concluded on a negative impact on value. That report relied on a single cancelled contract for an adjoining parcel where the contracted buyers indicated that the solar farm was the reason for the cancellation. It also relied on the activities of an assessment impact that was applied in a nearby county.

Mr. Beck was interviewed as part of the Christian Kalia study noted above. From that I quote "Mr. Beck concluded on no effect on moderate priced homes, and only a 5% change in his limited research of higher priced homes. His one sale that fell through is hardly a reliable sample. It also was misleading on Mr. Beck's part to report the lower re-assessments since the primary cause of the

re-assesments were based on the County Official, who lived adjacent to the solar farm, appeal to the assessor for reductions with his own home." In that Clay County Case study the noted lack of lot sales after announcement of the solar farm also coincided with the recession in 2008/2009 and lack of lot sales effectively defined that area during that time.

I further note, that I was present at the hearing where Mr. Beck presented these findings and the predominance of his argument before the Lincoln County Board of Commissioner's was based on the one cancelled sale as well as a matched pair analysis of high-end homes adjoining a four-story call center. He hypothesized that a similar impact from that example could be compared to being adjacent solar farm without explaining the significant difference in view, setbacks, landscaping, traffic, light, and noise. Furthermore, Mr. Beck did have matched pairs adjoining a solar farm in his study that he put in the back of his report and then ignored as they showed no impact on property value.

Also noted in the Christian Kalia interview notes is a response from Mr. Beck indicating that in his opinion "the homes were higher priced homes and had full view of the solar farm." Based on a description of screening so that "the solar farm would not be in full view to adjoining property owners. Mr. Beck said in that case, he would not see any drop in property value."

NorthStar Appraisal Company – Impact Analysis for Nichomus Run Solar, Pilesgrove, NJ, September 16, 2020

Mr. William J. Sapio, MAI with NorthStar Appraisal Company considered a matched pair analysis for the potential impact on adjoining property values to this proposed 150 MW solar farm. Mr. Sapio considered sales activity in a subdivision known as Point of Woods in South Brunswick Township and identified two recent new homes that were constructed and sold adjoining a 13 MW solar farm and compared them to similar homes in that subdivision that did not adjoin the solar farm. These homes sold in the $1,290,450 to $1,336,613 price range and these homes were roughly 200 feet from the closest solar panel.

Based on this analysis, he concluded that the adjoining solar farm had no impact on adjoining property value.

Conclusion of Impact Studies

Of the four studies noted two included actual sales data to derive an opinion of no impact on value. The only study to conclude on a negative impact was the Fred Beck study based on no actual sales data, and he has since indicated that with landscaping screens he would not conclude on a negative impact.

I have relied on these studies as additional support for the findings in this impact analysis.

B. Articles

I have also considered a number of articles on this subject as well as conclusions and analysis as noted below.

Farm Journal Guest Editor, March 22, 2021 – Solar's Impact on Rural Property Values

Andy Ames, ASFMRA (American Society of Farm Managers and Rural Appraisers) published this article that includes a discussion of his survey of appraisers and studies on the question of property value related to solar farms. He discusses the university studies that I have cited as well as Patricia McGarr, MAI.

He also discusses the findings of Donald A. Fisher, ARA, who served six years at the Chair of the ASFMRA's National Appraisal Review Committee. He is also the Executive Vice President of the CNY

Pomeroy Appraiser and has conducted several market studies on solar farms and property impact. He is quoted in the article as saying, "Most of the locations were in either suburban or rural areas, and all of those studies found either a neutral impact, or ironically, a positive impact, where values on properties after installation of solar farms went up higher than time trends."

Howard Halderman, AFM, President and CEO of Halderman Real Estate and Farm Management attended the ASFMRA solar talk hosted by the Indiana Chapter of the ASFMRA and he concludes that other rural properties would likely see no impact and farmers and landowners shown even consider possible benefits. "In some cases, farmers who rent land to a solar company will insure the viability of their farming operation for a longer time period. This makes them better long-term tenants or land buyers so one can argue that higher rents and land values will follow due to the positive impact the solar leases offer."

National Renewable Energy Laboratory – Top Five Large-Scale Solar Myths, February 3, 2016

Megan Day reports from NREL regarding a number of concerns neighbors often express. Myth #4 regarding property value impacts addresses specifically the numerous studies on wind farms that show no impact on property value and that solar farms have a significantly reduced visual impact from wind farms. She highlights that the appearance can be addressed through mitigation measures to reduce visual impacts of solar farms through vegetative screening. Such mitigations are not available to wind farms given the height of the windmills and again, those studies show no impact on value adjoining wind farms.

North Carolina State University: NC Clean Energy Technology Center White Paper: Balancing Agricultural Productivity with Ground-Based Solar Photovoltaic (PV) Development (Version 2), May 2019

Tommy Cleveland and David Sarkisian wrote a white paper for NCSU NC Clean Energy Technology Center regarding the potential impacts to agricultural productivity from a solar farm use. I have interviewed Tommy Cleveland on numerous occasions and I have also heard him speak on these issues at length as well. He addresses many of the common questions regarding how solar farms work and a detailed explanation of how solar farms do not cause significant impacts on the soils, erosion and other such concerns. This is a heavily researched paper with the references included.

North Carolina State University: NC Clean Energy Technology Center White Paper: Health and Safety Impacts of Solar Photovoltaics, May 2017

Tommy Cleveland wrote a white paper for NCSU NC Clean Energy Technology Center regarding the health and safety impacts to address common questions and concerns related to solar farms. This is a heavily researched white paper addressing questions ranging from EMFs, fire safety, as well as vegetation control and the breakdown of how a solar farm works.

C. Broker Commentary

In the process of working up the matched pairs used later in this report, I have collected comments from brokers who have actually sold homes adjoining solar farms indicating that the solar farm had no impact on the marketing, timing, or sales price for the adjoining homes. I have comments from 12 such brokers within this report including brokers from Kentucky, Virginia, Tennessee, and North Carolina.

I have additional commentary from other states including New Jersey and Michigan that provide the same conclusion.

IV. University Studies

I have also considered the following studies completed by four different universities related to solar farms and impacts on property values.

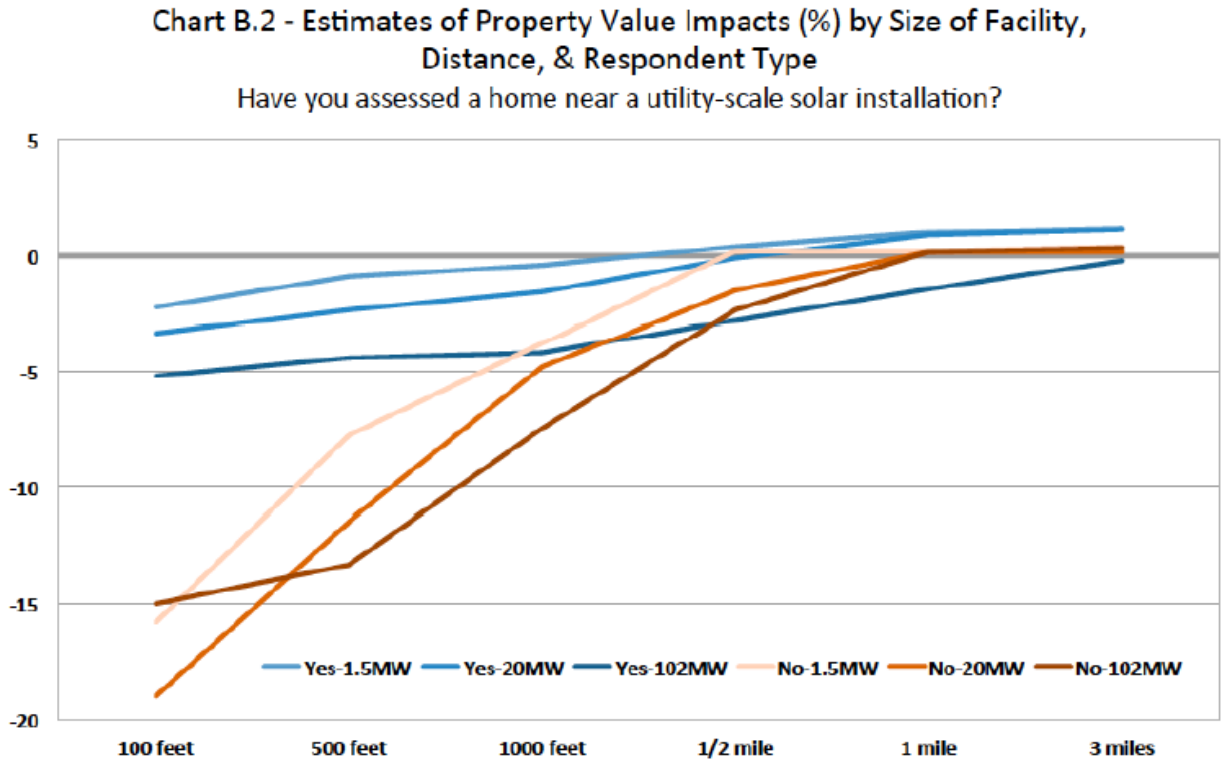
A. *University of Texas at Austin, May 2018*

An Exploration of Property-Value Impacts Near Utility-Scale Solar Installations

This study considers solar farms from two angles. First it looks at where solar farms are being located and concludes that they are being located primarily in low density residential areas where there are fewer homes than in urban or suburban areas.

The second part is more applicable in that they conducted a survey of appraisers/assessors on their opinions of the possible impacts of proximity to a solar farm. They consider the question in terms of size of the adjoining solar farm and how close the adjoining home is to the solar farm. I am very familiar with this part of the study as I was interviewed by the researchers multiple times as they were developing this. One very important question that they ask within the survey is very illustrative. They asked if the appraiser being surveyed had ever appraised a property next to a solar farm. There is a very noticeable divide in the answers provided by appraisers who have experience appraising property next to a solar farm versus appraisers who self-identify as having no experience or knowledge related to that use.

On Page 16 of that study they have a chart showing the responses from appraisers related to proximity to a facility and size of the facility, but they separate the answers as shown below with appraisers with experience in appraising properties next to a solar farm shown in blue and those inexperienced shown in brown. Even within 100 feet of a 102 MW facility the response from experienced appraisers were -5% at most on impact. While inexperienced appraisers came up with significantly higher impacts. This chart clearly shows that an uninformed response widely diverges from the sales data available on this subject.



Furthermore, the question cited above does not consider any mitigating factors such as landscaping buffers or screens which would presumably reduce the minor impacts noted by experienced appraisers on this subject.

The conclusion of the researchers is shown on Page 23 indicated that "Results from our survey of residential home assessors show that the majority of respondents believe that proximity to a solar installation has either no impact or a positive impact on home values."

This analysis supports the conclusion of this report that the data supports no impact on adjoining property values.

B. University of Rhode Island, September 2020

Property Value Impacts of Commercial-Scale Solar Energy in Massachusetts and Rhode Island

The University of Rhode Island published a study entitled **Property Value Impacts of Commercial-Scale Solar Energy in Massachusetts and Rhode Island** on September 29, 2020 with lead researchers being Vasundhara Gaur and Corey Lang. I have read that study and interviewed Mr. Corey Lang related to that study. This study is often cited by opponents of solar farms but the findings of that study have some very specific caveats according to the report itself as well as Mr. Lang from the interview.

While that study does state in the Abstract that they found depreciation of homes within 1-mile of a solar farm, that impact is limited to non-rural locations. On Pages 16-18 of that study under Section 5.3 Heterogeneity in treatment effect they indicate that the impact that they found was limited to non-rural locations with the impact in rural locations effectively being zero. For the study they defined "rural" as a municipality/township with less than 850 population per square mile.

They further tested the robustness of that finding and even in areas up to 2,000 population per square mile they found no statistically significant data to suggest a negative impact. They have not specifically defined a point at which they found negative impacts to begin, as the sensitivity study stopped checking at the 2,000-population per square mile.

Where they did find negative impacts was in high population density areas that was largely a factor of running the study in Massachusetts and Rhode Island which the study specifically cites as being the 2nd and 3rd most population dense states in the USA. Mr. Lang in conversation as well as in recorded presentations has indicated that the impact in these heavily populated areas may reflect a loss in value due to the scarce greenery in those areas and not specifically related to the solar farm itself. In other words, any development of that site might have a similar impact on property value.

Based on this study I have checked the population for the Cynthiana CCD of Harrison County, which has a population of 13,686 for 2020 based on SiteToDoBusiness by ESRI and a total area of 138.6 square miles. This indicates a population density of 99 people per square mile which puts this well below the threshold indicated by the Rhode Island Study. I also checked the censusreporter.org website which indicated a population of 13,607 as of 2019 with a population density of 98.2 people per square mile.

I therefore conclude that the Rhode Island Study supports the indication of no impact on adjoining properties for the proposed solar farm project.

C. Master's Thesis: ECU by Zachary Dickerson July 2018

A Solar Farm in *My* Backyard? Resident Perspectives of Utility-Scale Solar in Eastern North Carolina

This study was completed as part of a Master of Science in Geography Master's Thesis by Zachary Dickerson in July 2018. This study sets out to address three questions:

1. Are there different aspects that affect resident satisfaction regarding solar farms?
2. Are there variations in satisfaction for residents among different geographic settings, e.g. neighborhoods adjacent to the solar farms or distances from the solar farms?
3. How can insight from both the utility and planning sectors, combined with knowledge gained from residents, fill gaps in communication and policy writing in regard to solar farms?

This was done through survey and interview with adjacent and nearby neighbors of existing solar farms. The positive to neutral comments regarding the solar farms were significantly higher than negative. The researcher specifically indicates on Page 46 "The results show that respondents generally do not believe the solar farms pose a threat to their property values."

The most negative comments regarding the solar farms were about the lack of information about the approval process and the solar farm project prior to construction.

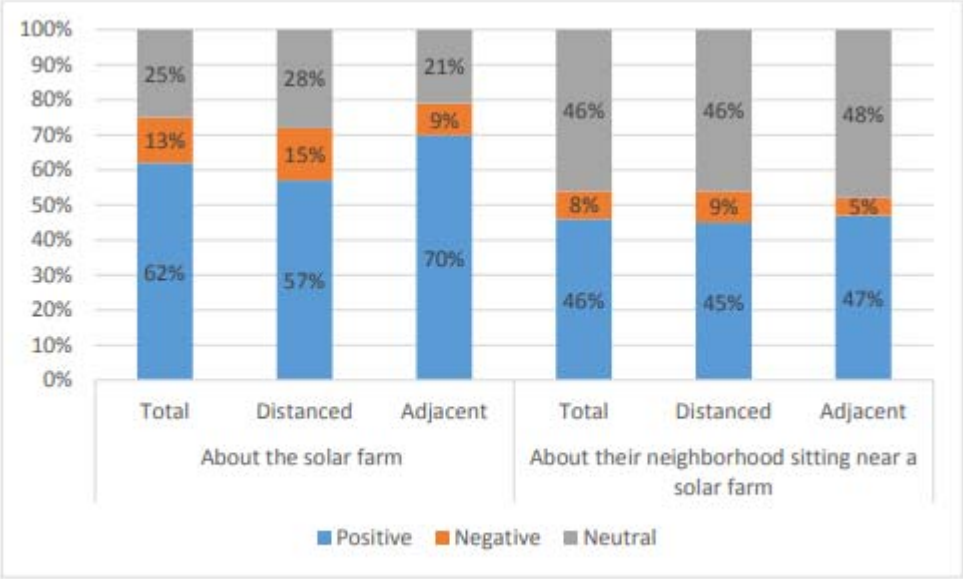


Figure 11: Residents' positive/negative word choices by geographic setting for both questions

D. Ernest Orlando Lawrence Berkeley National Laboratory, December, 2019

The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-Site Hedonic Analysis

This study addresses wind farms and not solar farms but it is a reasonable consideration. The activity on a wind farm is significantly different in terms of the mechanics and more particularly on the appearance or viewshed as wind farms cannot be screened from adjoining property owners. This study was commissioned by the Department of Energy and not by any developer. This study examined 7,500 home sales between 1996 and 2007 in order to track sales prices both before and after a wind energy facility was announced or built. This study specifically looked into possible stigma, nuisance, and scenic vista.

On page 17 of that study they conclude "Although the analysis cannot dismiss the possibility that individual homes or small numbers of homes have been or could be negatively impacted, it finds that if these impacts do exist, they are either too small and/or too infrequent to result in any widespread, statistically observable impact."

Given that solar farms are a similar use, but with a lower profile and therefore a lower viewshed than the wind farms, it is reasonable to translate these findings of no impact to solar farms.

V. Summary of Solar Projects in Kentucky

I have researched the solar projects in Kentucky. I identified the solar farms through the Solar Energy Industries Association (SEIA) Major Projects List and then excluded the roof mounted facilities. This leaves only six solar farms in Kentucky for analysis at this time.

One of these six solar farms has limited analysis potential: E.W. Brown near Harrodsburg in Mercer County. 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 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. Recent sales in this area range from $164,000 to $212,000 for these waterfront homes. Again, no usable data can be derived from this solar farm due to the adjoining coal fired plant.

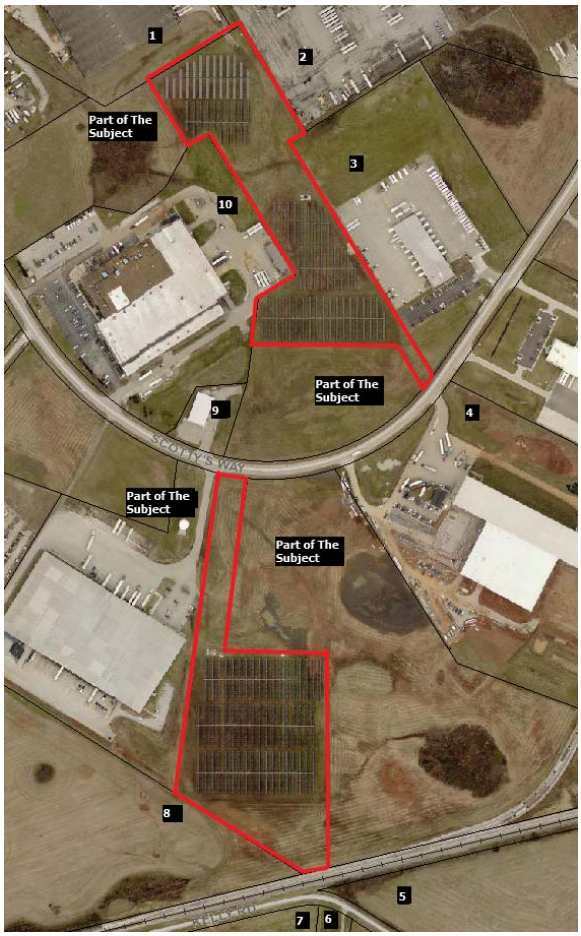
Furthermore, the Cooperative solar farm in Shelby County is a 0.5 MW facility on 35 acres built in 2020 that is proposed to eventually be 4 MW. This project is too new and there have been no home sales adjoining this facility. I also cannot determine how close the nearby homes are to the adjoining solar panels as the aerial imagery does not yet show these panels.

I have provided a summary of projects below and additional detailed information on the projects on the following pages. I specifically note the similarity in most of the sites in Kentucky in terms of mix of adjoining uses, topography, and distances to adjoining homes.

The number of solar farms currently in Kentucky is low compared to a number of other states and North Carolina in particular. I have looked at solar farms in Kentucky for sales activity, but the small number of sites coupled with the relatively short period of time these solar farms have been in place has not provided as many examples of sales adjoining a solar farm as I am able to pull from other places. I have therefore also considered sales in other states, but I have shown in the summary how the demographics around the solar farms in other locations relate to the demographics around the proposed solar farm to show that generally similar locations are being considered. The similarity of the sites in terms of adjoining uses and surrounding demographics makes it reasonable to compare the lack of significant impacts in other areas would translate into a similar lack of significant impacts at the subject site.

Parcel #	State	County	City	Name	Output (MW)	Total Acres	Used Acres	Avg. Dist to home	Closest Home	Adjoining Use by Acre					Adjoining Use by Number				
										Res	Agri	Agri/Res	Com		Residen	Agricul	Comm/Ind	%	
610	KY	Warren	Bowling Green	Bowling Green	2	17.36	17.36	720	720	1%	64%	0%	36%	100%	10%	30%	60%	100%	
611	KY	Clark	Winchester	Cooperative Solar I	8.5	181.47	63	2,110	2,040	0%	96%	3%	0%	100%	22%	78%	0%	100%	
612	KY	Kenton	Walton	Walton 2	2	58.03	58.03	891	120	21%	0%	60%	19%	100%	65%	0%	35%	100%	
613	KY	Grant	Crittenden	Crittenden	2.7	181.7	34.1	1,035	345	22%	27%	51%	0%	100%	96%	4%	0%	100%	
617	KY	Metcalfe	Summer Shade	Glover Creek		968.2	322.4	1,731	375	6%	25%	69%	0%	100%	83%	17%	0%	100%	
618	KY	Garrard	Lancaster	Turkey Creek		752.8	297.1	976	240	8%	36%	51%	5%	100%	73%	12%	15%	100%	
		Total Number of Solar Farms			6														
				Average	3.80	359.9	132.0	1244	640	9%	41%	39%	10%		58%	24%	18%		
				Median	2.35	181.6	60.5	1006	360	7%	32%	51%	3%		69%	14%	7%		
				High	8.50	968.2	322.4	2110	2040	22%	96%	69%	36%		96%	78%	60%		
				Low	2.00	17.4	17.4	720	120	0%	0%	0%	0%		3%	0%	0%		

610: Bowling Green Solar, Bowling Green, KY



This project was built in 2011 and located on 17.36 acres for a 2 MW project on Scotty's Way with the adjoining uses being primarily industrial. The closest dwelling is 720 feet from the nearest panel.

Adjoining Use Breakdown

	Acreage	Parcels
Residential	0.58%	10.00%
Agricultural	63.89%	30.00%
Industrial	35.53%	60.00%
Total	**100.00%**	**100.00%**

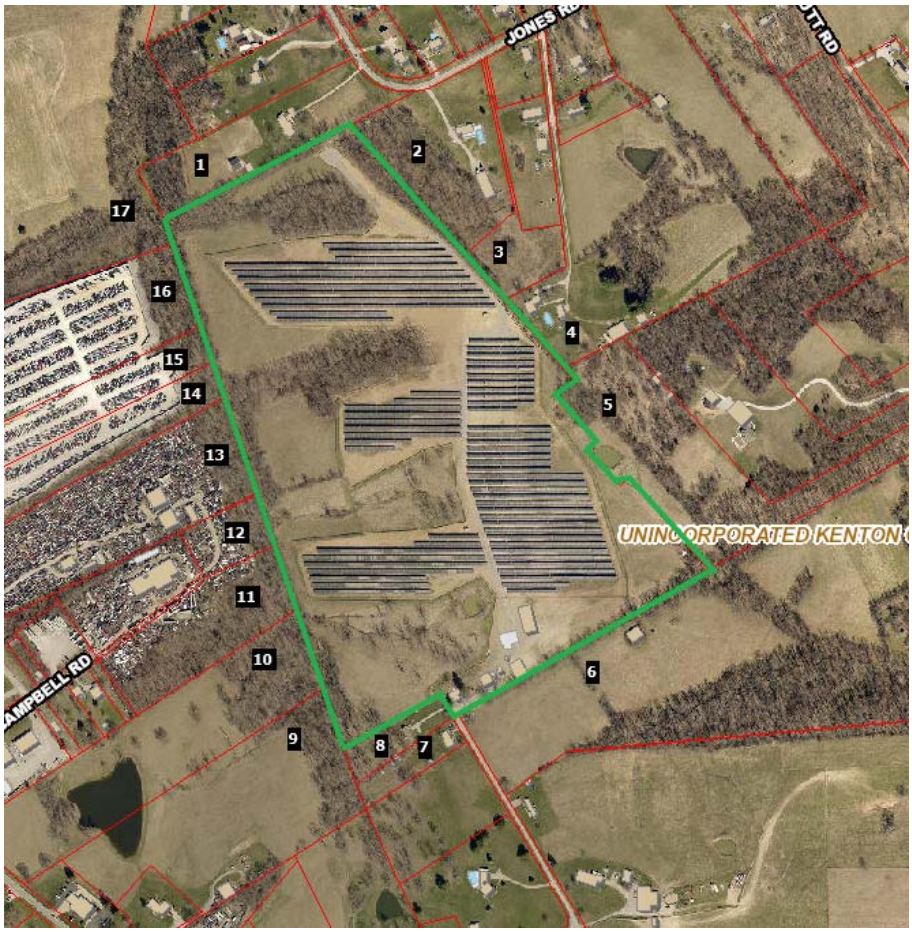
611: Cooperative Solar I, Winchester, KY

This project was built in 2017 on 63 acres of a 181.47-acre parent tract for an 8.5 MW project with the closest home at 2,040 feet from the closest solar panel.

Adjoining Use Breakdown

	Acreage	Parcels
Residential	0.15%	11.11%
Agricultural	96.46%	77.78%
Agri/Res	3.38%	11.11%
Total	**100.00%**	**100.00%**

612: Walton 2 Solar, Walton, KY

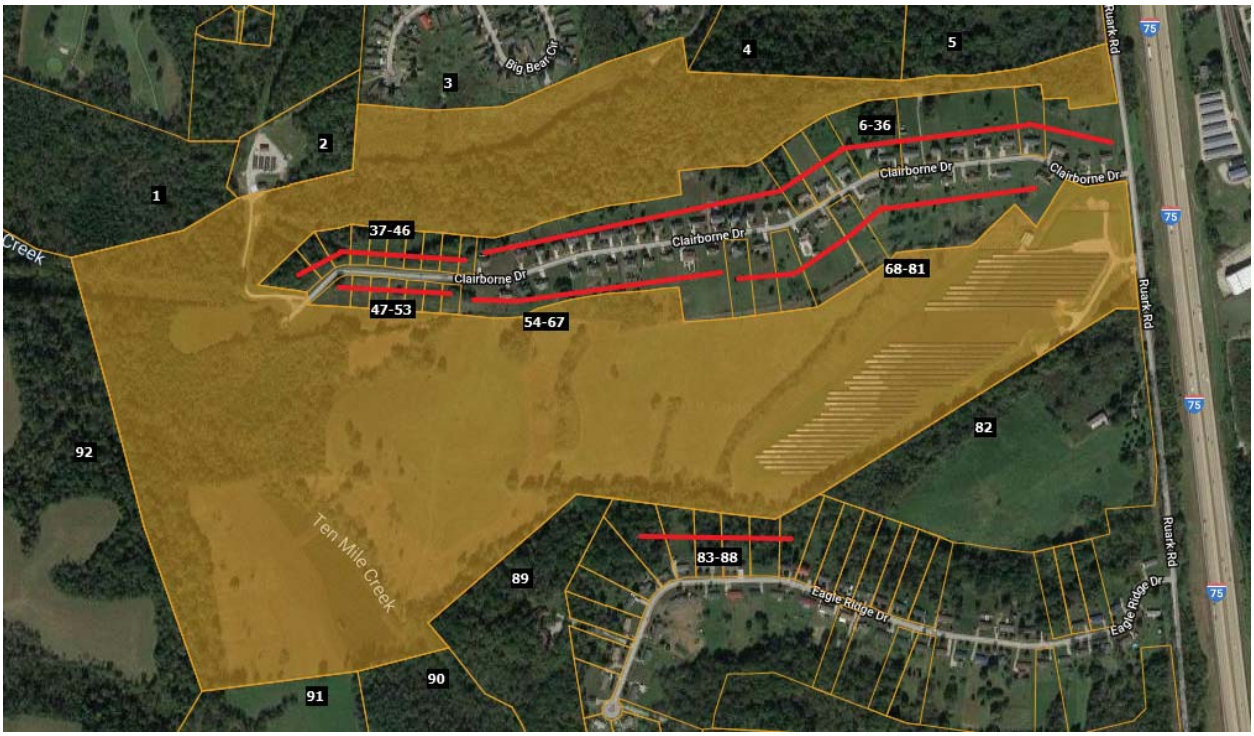


This project was built in 2017 on 58.03 acres for a 2 MW project with the closest home 120 feet from the closest panel.

Adjoining Use Breakdown

	Acreage	Parcels
Residential	20.84%	47.06%
Agri/Res	59.92%	17.65%
Commercial	19.25%	35.29%
Total	**100.00%**	**100.00%**

613: Crittenden Solar, Crittenden, KY



This project was built in late 2017 on 34.10 acres out of a 181.70-acre tract for a 2.7 MW project where the closest home is 345 feet from the closest panel.

Adjoining Use Breakdown

	Acreage	Parcels
Residential	1.65%	32.08%
Agricultural	73.39%	39.62%
Agri/Res	23.05%	11.32%
Commercial	0.64%	9.43%
Industrial	0.19%	3.77%
Airport	0.93%	1.89%
Substation	0.15%	1.89%
Total	**100.00%**	**100.00%**

659: Cooperative Shelby Solar, Simpsonville, KY

This project was built in 2020 on 35 acres for a 0.5 MW project that is approved for expansion up to 4 MW.

Adjoining Use Breakdown

	Acreage	Parcels
Residential	6.04%	44.44%
Agricultural	10.64%	11.11%
Agri/Res	31.69%	33.33%
Institutional	51.62%	11.11%
Total	**100.00%**	**100.00%**

660: E.W. Brown Solar, Harrodsburg, KY

This project was built in 2016 on 50 acres for a 10 MW project. This solar facility adjoins three coal-fired units, which makes analysis of these nearby home sales problematic as it is impossible to extract the impact of the coal plant on the nearby homes especially given the lake frontage of the homes shown.

Adjoining Use Breakdown

	Acreage	**Parcels**
Residential	2.77%	77.27%
Agricultural	43.92%	9.09%
Agri/Res	28.56%	9.09%
Industrial	24.75%	4.55%
Total	**100.00%**	**100.00%**

VI. Market Analysis of the Impact on Value from Solar Farms

I have researched hundreds of solar farms in numerous states to determine the impact of these facilities on the value of adjoining properties. This research has primarily been in North Carolina, but I have also conducted market impact analyses in Virginia, South Carolina, Tennessee, Texas, Oregon, Mississippi, Maryland, New York, California, Missouri, Florida, Montana, Georgia, Kentucky, and New Jersey.

I have derived a breakdown of the adjoining uses to show where solar farms are located. A summary showing the results of compiling that data over hundreds of solar farms is shown later in the Scope of Research section of this report.

I also consider whether the properties adjoining a solar farm in one location have characteristics similar to the properties abutting or adjoining the proposed site so that I can make an assessment of market impact on each proposed site. Notably, in most cases solar farms are placed in areas very similar to the site in question, which is surrounded by low density residential and agricultural uses. In my over 700 studies, I have found a striking repetition of that same typical adjoining property use mix in over 90% of the solar farms I have looked at. Matched pair results in multiple states are strikingly similar, and all indicate that solar farms – which generate very little traffic, and do not generate noise, dust or have other harmful effects – do not negatively impact the value of adjoining or abutting properties.

I have previously been asked by the Kentucky Siting Board about how the solar farms and the matched pair sets were chosen. This is the total of all the usable home and land sales adjoining the 750+ solar farms that I have looked at over the last 10 years. Most of the solar farms that I have looked at are only a few years old and have not been in place long enough for home or land sales to occur next to them for me to analyze. There is nothing unusual about this given the relatively rural locations of most of the solar farms where home and land sales occur much less frequently than they do in urban and suburban areas and the number of adjoining homes is relatively small.

I review the solar farms that I have looked at periodically to see if there are any new sales. If there is a sale I have to be sure it is not an inhouse sale or to a related family member. A great many of the rural sales that I find are from one family member to another, which makes analysis impossible given that these are not "arm's length" transactions. There are also numerous examples of sales that are "arm's length" but are still not usable due to other factors such as adjoining significant negative factors such as a coal fired plant or at a landfill or prison. I have looked at homes that require a driveway crossing a railroad spur, homes in close proximity to large industrial uses, as well as homes adjoining large state parks, or homes that are over 100 years old with multiple renovations. Such sales are not usable as they have multiple factors impacting the value that are tangled together. You can't isolate the impact of the coal fired plant, the industrial building, or the railroad unless you are comparing that sale to a similar property with similar impacts. Matched pair analysis requires that you isolate properties that only have one differential to test for, which is why the type of sales noted above is not appropriate for analysis.

After my review of all sales and elimination of the family transactions and those sales with multiple differentials, I am left with the matched pairs shown in this report to analyze. I do have additional matched pair data in other areas of the United States that were not included in this report due to being states less comparable to Kentucky than those shown. The only other sales that I have eliminated from the analysis are home sales under $100,000, which there haven't been many such examples, but at that price range it is difficult to identify any impacts through matched pair analysis. I have not cherry picked the data to include just the sales that support one direction in value, but I have included all of them both positive and negative with a preponderance of the evidence supporting no impact to mild positive impacts.

A. Kentucky and Adjoining States Data

1. Matched Pair – Crittenden Solar, Crittenden, KY

This solar farm was built in December 2017 on a 181.70-acre tract but utilizing only 34.10 acres. This is a 2.7 MW facility with residential subdivisions to the north and south.

I have identified five home sales to the north of this solar farm on Clairborne Drive and one home sale to the south on Eagle Ridge Drive since the completion of this solar farm. The home sale on Eagle Drive is for a $75,000 home and all of the homes along that street are similar in size and price range. According to local broker Steve Glacken with Cutler Real Estate these are the lowest price range/style home in the market. I have not analyzed that sale as it would unlikely provide significant data to other homes in the area.

Mr. Glacken is currently selling lots at the west end of Clairborne for new home construction. He indicated that the solar farm near the entrance of the development has been a complete non-factor and none of the home sales are showing any concern over the solar farm. Most of the homes are in the $250,000 to $280,000 price range. The vacant residential lots are being marketed for $28,000 to $29,000. The landscaping buffer is considered light, but the rolling terrain allows for distant views of the panels from the adjoining homes along Clairborne Drive.

The first home considered is a bit of an anomaly for this subdivision in that it is the only manufactured home that was allowed in the community. It sold on January 3, 2019. I compared that sale to three other manufactured home sales in the area making minor adjustments as shown on the next page to account for the differences. After all other factors are considered the adjustments show a -1% to +13% impact due to the adjacency of the solar farm. The best indicator is 1250 Cason, which shows a 3% impact. A 3% impact is within the normal static of real estate transactions and therefore not considered indicative of a positive impact on the property, but it strongly supports an indication of no negative impact.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
	Adjoins	250 Claiborne	0.96	1/3/2019	$120,000	2000	2,016	$59.52	3/2	Drive	Manuf	
	Not	1250 Cason	1.40	4/18/2018	$95,000	1994	1,500	$63.33	3/2	2-Det	Manuf	Carport
	Not	410 Reeves	1.02	11/27/2018	$80,000	2000	1,456	$54.95	3/2	Drive	Manuf	
	Not	315 N Fork	1.09	5/4/2019	$107,000	1992	1,792	$59.71	3/2	Drive	Manuf	

Adjustments

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	250 Claiborne								$120,000			373
Not	1250 Cason	$2,081		$2,850	$26,144		-$5,000	-$5,000	$116,075	3%		
Not	410 Reeves	$249		$0	$24,615				$104,865	13%		
Not	315 N Fork	-$1,091		$4,280	$10,700				$120,889	-1%		
											5%	

I also looked at three other home sales on this street as shown below. These are stick-built homes and show a higher price range.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
	Adjoins	300 Claiborne	1.08	9/20/2018	$212,720	2003	1,568	$135.66	3/3	2-Car	Ranch	Brick
	Not	460 Claiborne	0.31	1/3/2019	$229,000	2007	1,446	$158.37	3/2	2-Car	Ranch	Brick
	Not	2160 Sherman	1.46	6/1/2019	$265,000	2005	1,735	$152.74	3/3	2-Car	Ranch	Brick
	Not	215 Lexington	1.00	7/27/2018	$231,200	2000	1,590	$145.41	5/4	2-Car	Ranch	Brick

Adjustments

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	300 Claiborne								$213,000			488
Not	460 Claiborne	-$2,026		-$4,580	$15,457	$5,000			$242,850	-14%		
Not	2160 Sherman	-$5,672		-$2,650	-$20,406				$236,272	-11%		
Not	215 Lexington	$1,072		$3,468	-$2,559	-$5,000			$228,180	-7%		
											-11%	

This set of matched pairs shows a minor negative impact for this property. I was unable to confirm the sales price or conditions of this sale. The best indication of value is based on 215 Lexington, which required the least adjusting and supports a -7% impact.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
	Adjoins	350 Claiborne	1.00	7/20/2018	$245,000	2002	1,688	$145.14	3/3	2-Car	Ranch	Brick
	Not	460 Claiborne	0.31	1/3/2019	$229,000	2007	1,446	$158.37	3/2	2-Car	Ranch	Brick
	Not	2160 Sherman	1.46	6/1/2019	$265,000	2005	1,735	$152.74	3/3	2-Car	R/FBsmt	Brick
	Not	215 Lexington	1.00	7/27/2018	$231,200	2000	1,590	$145.41	5/4	2-Car	Ranch	Brick

Adjustments

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	350 Claiborne								$245,000			720
Not	460 Claiborne	-$3,223		-$5,725	$30,660	$5,000			$255,712	-4%		
Not	2160 Sherman	-$7,057		-$3,975	-$5,743				$248,225	-1%		
Not	215 Lexington	-$136		$2,312	$11,400	-$5,000			$239,776	2%		
											-1%	

The following photograph shows the light landscaping buffer and the distant view of panels that was included as part of the marketing package for this property. The panels are visible somewhat on the left and somewhat through the trees in the center of the photograph. The first photograph is from the home, with the second photograph showing the view near the rear of the lot.

This set of matched pairs shows a no negative impact for this property. The range of adjusted impacts is -4% to +2%. The best indication is -1%, which as described above is within the typical market static and supports no impact on adjoining property value.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
	Adjoins	370 Claiborne	1.06	8/22/2019	$273,000	2005	1,570	$173.89	4/3	2-Car	2-Story	Brick
	Not	2160 Sherman	1.46	6/1/2019	$265,000	2005	1,735	$152.74	3/3	2-Car	R/FBsmt	Brick
	Not	2290 Dry	1.53	5/2/2019	$239,400	1988	1,400	$171.00	3/2.5	2-Car	R/FBsmt	Brick
	Not	125 Lexington	1.20	4/17/2018	$240,000	2001	1,569	$152.96	3/3	2-Car	Split	Brick

Adjustments

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	370 Claiborne								$273,000			930
Not	2160 Sherman	$1,831		$0	-$20,161				$246,670	10%		
Not	2290 Dry	$2,260		$20,349	$23,256	$2,500			$287,765	-5%		
Not	125 Lexington	$9,951		$4,800					$254,751	7%		
											4%	

This set of matched pairs shows a general positive impact for this property. The range of adjusted impacts is -5% to +10%. The best indication is +7%. I typically consider measurements of +/-5% to be within the typical variation in real estate transactions. This indication is higher than that and suggests a positive relationship.

The photograph from the listing shows panels visible between the home and the trampoline shown in the picture.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	330 Claiborne	1.00	12/10/2019	$282,500	2003	1,768	$159.79	3/3	2-Car	Ranch	Brick/pool
Not	895 Osborne	1.70	9/16/2019	$249,900	2002	1,705	$146.57	3/2	2-Car	Ranch	Brick/pool
Not	2160 Sherman	1.46	6/1/2019	$265,000	2005	1,735	$152.74	3/3	2-Car	R/FBsmt	Brick
Not	215 Lexington	1.00	7/27/2018	$231,200	2000	1,590	$145.41	5/4	2-Car	Ranch	Brick

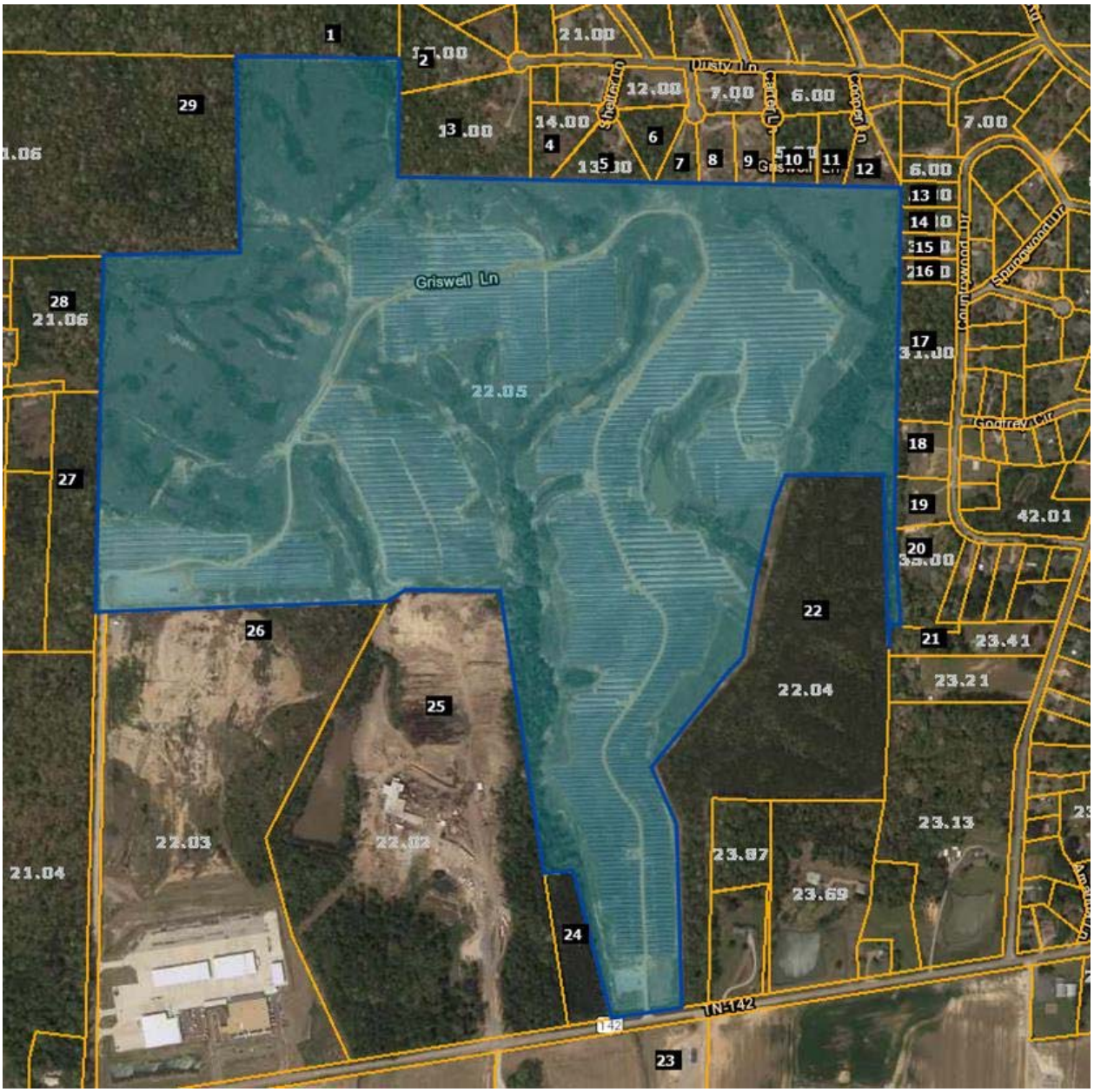
Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	330 Claiborne								$282,500			665
Not	895 Osborne	$1,790		$1,250	$7,387	$5,000		$0	$265,327	6%		
Not	2160 Sherman	$4,288		-$2,650	$4,032			$20,000	$290,670	-3%		
Not	215 Lexington	$9,761		$3,468	$20,706	-$5,000		$20,000	$280,135	1%		
											1%	

This set of matched pairs shows a general positive impact for this property. The range of adjusted impacts is -3% to +6%. The best indication is +6%. I typically consider measurements of +/-5% to be within the typical variation in real estate transactions. This indication is higher than that and suggests a positive relationship. The landscaping buffer on these is considered light with a fair visibility of the panels from most of these comparables and only thin landscaping buffers separating the homes from the solar panels.

The five matched pairs considered in this analysis includes two that show no impact on value, one that shows a negative impact on value, and two that show a positive impact. The negative indication supported by one matched pair is -7% and the positive impacts are +6% and +7%. The two neutral indications show impacts of -1% and +3%. The average indicated impact is +0% when all five of these indicators are blended.

Furthermore, the comments of the local real estate broker strongly support the data that shows no negative impact on value due to the proximity to the solar farm. This is further supported by the national data that is shown on the following pages.

2. Matched Pair – Mulberry, Selmer, TN



This 16 MW solar farm was built in 2014 on 208.89 acres with the closest home being 480 feet.

This solar farm adjoins two subdivisions with Central Hills having a mix of existing and new construction homes. Lots in this development have been marketed for $15,000 each with discounts offered for multiple lots being used for a single home site. I spoke with the agent with Rhonda Wheeler and Becky Hearnsberger with United County Farm & Home Realty who noted that they have seen no impact on lot or home sales due to the solar farm in this community.

I have included a map below as well as data on recent sales activity on lots that adjoin the solar farm or are near the solar farm in this subdivision both before and after the announced plan for this solar farm facility. I note that using the same method I used to breakdown the adjoining uses at the subject property I show that the predominant adjoining uses are residential and agricultural, which is consistent with the location of most solar farms.

Adjoining Use Breakdown

	Acreage	Parcels
Commercial	3.40%	0.034
Residential	12.84%	79.31%
Agri/Res	10.39%	3.45%
Agricultural	73.37%	13.79%
Total	**100.00%**	**100.00%**

I have run a number of direct matched comparisons on the sales adjoining this solar farm as shown below. These direct matched pairs include some of those shown above as well as additional more recent sales in this community. In each of these I have compared the one sale adjoining the solar farm to multiple similar homes nearby that do not adjoin a solar farm to look for any potential impact from the solar farm.

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
3	Adjoins	491 Dusty	6.86	10/28/2016	$176,000	2009	1,801	$97.72	3/2	2-Gar	Ranch	
	Not	820 Lake Trail	1.00	6/8/2018	$168,000	2013	1,869	$89.89	4/2	2-Gar	Ranch	
	Not	262 Country	1.00	1/17/2018	$145,000	2000	1,860	$77.96	3/2	2-Gar	Ranch	
	Not	35 April	1.15	8/16/2016	$185,000	2016	1,980	$93.43	3/2	2-Gar	Ranch	

Adjoining Sales Adjusted

Parcel	Solar	Address	Time	Site	YB	GLA	Park	Other	Total	% Diff	Distance
3	Adjoins	491 Dusty							$176,000		480
	Not	820 Lake Trail	-$8,324	$12,000	-$3,360	-$4,890			$163,426	7%	
	Not	262 Country	-$5,450	$12,000	$6,525	-$3,680			$154,396	12%	
	Not	35 April	$1,138	$12,000	-$6,475	-$13,380			$178,283	-1%	
									Average	6%	

The best matched pair is 35 April Loop, which required the least adjustment and indicates a -1% increase in value due to the solar farm adjacency.

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
12	Adjoins	57 Cooper	1.20	2/26/2019	$163,000	2011	1,586	$102.77	3/2	2-Gar	1.5 Story	Pool
	Not	191 Amelia	1.00	8/3/2018	$132,000	2005	1,534	$86.05	3/2	Drive	Ranch	
	Not	75 April	0.85	3/17/2017	$134,000	2012	1,588	$84.38	3/2	2-Crprt	Ranch	
	Not	345 Woodland	1.15	12/29/2016	$131,000	2002	1,410	$92.91	3/2	1-Gar	Ranch	

Adjoining Sales Adjusted

Parcel	Solar	Address	Sales Price	Time	Site	YB	GLA	Park	Other	Total	% Diff	Distance
12	Adjoins	57 Cooper	$163,000							$163,000		685
	Not	191 Amelia	$132,000	$2,303		$3,960	$2,685	$10,000	$5,000	$155,947	4%	
	Not	75 April	$134,000	$8,029	$4,000	-$670	-$135	$5,000	$5,000	$155,224	5%	
	Not	345 Woodland	$131,000	$8,710		$5,895	$9,811		$5,000	$160,416	2%	
										Average	4%	

The best matched pair is 191 Amelia, which was most similar in time frame of sale and indicates a +4% increase in value due to the solar farm adjacency.

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
15	Adjoins	297 Country	1.00	9/30/2016	$150,000	2002	1,596	$93.98	3/2	4-Gar	Ranch	
	Not	185 Dusty	1.85	8/17/2015	$126,040	2009	1,463	$86.15	3/2	2-Gar	Ranch	
	Not	53 Glen	1.13	3/9/2017	$126,000	1999	1,475	$85.42	3/2	2-Gar	Ranch	Brick

Adjoining Sales Adjusted

Parcel	Solar	Address	Sales Price	Time	Site	YB	GLA	Park	Other	Total	% Diff	Distance
15	Adjoins	297 Country	$150,000							$150,000		650
	Not	185 Dusty	$126,040	$4,355		-$4,411	$9,167	$10,000		$145,150	3%	
	Not	53 Glen	$126,000	-$1,699		$1,890	$8,269	$10,000		$144,460	4%	
										Average	3%	

The best matched pair is 53 Glen, which was most similar in time frame of sale and required less adjustment. It indicates a +4% increase in value due to the solar farm adjacency.

The average indicated impact from these three sets of matched pairs is +4%, which suggests a mild positive relationship due to adjacency to the solar farm. The landscaping buffer for this project is mostly natural tree growth that was retained as part of the development but much of the trees separating the panels from homes are actually on the lots for the homes themselves. I therefore consider the landscaping buffer to be thin to moderate for these adjoining homes.

I have also looked at several lot sales in this subdivision as shown below.

These are all lots within the same community and the highest prices paid are for lots one parcel off from the existing solar farm. These prices are fairly inconsistent, though they do suggest about a $3,000 loss in the lots adjoining the solar farm. This is an atypical finding and additional details suggest there is more going on in these sales than the data crunching shows. First of all Parcel 4 was purchased by the owner of the adjoining home and therefore an atypical buyer seeking to expand a lot and the site is not being purchased for home development. Moreover, using the SiteToDoBusiness demographic tools, I found that the 1-mile radius around this development is expecting a total population increase over the next 5 years of 3 people. This lack of growing demand for lots is largely explained in that context. Furthermore, the fact that finished home sales as shown above are showing no sign of a negative impact on property value makes this data unreliable and inconsistent with the data shown in sales to an end user. I therefore place little weight on this outlier data.

Parcel	Solar	Address	Acres	Date Sold	Sales Price	4/18/2019 Adj for Time	$/AC	4/18/2019 Adj for Time
4	Adjoins	Shelter	2.05	10/25/2017	$16,000	$16,728	$7,805	$8,160
10	Adjoins	Carter	1.70	8/2/2018	$14,000	$14,306	$8,235	$8,415
11	Adjoins	Cooper	1.28	9/17/2018	$12,000	$12,215	$9,375	$9,543
	Not	75 Dusty	1.67	4/18/2019	$20,000	$20,000	$11,976	$11,976
	Not	Lake Trl	1.47	11/7/2018	$13,000	$13,177	$8,844	$8,964
	Not	Lake Trl	1.67	4/18/2019	$20,000	$20,000	$11,976	$11,976

	Adjoins	Per Acre	Not Adjoins	Per Acre	% DIF/Lot	% DIF/AC
Average	$14,416	$8,706	$17,726	$10,972	19%	21%
Median	$14,306	$8,415	$20,000	$11,976	28%	30%
High	$16,728	$9,543	$20,000	$11,976	16%	20%
Low	$12,215	$8,160	$13,177	$8,964	7%	9%

3. Matched Pair – Grand Ridge Solar, Streator, IL

This solar farm has a 20 MW output and is located on a 160-acre tract. The project was built in 2012.

I have considered the recent sale of Parcel 13 shown above, which sold in October 2016 after the solar farm was built. I have compared that sale to a number of nearby residential sales not in proximity to the solar farm as shown below. Parcel 13 is 480 feet from the closest solar panel. The landscaping buffer is considered light.

Adjoining Residential Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	Built	GBA	$/GBA
13	34-21-237-000	2	Oct-16	$186,000	1997	2,328	$79.90

Not Adjoining Residential Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	Built	GBA	$/GBA
712 Columbus Rd	32-39-134-005	1.26	Jun-16	$166,000	1950	2,100	$79.05
504 N 2782 Rd	18-13-115-000	2.68	Oct-12	$154,000	1980	2,800	$55.00
7720 S Dwight Rd	11-09-300-004	1.14	Nov-16	$191,000	1919	2,772	$68.90
701 N 2050th Rd	26-20-105-000	1.97	Aug-13	$200,000	2000	2,200	$90.91
9955 E 1600th St	04-13-200-007	1.98	May-13	$181,858	1991	2,600	$69.95

TAX ID	Date Sold	Adjustments Time	Adjustments Total	$/Sf
34-21-237-000	Oct-16		$186,000	$79.90
32-39-134-005	Jun-16		$166,000	$79.05
18-13-115-000	Oct-12	$12,320	$166,320	$59.40
11-09-300-004	Nov-16		$191,000	$68.90
26-20-105-000	Aug-13	$12,000	$212,000	$96.36
04-13-200-007	May-13	$10,911	$192,769	$74.14

	Adjoins Solar Farm		Not Adjoin Solar Farm	
	Average	Median	Average	Median
Sales Price/SF	$79.90	$79.90	$75.57	$74.14
GBA	2,328	2,328	2,494	2,600

Based on the matched pairs I find no indication of negative impact due to proximity to the solar farm.

The most similar comparable is the home on Columbus that sold for $79.05 per square foot. This is higher than the median rate for all of the comparables. Applying that price per square foot to the subject property square footage indicates a value of $184,000.

There is minimal landscaping separating this solar farm from nearby properties and is therefore considered light.

4. Matched Pair – Portage Solar, Portage, IN

This solar farm has a 2 MW output and is located on a portion of a 56-acre tract. The project was built in 2012.

I have considered the recent sale of Parcels 5 and 12. Parcel 5 is an undeveloped tract, while Parcel 12 is a residential home. I have compared each to a set of comparable sales to determine if there was any impact due to the adjoining solar farm. This home is 1,320 feet from the closest solar panel. The landscaping buffer is considered light.

Adjoining Residential Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	Built	GBA	$/GBA
12	64-06-19-326-007.000-015	1.00	Sep-13	$149,800	1964	1,776	$84.35

Nearby Residential Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	Built	GBA	$/GBA
2501 Architect Dr	64-04-32-202-004.000-021	1.31	Nov-15	$191,500	1959	2,064	$92.78
336 E 1050 N	64-07-09-326-003.000-005	1.07	Jan-13	$155,000	1980	1,908	$81.24
2572 Pryor Rd	64-05-14-204-006.000-016	1.00	Jan-16	$216,000	1960	2,348	$91.99

Adjoining Land Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	$/AC
5	64-06-19-200-003.000-015	18.70	Feb-14	$149,600	$8,000

Nearby Land Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	$/AC
	64-07-22-401-001.000-005	74.35	Jun-17	$520,450	$7,000
	64-15-08-200-010.000-001	15.02	Jan-17	$115,000	$7,658

Residential Sale Adjustment Chart

		Adjustments		
TAX ID	Date Sold	Time	Total	$/Sf
64-06-19-326-007.000-015	Sep-13	$8,988	$158,788	$89.41
64-04-32-202-004.000-021	Nov-15	$3,830	$195,330	$94.64
64-07-09-326-003.000-005	Jan-13	$9,300	$164,300	$86.11
64-05-14-204-006.000-016	Jan-16		$216,000	$91.99

2% adjustment/year
Adjusted to 2017

	Adjoins Solar Farm		Not Adjoin Solar Farm	
	Average	Median	Average	Median
Sales Price/SF	$89.41	$89.41	$90.91	$91.99
GBA	1,776	1,776	2,107	2,064

After adjusting the price per square foot is 2.88% less for the home adjoining the solar farm versus those not adjoining the solar farm. This is within the typical range of variation to be anticipated in any real estate transaction and indicates no impact on property value.

Applying the price per square foot for the 336 E 1050 N sale, which is the most similar to the Parcel 12 sale, the adjusted price at $81.24 per square foot applied to the Parcel 12 square footage yields a value of $144,282.

The landscaping separating this solar farm from the homes is considered light.

Land Sale Adjustment Chart

TAX ID	Date Sold	Adjustments Time	Total	$/Acre
64-06-19-200-003.000-015	Feb-14	$8,976	$158,576	$8,480
64-07-22-401-001.000-005	Jun-17		$520,450	$7,000
64-15-08-200-010.000-001	Jan-17		$115,000	$7,658

2% adjustment/year
Adjusted to 2017

	Adjoins Solar Farm		Not Adjoin Solar Farm	
	Average	Median	Average	Median
Sales Price/Ac	$8,480	$8,480	$7,329	$7,329
Acres	18.70	18.70	44.68	44.68

After adjusting the price per acre is higher for the property adjoining the solar farm, but the average and median size considered is higher which suggests a slight discount. This set of matched pair supports no indication of negative impact due to the adjoining solar farm.

Alternatively, adjusting the 2017 sales back to 2014 I derive an indicated price per acre for the comparables at $6,580 per acre to $7,198 per acre, which I compare to the unadjusted subject property sale at $8,000 per acre.

5. Matched Pair – Dominion Indy III, Indianapolis, IN

This solar farm has an 8.6 MW output and is located on a portion of a 134-acre tract. The project was built in 2013.

There are a number of homes on small lots located along the northern boundary and I have considered several sales of these homes. I have compared those homes to a set of nearby not adjoining home sales as shown below. The adjoining homes that sold range from 380 to 420 feet from the nearest solar panel, with an average of 400 feet. The landscaping buffer is considered light.

Adjoining Residential Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	Built	GBA	$/GBA
2	2013249	0.38	12/9/2015	$140,000	2006	2,412	$58.04
4	2013251	0.23	9/6/2017	$160,000	2006	2,412	$66.33
5	2013252	0.23	5/10/2017	$147,000	2009	2,028	$72.49
11	2013258	0.23	12/9/2015	$131,750	2011	2,190	$60.16
13	2013260	0.23	3/4/2015	$127,000	2005	2,080	$61.06
14	2013261	0.23	2/3/2014	$120,000	2010	2,136	$56.18

Nearby Not Adjoining Residential Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	Built	GBA	$/GBA
5836 Sable Dr	2013277	0.14	Jun-16	$141,000	2005	2,280	$61.84
5928 Mosaic Pl	2013845	0.17	Sep-15	$145,000	2007	2,280	$63.60
5904 Minden Dr	2012912	0.16	May-16	$130,000	2004	2,252	$57.73
5910 Mosaic Pl	2000178	0.15	Aug-16	$146,000	2009	2,360	$61.86
5723 Minden Dr	2012866	0.26	Nov-16	$139,900	2005	2,492	$56.14

		Adjustments		
TAX ID	Date Sold	Time	Total	$/Sf
2013249	12/9/2015	$5,600	$145,600	$60.36
2013251	9/6/2017		$160,000	$66.33
2013252	5/10/2017		$147,000	$72.49
2013258	12/9/2015	$5,270	$137,020	$62.57
2013260	3/4/2015	$5,080	$132,080	$63.50
2013261	2/3/2014	$7,200	$127,200	$59.55
2013277	6/1/2016	$2,820	$143,820	$63.08
2013845	9/1/2015	$5,800	$150,800	$66.14
2012912	5/1/2016	$2,600	$132,600	$58.88
2000178	8/1/2016	$2,920	$148,920	$63.10
2012866	11/1/2016	$2,798	$142,698	$57.26

2% adjustment/year
Adjusted to 2017

	Adjoins Solar Farm		Not Adjoin Solar Farm	
	Average	Median	Average	Median
Sales Price/SF	$64.13	$63.03	$61.69	$63.08
GBA	2,210	2,163	2,333	2,280

This set of homes provides very strong indication of no impact due to the adjacency to the solar farm and includes a large selection of homes both adjoining and not adjoining in the analysis.

The landscaping screen is considered light in relation to the homes considered above.

6. Matched Pair – Clarke County Solar, Clarke County, VA

This project is a 20 MW facility located on a 234-acre tract that was built in 2017.

I have considered a recent sale or Parcel 3. The home on this parcel is 1,230 feet from the closest panel as measured in the second map from Google Earth, which shows the solar farm under construction.

I've compared this home sale to a number of similar rural homes on similar parcels as shown below. I have used multiple sales that bracket the subject property in terms of sale date, year built, gross living area, bedrooms and bathrooms. Bracketing the parameters insures that all factors are well balanced out in the adjustments. The trend for these sales shows a positive value for the adjacency to the solar farm.

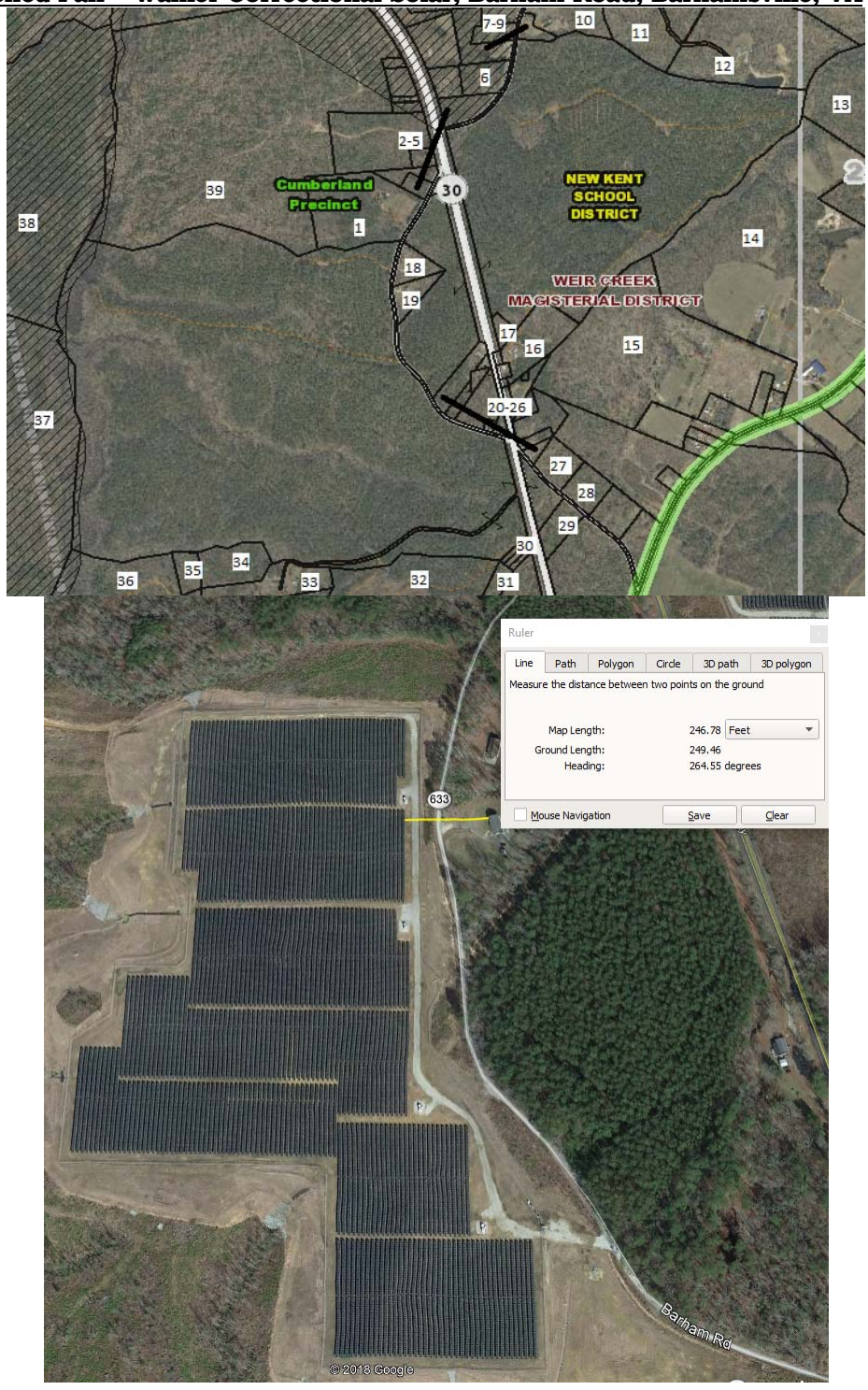
Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	833 Nations Spr	5.13	1/9/2017	$295,000	1979	1,392	$211.93	3/2	Det Gar	Ranch	Unfin bsmt
Not	85 Ashby	5.09	9/11/2017	$315,000	1982	2,333	$135.02	3/2	2 Gar	Ranch	
Not	541 Old Kitchen	5.07	9/9/2018	$370,000	1986	3,157	$117.20	4/4	2 Gar	2 story	
Not	4174 Rockland	5.06	1/2/2017	$300,000	1990	1,688	$177.73	3/2	3 Gar	2 story	
Not	400 Sugar Hill	1.00	6/7/2018	$180,000	1975	1,008	$178.57	3/1	Drive	Ranch	

Adjoining Residential Sales After Solar Farm Approved					Adjoining Sales Adjusted								
Solar	Address	Acres	Date Sold	Sales Price	Time	Acres	YB	GLA	BR/BA	Park	Other	Total	% Diff
Adjoins	833 Nations Spr	5.13	1/9/2017	$295,000								$295,000	
Not	85 Ashby	5.09	9/11/2017	$315,000	-$6,300		-$6,615	-$38,116		-$7,000	$15,000	$271,969	8%
Not	541 Old Kitchen	5.07	9/9/2018	$370,000	-$18,500		-$18,130	-$62,057		-$7,000	$15,000	$279,313	5%
Not	4174 Rockland	5.06	1/2/2017	$300,000			-$23,100	-$15,782		-$12,000	$15,000	$264,118	10%
Not	400 Sugar Hill	1.00	6/7/2018	$180,000	-$9,000	$43,000	$5,040	$20,571	$10,000	$3,000	$15,000	$267,611	9%
											Average		8%

The landscaping screen is primarily a newly planted buffer with a row of existing trees being maintained near the northern boundary and considered light.

7. Matched Pair – Walker-Correctional Solar, Barham Road, Barhamsville, VA



This project was built in 2017 and located on 484.65 acres for a 20 MW with the closest home at 110 feet from the closest solar panel with an average distance of 500 feet.

I considered the recent sale identified on the map above as Parcel 19, which is directly across the street and based on the map shown on the following page is 250 feet from the closest panel. A limited buffering remains along the road with natural growth being encouraged, but currently the panels are visible from the road. Alex Uminski, SRA with MGMiller Valuations in Richmond VA

confirmed this sale with the buying and selling broker. The selling broker indicated that the solar farm was not a negative influence on this sale and in fact the buyer noticed the solar farm and then discovered the listing. The privacy being afforded by the solar farm was considered a benefit by the buyer. I used a matched pair analysis with a similar sale nearby as shown below and found no negative impact on the sales price. Property actually closed for more than the asking price. The landscaping buffer is considered light.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	5241 Barham	2.65	10/18/2018	$264,000	2007	1,660	$159.04	3/2	Drive	Ranch	Modular
Not	17950 New Kent	5.00	9/5/2018	$290,000	1987	1,756	$165.15	3/2.5	3 Gar	Ranch	
Not	9252 Ordinary	4.00	6/13/2019	$277,000	2001	1,610	$172.05	3/2	1.5-Gar	Ranch	
Not	2416 W Miller	1.04	9/24/2018	$299,000	1999	1,864	$160.41	3/2.5	Gar	Ranch	

Adjoining Sales Adjusted

Solar	Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
Adjoins	5241 Barham								$264,000		250
Not	17950 New Kent		-$8,000	$29,000	-$4,756	-$5,000	-$20,000	-$15,000	$266,244	-1%	
Not	9252 Ordinary	-$8,310	-$8,000	$8,310	$2,581		-$10,000	-$15,000	$246,581	7%	
Not	2416 W Miller		$8,000	$11,960	-$9,817	-$5,000	-$10,000	-$15,000	$279,143	-6%	
								Average Diff		0%	

I also spoke with Patrick W. McCrerey of Virginia Estates who was marketing a property that sold at 5300 Barham Road adjoining the Walker-Correctional Solar Farm. He indicated that this property was unique with a home built in 1882 and heavily renovated and updated on 16.02 acres. The solar farm was through the woods and couldn't be seen by this property and it had no impact on marketing this property. This home sold on April 26, 2017 for $358,000. I did not set up any matched pairs for this property as it was such a unique property that any such comparison would be difficult to rely on. The broker's comments do support the assertion that the adjoining solar farm had no impact on value. The home in this case was 510 feet from the closest panel.

8. Matched Pair – Sappony Solar, Sussex County, VA

This project is a 30 MW facility located on a 322.68-acre tract that was built in the fourth quarter of 2017.

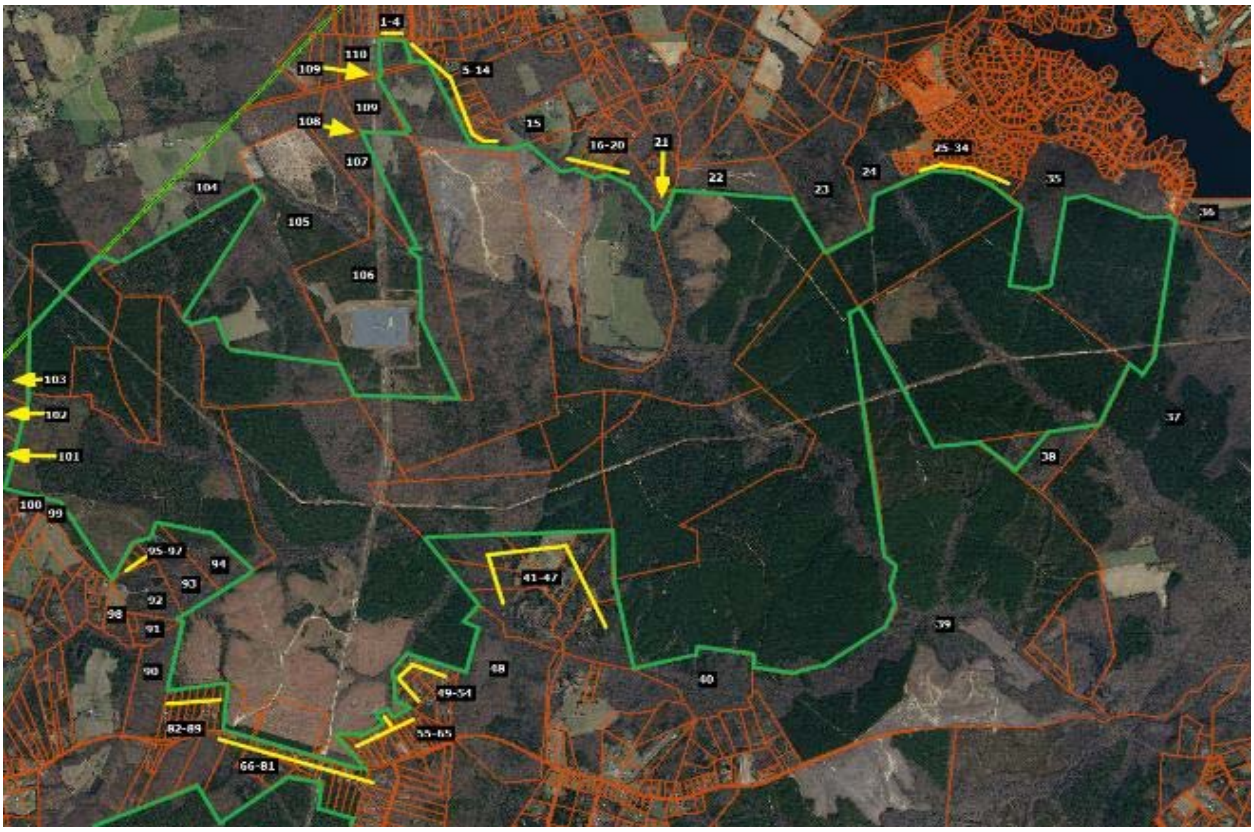
I have considered the 2018 sale of Parcel 17 as shown below. From Parcel 17 the retained trees and setbacks are a light to medium landscaped buffer.

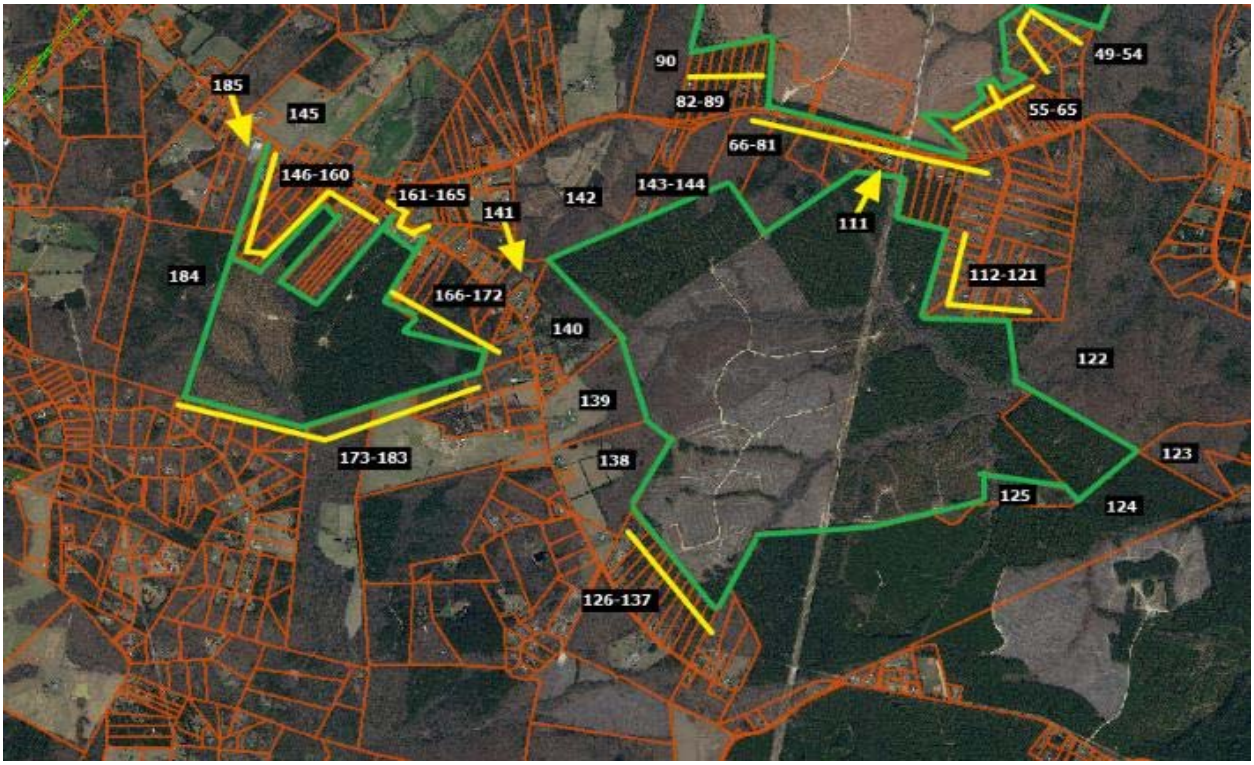
Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
	Adjoins	12511 Palestine	6.00	7/31/2018	$128,400	2013	1,900	$67.58	4/2.5	Open	Manuf	
	Not	15698 Concord	3.92	7/31/2018	$150,000	2010	2,310	$64.94	4/2	Open	Manuf	Fence
	Not	23209 Sussex	1.03	7/7/2020	$95,000	2005	1,675	$56.72	3/2	Det Crpt	Manuf	
	Not	6494 Rocky Br	4.07	11/8/2018	$100,000	2004	1,405	$71.17	3/2	Open	Manuf	

Adjoining Sales Adjusted									Avg	
Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	Distance
							$128,400			1425
$0		$2,250	-$21,299	$5,000			$135,951	-6%		
-$5,660	$13,000	$3,800	$10,209	$5,000	$1,500		$122,849	4%		
-$843		$4,500	$28,185				$131,842	-3%		
									-1%	

9. Matched Pair – Spotsylvania Solar, Paytes, VA





This solar farm is being built in four phases with the area known as Site C having completed construction in November 2020 after the entire project was approved in April 2019. Site C, also known as Pleinmont 1 Solar, includes 99.6 MW located in the southeast corner of the project and shown on the maps above with adjoining parcels 111 through 144. The entire Spotsylvania project totals 617 MW on 3500 acres out of a parent tract assemblage of 6,412 acres.

I have identified three adjoining home sales that occurred during construction and development of the site in 2020.

The first is located on the north side of Site A on Orange Plank Road. The second is located on Nottoway Lane just north of Caparthin Road on the south side of Site A and east of Site C. The third is located on Post Oak Road for a home that backs up to Site C that sold in September 2020 near the completion of construction for Site C.

Spotsylvania Solar Farm

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	12901 Orng Plnk	5.20	8/27/2020	$319,900	1984	1,714	$186.64	3/2	Drive	1.5	Un Bsmt
Not	8353 Gold Dale	3.00	1/27/2021	$415,000	2004	2,064	$201.07	3/2	3 Gar	Ranch	
Not	6488 Southfork	7.26	9/9/2020	$375,000	2017	1,680	$223.21	3/2	2 Gar	1.5	Barn/Patio
Not	12717 Flintlock	0.47	12/2/2020	$290,000	1990	1,592	$182.16	3/2.5	Det Gar	Ranch	

Adjoining Sales Adjusted

Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
12901 Orng Plnk								$319,900		1270
8353 Gold Dale	-$5,219	$20,000	-$41,500	-$56,298		-$20,000		$311,983	2%	
6488 Southfork	-$401	-$20,000	-$61,875	$6,071		-$15,000		$283,796	11%	
12717 Flintlock	-$2,312	$40,000	-$8,700	$17,779	-$5,000	-$5,000		$326,767	-2%	
							Average Diff		4%	

I contacted Keith Snider to confirm this sale. This is considered to have a medium landscaping screen.

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	9641 Nottoway	11.00	5/12/2020	$449,900	2004	3,186	$141.21	4/2.5	Garage	2-Story	Un Bsmt
Not	26123 Lafayette	1.00	8/3/2020	$390,000	2006	3,142	$124.12	3/3.5	Gar/DtG	2-Story	
Not	11626 Forest	5.00	8/10/2020	$489,900	2017	3,350	$146.24	4/3.5	2 Gar	2-Story	
Not	10304 Pny Brnch	6.00	7/27/2020	$485,000	1998	3,076	$157.67	4/4	2Gar/Dt2	Ranch	Fn Bsmt

Adjoining Sales Adjusted

Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
9641 Nottoway								$449,900		1950
26123 Lafayette	-$2,661	$45,000	-$3,900	$4,369	-$10,000	-$5,000		$417,809	7%	
11626 Forest	-$3,624		-$31,844	-$19,187		-$5,000		$430,246	4%	
10304 Pny Brnch	-$3,030		$14,550	$13,875	-$15,000	-$15,000	-$10,000	$470,396	-5%	
							Average Diff		2%	

I contacted Annette Roberts with ReMax about this transaction. This is considered to have a medium landscaping screen.

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	13353 Post Oak	5.20	9/21/2020	$300,000	1992	2,400	$125.00	4/3	Drive	2-Story	Fn Bsmt
Not	9609 Logan Hgt	5.86	7/4/2019	$330,000	2004	2,352	$140.31	3/2	2Gar	2-Story	
Not	12810 Catharpian	6.18	1/30/2020	$280,000	2008	2,240	$125.00	4/2.5	Drive	2-Story	Bsmt/Nd Pnt
Not	10725 Rbrt Lee	5.01	10/26/2020	$295,000	1995	2,166	$136.20	4/3	Gar	2-Story	Fn Bsmt

Adjoining Sales Adjusted

Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
13353 Post Oak								$300,000		1171
9609 Logan Hgt	$12,070		-$19,800	$5,388		-$15,000	$15,000	$327,658	-9%	
12810 Catharpian	$5,408		-$22,400	$16,000	$5,000		$15,000	$299,008	0%	
10725 Rbrt Lee	-$849		-$4,425	$25,496		-$10,000		$305,222	-2%	
							Average Diff		-4%	

I contacted Joy Pearson with CTI Real Estate about this transaction. This is considered to have a heavy landscaping screen.

All three of these homes are well set back from the solar panels at distances over 1,000 feet and are well screened from the project. All three show no indication of any impact on property value.

Conclusion

The solar farm matched pairs shown above have similar characteristics to each other in terms of population, but with several outliers showing solar farms in far more urban areas. The median income for the population within 1 mile of a solar farm among this subset of matched pairs is $65,695 with a median housing unit value of $186,463. Most of the comparables are under $300,000 in the home price, with $483,333 being the high end of the set, though I have matched pairs in other states over $1,000,000 in price adjoining large solar farms. The predominate adjoining uses are residential and agricultural. These figures are in line with the larger set of solar farms that I have looked at with the predominant adjoining uses being residential and agricultural and similar to the solar farm breakdown shown for Kentucky and adjoining states as well as the proposed subject property.

Based on the similarity of adjoining uses and demographic data between these sites and the subject property, I consider it reasonable to compare these sites to the subject property.

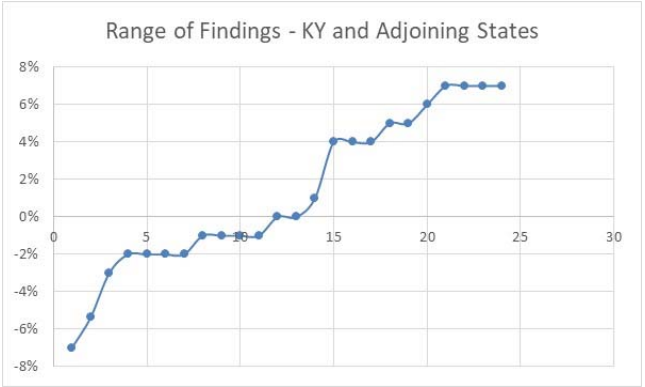
Matched Pair Summary							Adj. Uses By Acreage				1 mile Radius (2010-2020 Data)			
	Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com/Ind	Popl.	Med. Income	Avg. Housing Unit	Veg. Buffer
1	Crittenden	Crittenden	KY	34	2.70	40	22%	51%	27%	0%	1,419	$60,198	$178,643	Light
2	Mulberry	Selmer	TN	160	5.00	60	13%	73%	10%	3%	467	$40,936	$171,746	Lt to Med
3	Grand Ridge	Streator	IL	160	20.00	1	8%	87%	5%	0%	96	$70,158	$187,037	Light
4	Portage	Portage	IN	56	2.00	0	19%	81%	0%	0%	6,642	$65,695	$186,463	Light
5	Dominion	Indianapolis	IN	134	8.60	20	3%	97%	0%	0%	3,774	$61,115	$167,515	Light
6	Walker	Barhamsville	VA	485	20.00	N/A	12%	68%	20%	0%	203	$80,773	$320,076	Light
7	Clarke Cnty	White Post	VA	234	20.00	70	14%	39%	46%	1%	578	$81,022	$374,453	Light
8	Sappony	Stony Crk	VA	322	20.00	N/A	2%	98%	0%	0%	74	$51,410	$155,208	Medium
9	Spotyslvania	Paytes	VA	3,500	617.00	160	37%	52%	11%	0%	74	$120,861	$483,333	Med to Hvy
	Average			565	79.48	50	14%	72%	13%	0%	1,481	$70,241	$247,164	
	Median			160	20.00	40	13%	73%	10%	0%	467	$65,695	$186,463	
	High			3,500	617.00	160	37%	98%	46%	3%	6,642	$120,861	$483,333	
	Low			34	2.00	0	2%	39%	0%	0%	74	$40,936	$155,208	

Proposed Solar Farm at a 1-mile radius has 159 people with an average income of $59,055 and an average home price of $263,500.

Proposed Solar Farm at a 3-mile radius has 4,835 people with an average income of $45,773 and an average home price of $205,933.

These are very similar to the demographics shown around these comparable solar farms.

On the following page is a summary of the matched pairs for all of the solar farms noted above. They show a pattern of results from -7% to +7%. As can be seen in the chart of those results below, most of the data points are between -2% and +5%. This variability is common with real estate and consistent with market "static." I therefore conclude that these results strongly support an indication of no impact on property value due to the adjacent solar farm.



Residential Dwelling Matched Pairs Adjoining Solar Farms

Pair	Solar Farm	City	State	MW	Approx Distance	Tax ID/Address	Date	Sale Price	Adj. Sale Price	% Diff	Veg. Buffer
1	Crittenden	Crittenden	KY	2.7	373	250 Claiborne	Jan-19	$120,000			Light
						315 N Fork	May-19	$107,000	$120,889	-1%	
2	Crittenden	Crittenden	KY	2.7	488	300 Claiborne	Sep-18	$213,000			Light
						1795 Bay Valley	Dec-17	$231,200	$228,180	-7%	
3	Crittenden	Crittenden	KY	2.7	720	350 Claiborne	Jul-18	$245,000			Light
						2160 Sherman	Jun-19	$265,000	$248,225	-1%	
4	Crittenden	Crittenden	KY	2.7	930	370 Claiborne	Aug-19	$273,000			Light
						125 Lexington	Apr-18	$240,000	$254,751	7%	
5	Mulberry	Selmer	TN	5	400	0900A011	Jul-14	$130,000			Light
						099CA043	Feb-15	$148,900	$136,988	-5%	
6	Mulberry	Selmer	TN	5	400	099CA002	Jul-15	$130,000			Light
						0990NA040	Mar-15	$120,000	$121,200	7%	
7	Mulberry	Selmer	TN	5	480	491 Dusty	Oct-16	$176,000			Light
						35 April	Aug-16	$185,000	$178,283	-1%	
8	Mulberry	Selmer	TN	5	650	297 Country	Sep-16	$150,000			Medium
						53 Glen	Mar-17	$126,000	$144,460	4%	
9	Mulberry	Selmer	TN	5	685	57 Cooper	Feb-19	$163,000			Medium
						191 Amelia	Aug-18	$132,000	$155,947	4%	
10	Grand Ridge	Streator	IL	20	480	1497 E 21st	Oct-16	$186,000			Light
						712 Columbus	Jun-16	$166,000	$184,000	1%	
11	Dominion	Indianapolis	IN	8.6	400	2013249 (Tax ID)	Dec-15	$140,000			Light
						5723 Minden	Nov-16	$139,900	$132,700	5%	
12	Dominion	Indianapolis	IN	8.6	400	2013251 (Tax ID)	Sep-17	$160,000			Light
						5910 Mosaic	Aug-16	$146,000	$152,190	5%	
13	Dominion	Indianapolis	IN	8.6	400	2013252 (Tax ID)	May-17	$147,000			Light
						5836 Sable	Jun-16	$141,000	$136,165	7%	
14	Dominion	Indianapolis	IN	8.6	400	2013258 (Tax ID)	Dec-15	$131,750			Light
						5904 Minden	May-16	$130,000	$134,068	-2%	
15	Dominion	Indianapolis	IN	8.6	400	2013260 (Tax ID)	Mar-15	$127,000			Light
						5904 Minden	May-16	$130,000	$128,957	-2%	
16	Dominion	Indianapolis	IN	8.6	400	2013261 (Tax ID)	Feb-14	$120,000			Light
						5904 Minden	May-16	$130,000	$121,930	-2%	
17	Clarke Cnty	White Post	VA	20	1230	833 Nations Spr	Jan-17	$295,000			Light
						6801 Middle	Dec-17	$249,999	$296,157	0%	
18	Walker	Barhamsville	VA	20	250	5241 Barham	Oct-18	$264,000			Light
						9252 Ordinary	Jun-19	$277,000	$246,581	7%	
19	Clarke Cnty	White Post	VA	20	1230	833 Nations Spr	Aug-19	$385,000			Light
						2393 Old Chapel	Aug-20	$330,000	$389,286	-1%	
20	Sappony	Stony Creek	VA	20	1425	12511 Palestine	Jul-18	$128,400			Medium
						6494 Rocky Branch	Nov-18	$100,000	$131,842	-3%	
21	Spotsylvania	Paytes	VA	617	1270	12901 Orange Plnk	Aug-20	$319,900			Medium
						12717 Flintlock	Dec-20	$290,000	$326,767	-2%	
22	Spotsylvania	Paytes	VA	617	1950	9641 Nottoway	May-20	$449,900			Medium
						11626 Forest	Aug-20	$489,900	$430,246	4%	
23	Spotsylvania	Paytes	VA	617	1171	13353 Post Oak	Sep-20	$300,000			Heavy
						12810 Catharpin	Jan-20	$280,000	$299,008	0%	

	MW	Avg. Distance
	106.72	738
	8.60	480
	617.00	1,950
	5.00	250

	Indicated Impact
Average	1%
Median	0%
High	7%
Low	-5%

I have further broken down these results based on the MWs, Landscaping, and distance from panel to show the following range of findings for these different categories.

This breakdown shows no homes between 100-200 homes. Solar farms up to 75 MW show homes between 201 and 500 feet with no impact on value. Most of the findings are for homes between 201 and 500 feet.

Light landscaping screens are showing no impact on value at any distances, though solar farms over 75.1 MW only show Medium and Heavy landscaping screens in the 3 examples identified. Light landscaping is 20-foot wide or less landscaping and is often a planted mix by the solar farm developer. Medium landscaping is 20 to 100 feet of landscaped buffer and is generally a retained existing wooded area. Heavy landscaping is over 100 feet of wooded buffer.

MW Range 4.4 to 10									
Landscaping	**Light**	**Light**	**Light**	**Medium**	**Medium**	**Medium**	**Heavy**	**Heavy**	**Heavy**
Distance	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**
#	0	11	2	0	0	2	0	0	0
Average	N/A	1%	N/A	N/A	N/A	4%	N/A	N/A	N/A
Median	N/A	-1%	N/A	N/A	N/A	4%	N/A	N/A	N/A
High	N/A	7%	N/A	N/A	N/A	4%	N/A	N/A	N/A
Low	N/A	-5%	N/A	N/A	N/A	4%	N/A	N/A	N/A

10.1 to 30									
Landscaping	**Light**	**Light**	**Light**	**Medium**	**Medium**	**Medium**	**Heavy**	**Heavy**	**Heavy**
Distance	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**
#	0	2	2	0	0	1	0	0	0
Average	N/A	4%	-1%	N/A	N/A	-3%	N/A	N/A	N/A
Median	N/A	4%	-1%	N/A	N/A	-3%	N/A	N/A	N/A
High	N/A	7%	0%	N/A	N/A	-3%	N/A	N/A	N/A
Low	N/A	1%	-1%	N/A	N/A	-3%	N/A	N/A	N/A

30.1 to 75									
Landscaping	**Light**	**Light**	**Light**	**Medium**	**Medium**	**Medium**	**Heavy**	**Heavy**	**Heavy**
Distance	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**
#	0	0	0	0	0	0	0	0	0
Average	N/A	1%	0%	N/A	N/A	0%	N/A	N/A	N/A
Median	N/A	1%	0%	N/A	N/A	0%	N/A	N/A	N/A
High	N/A	2%	2%	N/A	N/A	9%	N/A	N/A	N/A
Low	N/A	1%	-2%	N/A	N/A	-7%	N/A	N/A	N/A

75.1+									
Landscaping	**Light**	**Light**	**Light**	**Medium**	**Medium**	**Medium**	**Heavy**	**Heavy**	**Heavy**
Distance	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**
#	0	0	0	0	0	2	0	0	1
Average	N/A	N/A	N/A	N/A	N/A	1%	N/A	N/A	0%
Median	N/A	N/A	N/A	N/A	N/A	1%	N/A	N/A	0%
High	N/A	N/A	N/A	N/A	N/A	4%	N/A	N/A	0%
Low	N/A	N/A	N/A	N/A	N/A	-2%	N/A	N/A	0%

B. Southeastern USA Data – Over 5 MW

1. Matched Pair – AM Best Solar Farm, Goldsboro, NC

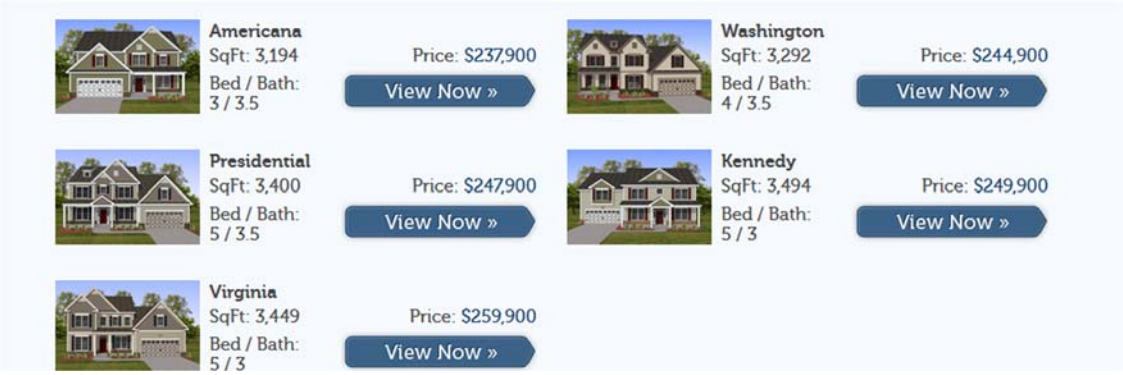
This 5 MW solar farm adjoins Spring Garden Subdivision which had new homes and lots available for new construction during the approval and construction of the solar farm. The recent home sales have ranged from $200,000 to $250,000. This subdivision sold out the last homes in late 2014. The solar farm is clearly visible particularly along the north end of this street where there is only a thin line of trees separating the solar farm from the single-family homes.

Homes backing up to the solar farm are selling at the same price for the same floor plan as the homes that do not back up to the solar farm in this subdivision. According to the builder, the solar farm has been a complete non-factor. Not only do the sales show no difference in the price paid for the various homes adjoining the solar farm versus not adjoining the solar farm, but there are actually more recent sales along the solar farm than not. There is no impact on the sellout rate, or time to sell for the homes adjoining the solar farm.

I spoke with a number of owners who adjoin the solar farm and none of them expressed any concern over the solar farm impacting their property value.

The data presented on the following page shows multiple homes that have sold in 2013 and 2014 adjoining the solar farm at prices similar to those not along the solar farm. These series of sales indicate that the solar farm has no impact on the adjoining residential use.

The homes that were marketed at Spring Garden are shown below.



The homes adjoining the solar farm are considered to have a light landscaping screen as it is a narrow row of existing pine trees supplemented with evergreen plantings.

Matched Pairs
As of Date: 9/3/2014

Adjoining Sales After Solar Farm Completed

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	Style
3600195570	Helm	0.76	Sep-13	$250,000	2013	3,292	$75.94	2 Story
3600195361	Leak	1.49	Sep-13	$260,000	2013	3,652	$71.19	2 Story
3600199891	McBrayer	2.24	Jul-14	$250,000	2014	3,292	$75.94	2 Story
3600198632	Foresman	1.13	Aug-14	$253,000	2014	3,400	$74.41	2 Story
3600196656	Hinson	0.75	Dec-13	$255,000	2013	3,453	$73.85	2 Story
	Average	1.27		$253,600	2013.4	3,418	$74.27	
	Median	1.13		$253,000	2013	3,400	$74.41	

Adjoining Sales After Solar Farm Announced

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	Style
0	Feddersen	1.56	Feb-13	$247,000	2012	3,427	$72.07	Ranch
0	Gentry	1.42	Apr-13	$245,000	2013	3,400	$72.06	2 Story
	Average	1.49		$246,000	2012.5	3,414	$72.07	
	Median	1.49		$246,000	2012.5	3,414	$72.07	

Adjoining Sales Before Solar Farm Announced

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	Style
3600183905	Carter	1.57	Dec-12	$240,000	2012	3,347	$71.71	1.5 Story
3600193097	Kelly	1.61	Sep-12	$198,000	2012	2,532	$78.20	2 Story
3600194189	Hadwan	1.55	Nov-12	$240,000	2012	3,433	$69.91	1.5 Story
	Average	1.59		$219,000	2012	2,940	$74.95	
	Median	1.59		$219,000	2012	2,940	$74.95	

Nearby Sales After Solar Farm Completed

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	Style
3600193710	Barnes	1.12	Oct-13	$248,000	2013	3,400	$72.94	2 Story
3601105180	Nackley	0.95	Dec-13	$253,000	2013	3,400	$74.41	2 Story
3600192528	Mattheis	1.12	Oct-13	$238,000	2013	3,194	$74.51	2 Story
3600198928	Beckman	0.93	Mar-14	$250,000	2014	3,292	$75.94	2 Story
3600196965	Hough	0.81	Jun-14	$224,000	2014	2,434	$92.03	2 Story
3600193914	Preskitt	0.67	Jun-14	$242,000	2014	2,825	$85.66	2 Story
3600194813	Bordner	0.91	Apr-14	$258,000	2014	3,511	$73.48	2 Story
3601104147	Shaffer	0.73	Apr-14	$255,000	2014	3,453	$73.85	2 Story
	Average	0.91		$246,000	2013.625	3,189	$77.85	
	Median	0.92		$249,000	2014	3,346	$74.46	

Nearby Sales Before Solar Farm Announced

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	Style
3600191437	Thomas	1.12	Sep-12	$225,000	2012	3,276	$68.68	2 Story
3600087968	Lilley	1.15	Jan-13	$238,000	2012	3,421	$69.57	1.5 Story
3600087654	Burke	1.26	Sep-12	$240,000	2012	3,543	$67.74	2 Story
3600088796	Hobbs	0.73	Sep-12	$228,000	2012	3,254	$70.07	2 Story
	Average	1.07		$232,750	2012	3,374	$69.01	
	Median	1.14		$233,000	2012	3,349	$69.13	

Matched Pair Summary

	Adjoins Solar Farm		Nearby Solar Farm	
	Average	**Median**	**Average**	**Median**
Sales Price	$253,600	$253,000	$246,000	$249,000
Year Built	2013	2013	2014	2014
Size	3,418	3,400	3,189	3,346
Price/SF	$74.27	$74.41	$77.85	$74.46

Percentage Differences

Median Price	-2%
Median Size	-2%
Median Price/SF	0%

I note that 2308 Granville Drive sold again in November 2015 for $267,500, or $7,500 more than when it was purchased new from the builder two years earlier (Tax ID 3600195361, Owner: Leak). The neighborhood is clearly showing appreciation for homes adjoining the solar farm.

The Median Price is the best indicator to follow in any analysis as it avoids outlying samples that would otherwise skew the results. The median sizes and median prices are all consistent throughout the sales both before and after the solar farm whether you look at sites adjoining or nearby to the solar farm. The average size for the homes nearby the solar farm shows a smaller building size and a higher price per square foot. This reflects a common occurrence in real estate where the price per square foot goes up as the size goes down. So even comparing averages the indication is for no impact, but I rely on the median rates as the most reliable indication for any such analysis.

I have also considered four more recent resales of homes in this community as shown on the following page. These comparable sales adjoin the solar farm at distances ranging from 315 to 400 feet. The matched pairs show a range from -9% to +6%. The range of the average difference is -2% to +1% with an average of 0% and a median of +0.5%. These comparable sales support a finding of no impact on property value.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	103 Granville Pl	1.42	7/27/2018	$265,000	2013	3,292	$80.50	4/3.5	2-Car	2-Story		385
	Not	2219 Granville	1.15	1/8/2018	$260,000	2012	3,292	$78.98	4/3.5	2-Car	2-Story		
	Not	634 Friendly	0.96	7/31/2019	$267,000	2018	3,053	$87.45	4/4.5	2-Car	2-Story		
	Not	2403 Granville	0.69	4/23/2019	$265,000	2014	2,816	$94.11	5/3.5	2-Car	2-Story		

	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
	Adjoins	103 Granville Pl								$265,000		-2%
	Not	2219 Granville	$4,382		$1,300	$0				$265,682	0%	
	Not	634 Friendly	-$8,303		-$6,675	$16,721	-$10,000			$258,744	2%	
	Not	2403 Granville	-$6,029		-$1,325	$31,356				$289,001	-9%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	104 Erin	2.24	6/19/2017	$280,000	2014	3,549	$78.90	5/3.5	2-Car	2-Story		315
	Not	2219 Granville	1.15	1/8/2018	$260,000	2012	3,292	$78.98	4/3.5	2-Car	2-Story		
	Not	634 Friendly	0.96	7/31/2019	$267,000	2018	3,053	$87.45	4/4.5	2-Car	2-Story		
	Not	2403 Granville	0.69	4/23/2019	$265,000	2014	2,816	$94.11	5/3.5	2-Car	2-Story		

	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
	Adjoins	104 Erin								$280,000		0%
	Not	2219 Granville	-$4,448		$2,600	$16,238				$274,390	2%	
	Not	634 Friendly	-$17,370		-$5,340	$34,702	-$10,000			$268,992	4%	
	Not	2403 Granville	-$15,029		$0	$48,285				$298,256	-7%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	2312 Granville	0.75	5/1/2018	$284,900	2013	3,453	$82.51	5/3.5	2-Car	2-Story		400
	Not	2219 Granville	1.15	1/8/2018	$260,000	2012	3,292	$78.98	4/3.5	2-Car	2-Story		
	Not	634 Friendly	0.96	7/31/2019	$267,000	2018	3,053	$87.45	4/4.5	2-Car	2-Story		
	Not	2403 Granville	0.69	4/23/2019	$265,000	2014	2,816	$94.11	5/3.5	2-Car	2-Story		

	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
	Adjoins	2312 Granville								$284,900		1%
	Not	2219 Granville	$2,476		$1,300	$10,173				$273,948	4%	
	Not	634 Friendly	-$10,260		-$6,675	$27,986	-$10,000			$268,051	6%	
	Not	2403 Granville	-$7,972		-$1,325	$47,956				$303,659	-7%	

Adjoining Residential Sales After Solar Farm Approved

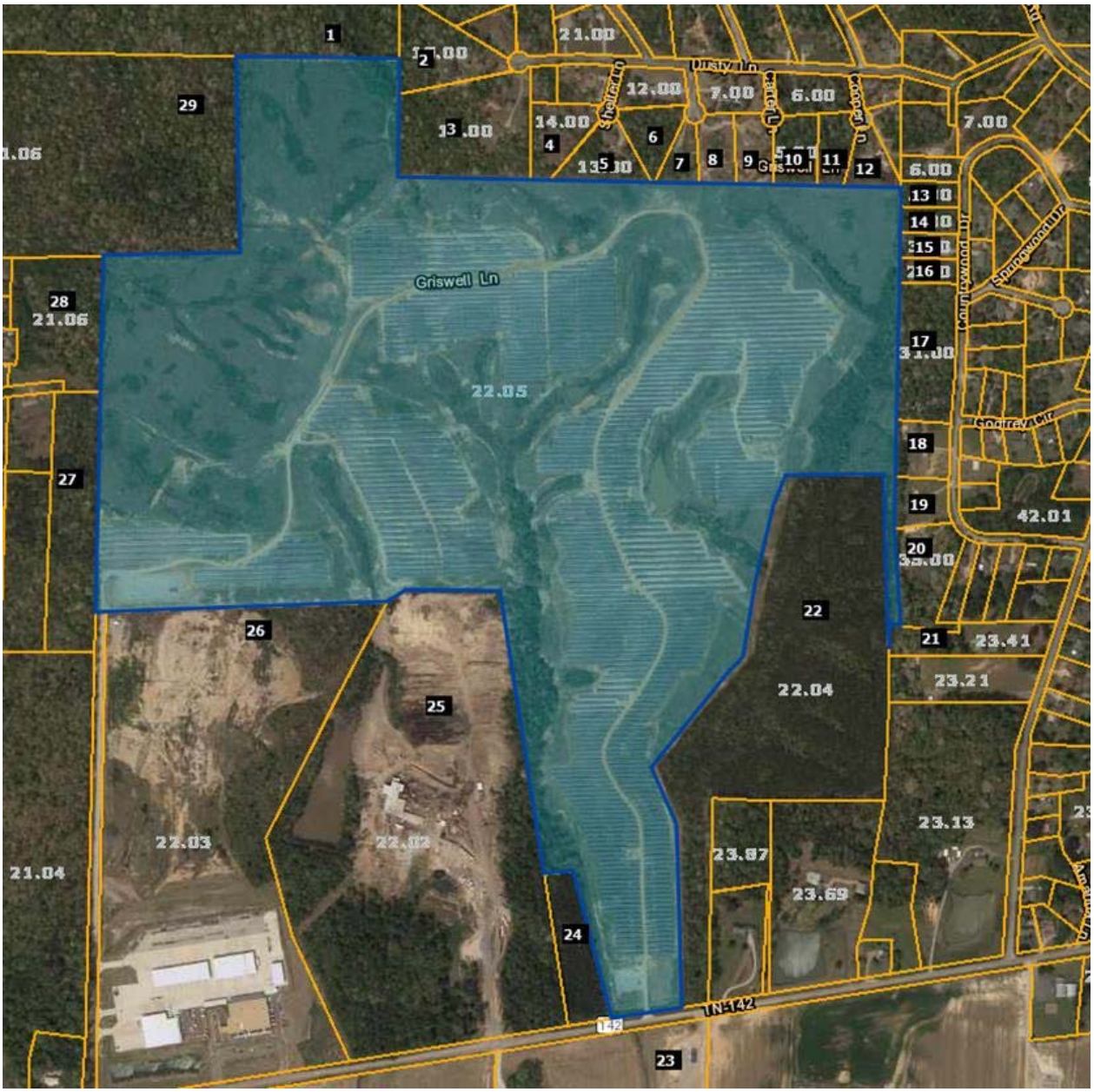
Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	2310 Granville	0.76	5/14/2019	$280,000	2013	3,292	$85.05	5/3.5	2-Car	2-Story		400
	Not	2219 Granville	1.15	1/8/2018	$260,000	2012	3,292	$78.98	4/3.5	2-Car	2-Story		
	Not	634 Friendly	0.96	7/31/2019	$267,000	2018	3,053	$87.45	4/4.5	2-Car	2-Story		
	Not	2403 Granville	0.69	4/23/2019	$265,000	2014	2,816	$94.11	5/3.5	2-Car	2-Story		

	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
	Adjoins	2310 Granville								$280,000		1%
	Not	2219 Granville	$10,758		$1,300	$0				$272,058	3%	
	Not	634 Friendly	-$1,755		-$6,675	$16,721	-$10,000			$265,291	5%	
	Not	2403 Granville	$469		-$1,325	$31,356				$295,500	-6%	

I have also considered the original sales prices in this subdivision relative to the recent resale values as shown in the chart below. This rate of appreciation is right at 2.5% over the last 6 years. Zillow indicates that the average home value within the 27530 zip code as of January 2014 was $101,300 and as of January 2020 that average is $118,100. This indicates an average increase in the market of 2.37%. I conclude that the appreciation of the homes adjoining the solar farm are not impacted by the presence of the solar farm based on this data.

	Address	Initial Sale Date	Price	Second Sale Date	Price	Year Diff	Apprec.	% Apprec.	Apprec. %/Year
1	103 Granville Pl	4/1/2013	$245,000	7/27/2018	$265,000	5.32	$20,000	8.16%	1.53%
2	105 Erin	7/1/2014	$250,000	6/19/2017	$280,000	2.97	$30,000	12.00%	4.04%
3	2312 Granville	12/1/2013	$255,000	5/1/2015	$262,000	1.41	$7,000	2.75%	1.94%
4	2312 Granville	5/1/2015	$262,000	5/1/2018	$284,900	3.00	$22,900	8.74%	2.91%
5	2310 Granville	8/1/2013	$250,000	5/14/2019	$280,000	5.79	$30,000	12.00%	2.07%
6	2308 Granville	9/1/2013	$260,000	11/12/2015	$267,500	2.20	$7,500	2.88%	1.31%
7	2304 Granville	9/1/2012	$198,000	6/1/2017	$225,000	4.75	$27,000	13.64%	2.87%
8	102 Erin	8/1/2014	$253,000	11/1/2016	$270,000	2.25	$17,000	6.72%	2.98%
								Average	2.46%
								Median	2.47%

2. Matched Pair – Mulberry, Selmer, TN



This 16 MW solar farm was built in 2014 on 208.89 acres with the closest home being 480 feet.

This solar farm adjoins two subdivisions with Central Hills having a mix of existing and new construction homes. Lots in this development have been marketed for $15,000 each with discounts offered for multiple lots being used for a single home site. I spoke with the agent with Rhonda Wheeler and Becky Hearnsberger with United County Farm & Home Realty who noted that they have seen no impact on lot or home sales due to the solar farm in this community.

I have included a map below as well as data on recent sales activity on lots that adjoin the solar farm or are near the solar farm in this subdivision both before and after the announced plan for this solar farm facility. I note that using the same method I used to breakdown the adjoining uses at the subject property I show that the predominant adjoining uses are residential and agricultural, which is consistent with the location of most solar farms.

Adjoining Use Breakdown

	Acreage	Parcels
Commercial	3.40%	0.034
Residential	12.84%	79.31%
Agri/Res	10.39%	3.45%
Agricultural	73.37%	13.79%
Total	**100.00%**	**100.00%**

I have run a number of direct matched comparisons on the sales adjoining this solar farm as shown below. These direct matched pairs include some of those shown above as well as additional more recent sales in this community. In each of these I have compared the one sale adjoining the solar farm to multiple similar homes nearby that do not adjoin a solar farm to look for any potential impact from the solar farm.

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
3	Adjoins	491 Dusty	6.86	10/28/2016	$176,000	2009	1,801	$97.72	3/2	2-Gar	Ranch	
	Not	820 Lake Trail	1.00	6/8/2018	$168,000	2013	1,869	$89.89	4/2	2-Gar	Ranch	
	Not	262 Country	1.00	1/17/2018	$145,000	2000	1,860	$77.96	3/2	2-Gar	Ranch	
	Not	35 April	1.15	8/16/2016	$185,000	2016	1,980	$93.43	3/2	2-Gar	Ranch	

Adjoining Sales Adjusted

Parcel	Solar	Address	Time	Site	YB	GLA	Park	Other	Total	% Diff	Distance
3	Adjoins	491 Dusty							$176,000		480
	Not	820 Lake Trail	-$8,324	$12,000	-$3,360	-$4,890			$163,426	7%	
	Not	262 Country	-$5,450	$12,000	$6,525	-$3,680			$154,396	12%	
	Not	35 April	$1,138	$12,000	-$6,475	-$13,380			$178,283	-1%	
									Average	6%	

The best matched pair is 35 April Loop, which required the least adjustment and indicates a -1% increase in value due to the solar farm adjacency.

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
12	Adjoins	57 Cooper	1.20	2/26/2019	$163,000	2011	1,586	$102.77	3/2	2-Gar	1.5 Story	Pool
	Not	191 Amelia	1.00	8/3/2018	$132,000	2005	1,534	$86.05	3/2	Drive	Ranch	
	Not	75 April	0.85	3/17/2017	$134,000	2012	1,588	$84.38	3/2	2-Crprt	Ranch	
	Not	345 Woodland	1.15	12/29/2016	$131,000	2002	1,410	$92.91	3/2	1-Gar	Ranch	

Adjoining Sales Adjusted

Parcel	Solar	Address	Sales Price	Time	Site	YB	GLA	Park	Other	Total	% Diff	Distance
12	Adjoins	57 Cooper	$163,000							$163,000		685
	Not	191 Amelia	$132,000	$2,303		$3,960	$2,685	$10,000	$5,000	$155,947	4%	
	Not	75 April	$134,000	$8,029	$4,000	-$670	-$135	$5,000	$5,000	$155,224	5%	
	Not	345 Woodland	$131,000	$8,710		$5,895	$9,811		$5,000	$160,416	2%	
										Average	4%	

The best matched pair is 191 Amelia, which was most similar in time frame of sale and indicates a +4% increase in value due to the solar farm adjacency.

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
15	Adjoins	297 Country	1.00	9/30/2016	$150,000	2002	1,596	$93.98	3/2	4-Gar	Ranch	
	Not	185 Dusty	1.85	8/17/2015	$126,040	2009	1,463	$86.15	3/2	2-Gar	Ranch	
	Not	53 Glen	1.13	3/9/2017	$126,000	1999	1,475	$85.42	3/2	2-Gar	Ranch	Brick

Adjoining Sales Adjusted

Parcel	Solar	Address	Sales Price	Time	Site	YB	GLA	Park	Other	Total	% Diff	Distance
15	Adjoins	297 Country	$150,000							$150,000		650
	Not	185 Dusty	$126,040	$4,355		-$4,411	$9,167	$10,000		$145,150	3%	
	Not	53 Glen	$126,000	-$1,699		$1,890	$8,269	$10,000		$144,460	4%	
										Average	3%	

The best matched pair is 53 Glen, which was most similar in time frame of sale and required less adjustment. It indicates a +4% increase in value due to the solar farm adjacency.

The average indicated impact from these three sets of matched pairs is +4%, which suggests a mild positive relationship due to adjacency to the solar farm. The landscaping buffer for this project is mostly natural tree growth that was retained as part of the development but much of the trees separating the panels from homes are actually on the lots for the homes themselves. I therefore consider the landscaping buffer to be thin to moderate for these adjoining homes.

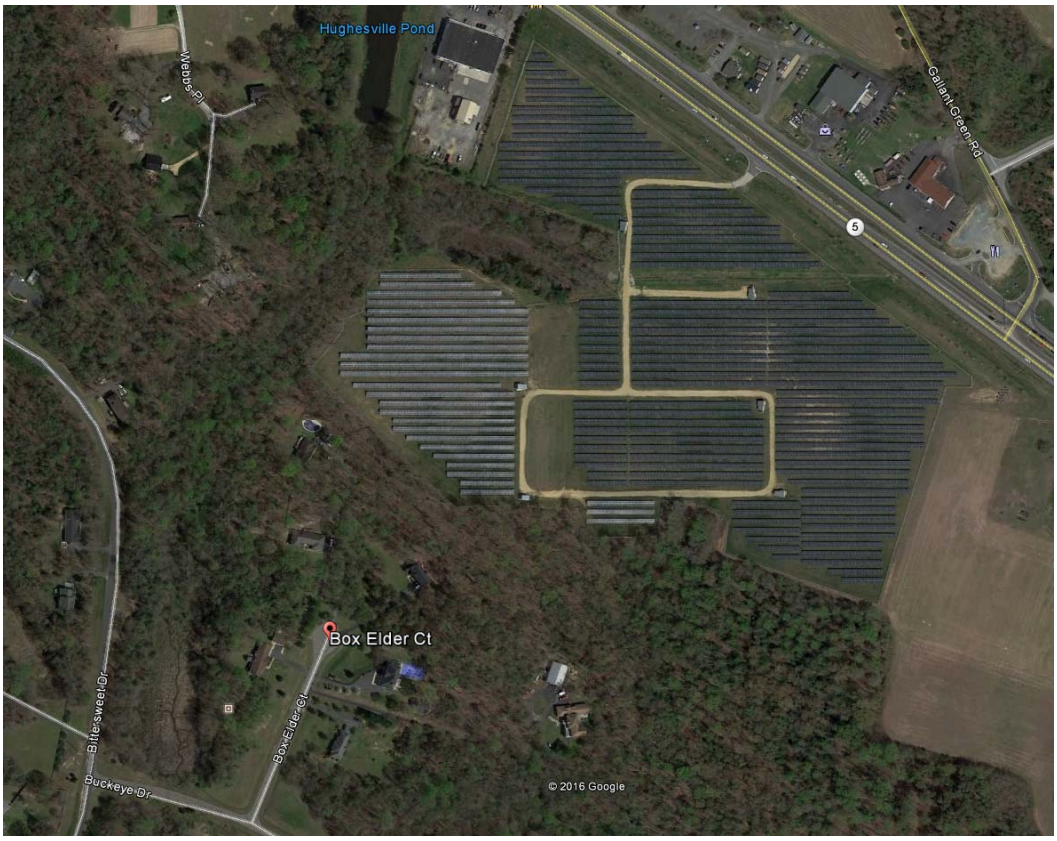
I have also looked at several lot sales in this subdivision as shown below.

These are all lots within the same community and the highest prices paid are for lots one parcel off from the existing solar farm. These prices are fairly inconsistent, though they do suggest about a $3,000 loss in the lots adjoining the solar farm. This is an atypical finding and additional details suggest there is more going on in these sales than the data crunching shows. First of all Parcel 4 was purchased by the owner of the adjoining home and therefore an atypical buyer seeking to expand a lot and the site is not being purchased for home development. Moreover, using the SiteToDoBusiness demographic tools, I found that the 1-mile radius around this development is expecting a total population increase over the next 5 years of 3 people. This lack of growing demand for lots is largely explained in that context. Furthermore, the fact that finished home sales as shown above are showing no sign of a negative impact on property value makes this data unreliable and inconsistent with the data shown in sales to an end user. I therefore place little weight on this outlier data.

Parcel	Solar	Address	Acres	Date Sold	Sales Price	4/18/2019 Adj for Time	$/AC	4/18/2019 Adj for Time
4	Adjoins	Shelter	2.05	10/25/2017	$16,000	$16,728	$7,805	$8,160
10	Adjoins	Carter	1.70	8/2/2018	$14,000	$14,306	$8,235	$8,415
11	Adjoins	Cooper	1.28	9/17/2018	$12,000	$12,215	$9,375	$9,543
	Not	75 Dusty	1.67	4/18/2019	$20,000	$20,000	$11,976	$11,976
	Not	Lake Trl	1.47	11/7/2018	$13,000	$13,177	$8,844	$8,964
	Not	Lake Trl	1.67	4/18/2019	$20,000	$20,000	$11,976	$11,976

	Adjoins	Per Acre	Not Adjoins	Per Acre	% DIF/Lot	% DIF/AC
Average	$14,416	$8,706	$17,726	$10,972	19%	21%
Median	$14,306	$8,415	$20,000	$11,976	28%	30%
High	$16,728	$9,543	$20,000	$11,976	16%	20%
Low	$12,215	$8,160	$13,177	$8,964	7%	9%

3. Matched Pair – Leonard Road Solar Farm, Hughesville, MD



This 5 MW solar farm is located on 47 acres and mostly adjoins agricultural and residential uses to the west, south and east as shown above. The property also adjoins retail uses and a church. I looked at a 2016 sale of an adjoining home with a positive impact on value adjoining the solar farm of 2.90%. This is within typical market friction and supports an indication of no impact on property value.

I have shown this data below. The landscaping buffer is considered heavy.

Leonardtown Road Solar Farm, Hughesville, MD

Nearby Residential Sale After Solar Farm Construction

Address	Solar Farm	Acres	Date Sold	Sales Price*	Built	GBA	$/GBA	Style	BR/BA	Bsmt	Park	Upgrades	Other
14595 Box Elder Ct	Adjoins	3.00	2/12/2016	$291,000	1991	2,174	$133.85	Colonial	5/2.5	No	2 Car Att	N/A	Deck
15313 Bassford Rd	Not	3.32	7/20/2016	$329,800	1990	2,520	$130.87	Colonial	3/2.5	Finished	2 Car Att	Custom	Scr Por/Patio

*$9,000 concession deducted from sale price for Box Elder and $10,200 deducted from Bassford

Adjoining Sales Adjusted			Adjustments					
Address	Date Sold	Sales Price	Time	GLA	Bsmt	Upgrades	Other	Total
14595 Box Elder Ct	2/12/2016	$291,000						$291,000
15313 Bassford Rd	7/20/2016	$329,800	-$3,400	-$13,840	-$10,000	-$15,000	-$5,000	$282,560

Difference Attributable to Location $8,440
2.90%

This is within typical market friction and supports an indication of no impact on property value.

4. Matched Pair – Gastonia SC Solar, Gastonia, NC

This 5 MW project is located on the south side of Neal Hawkins Road just outside of Gastonia. The property identified above as Parcel 4 was listed for sale while this solar farm project was going

through the approval process. The property was put under contract during the permitting process with the permit being approved while the due diligence period was still ongoing. After the permit was approved the property closed with no concerns from the buyer. I spoke with Jennifer Bouvier, the broker listing the property and she indicated that the solar farm had no impact at all on the sales price. She considered some nearby sales to set the price and the closing price was very similar to the asking price within the typical range for the market. The buyer was aware that the solar farm was coming and they had no concerns.

This two-story brick dwelling was sold on March 20, 2017 for $270,000 for a 3,437 square foot dwelling built in 1934 in average condition on 1.42 acres. The property has four bedrooms and two bathrooms. The landscaping screen is light for this adjoining home due to it being a new planted landscaping buffer.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
Adjoins	609 Neal Hawkins	1.42	3/20/2017	$270,000	1934	3,427	$78.79	4/2	Open	2-Brick	
Not	1418 N Modena	4.81	4/17/2018	$225,000	1930	2,906	$77.43	3/3	2-Crprt	2-Brick	
Not	363 Dallas Bess	2.90	11/29/2018	$265,500	1968	2,964	$89.57	3/3	Open	FinBsmt	
Not	1612 Dallas Chry	2.74	9/17/2018	$245,000	1951	3,443	$71.16	3/2	Open	2-Brick	Unfin bath

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
609 Neal Hawkins								$270,000			225
1418 N Modena	$7,319		$2,700	$32,271		-$10,000		$257,290	5%		
363 Dallas Bess	$746		-$27,081	$33,179	-$10,000		$53,100	$262,456	3%		
1612 Dallas Chry	$4,110		-$12,495	-$911			$10,000	$235,704	13%		
										7%	

I also considered the newer adjoining home identified as Parcel 5 that sold later in 2017 and it likewise shows no negative impact on property value. This is also considered a light landscaping buffer.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style
Adjoins	611 Neal Hawkins	0.78	7/6/2017	$288,000	1991	2,256	$127.66	5/3	2-Gar	1.5 Brick
Not	1211 Still Frst	0.51	7/30/2018	$280,000	1989	2,249	$124.50	3/3	2-Gar	Br Rnch
Not	2867 Colony Wds	0.52	8/14/2018	$242,000	1990	2,006	$120.64	3/3	2-Gar	Br Rnch
Not	1010 Strawberry	1.00	10/4/2018	$315,000	2002	2,330	$135.19	3/2.5	2-Gar	1.5 Brick

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
611 Neal Hawkins								$288,000			145
1211 Still Frst	$1,341		$2,800	$697				$284,838	1%		
2867 Colony Wds	$7,714		$1,210	$24,128				$275,052	4%		
1010 Strawberry	-$4,555		-$17,325	-$8,003	$5,000			$290,116	-1%		
										2%	

5. Matched Pair – Summit/Ranchlands Solar, Moyock, NC

This project is located at 1374 Caritoke Highway, Moyock, NC. This is an 80 MW facility on a parent tract of 2,034 acres. Parcels Number 48 and 53 as shown in the map above were sold in 2016. The project was under construction during the time period of the first of the matched pair sales and the permit was approved well prior to that in 2015.

I looked at multiple sales of adjoining and nearby homes and compared each to multiple comparables to show a range of impacts from -10% up to +11% with an average of +2% and a median of +3%. These ranges are well within typical real estate variation and supports an indication of no impact on property value.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
48	Adjoins	129 Pinto	4.29	4/15/2016	$170,000	1985	1,559	$109.04	3/2	Drive	MFG		1,060
	Not	102 Timber	1.30	4/1/2016	$175,500	2009	1,352	$129.81	3/2	Drive	MFG		
	Not	120 Ranchland	0.99	10/1/2014	$170,000	2002	1,501	$113.26	3/2	Drive	MFG		

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	129 Pinto								$170,000		-3%
Not	102 Timber	$276	$10,000	-$29,484	$18,809				$175,101	-3%	
Not	120 Ranchland	$10,735	$10,000	-$20,230	$4,598				$175,103	-3%	

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
Adjoins	105 Pinto	4.99	12/16/2016	$206,000	1978	1,484	$138.81	3/2	Det G	Ranch	
Not	111 Spur	1.15	2/1/2016	$193,000	1985	2,013	$95.88	4/2	Gar	Ranch	
Not	103 Marshall	1.07	3/29/2017	$196,000	2003	1,620	$120.99	3/2	Drive	Ranch	
Not	127 Ranchland	0.00	6/9/2015	$219,900	1988	1,910	$115.13	3/2	Gar/3Det	Ranch	

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
105 Pinto								$206,000			980
111 Spur	$6,747	$10,000	-$6,755	-$25,359				$177,633	14%		
103 Marshall	-$2,212	$10,000	-$24,500	-$8,227		$5,000		$176,212	14%		
127 Ranchland	$13,399	$10,000	-$10,995	-$24,523		-$10,000		$197,781	4%		
										11%	

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
15	Adjoins	318 Green View	0.44	9/15/2019	$357,000	2005	3,460	$103.18	4/4	2-Car	1.5 Brick		570
	Not	195 St Andrews	0.55	6/17/2018	$314,000	2002	3,561	$88.18	5/3	2-Car	2.0 Brick		
	Not	336 Green View	0.64	1/13/2019	$365,000	2006	3,790	$96.31	6/4	3-Car	2.0 Brick		
	Not	275 Green View	0.36	8/15/2019	$312,000	2003	3,100	$100.65	5/3	2-Car	2.0 Brick		

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	318 Green View								$357,000		4%
Not	195 St Andrews	$12,040		$4,710	-$7,125	$10,000			$333,625	7%	
Not	336 Green View	$7,536		-$1,825	-$25,425			-$5,000	$340,286	5%	
Not	275 Green View	$815		$3,120	$28,986	$10,000			$354,921	1%	

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
29	Adjoins	164 Ranchland	1.01	4/30/2019	$169,000	1999	2,052	$82.36	4/2	Gar	MFG		440
	Not	150 Pinto	0.94	3/27/2018	$168,000	2017	1,920	$87.50	4/2	Drive	MFG		
	Not	105 Longhorn	1.90	10/10/2017	$184,500	2002	1,944	$94.91	3/2	Drive	MFG		
	Not	112 Pinto	1.00	7/27/2018	$180,000	2002	1,836	$98.04	3/2	Drive	MFG	Fenced	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	164 Ranchland								$169,000		-10%
Not	150 Pinto	$5,649		-$21,168	$8,085			$5,000	$165,566	2%	
Not	105 Longhorn	$8,816	-$10,000	-$3,875	$7,175			$5,000	$191,616	-13%	
Not	112 Pinto	$4,202		-$3,780	$14,824			$5,000	$200,245	-18%	

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	358 Oxford	10.03	9/16/2019	$478,000	2008	2,726	$175.35	3/3	2 Gar	Ranch		635
	Not	276 Summit	10.01	12/20/2017	$355,000	2006	1,985	$178.84	3/2	2 Gar	Ranch		
	Not	176 Providence	6.19	5/6/2019	$425,000	1990	2,549	$166.73	3/3	4 Gar	Ranch	Brick	
	Not	1601 B Caratoke	12.20	9/26/2019	$440,000	2016	3,100	$141.94	4/3.5	5 Gar	Ranch	Pool	

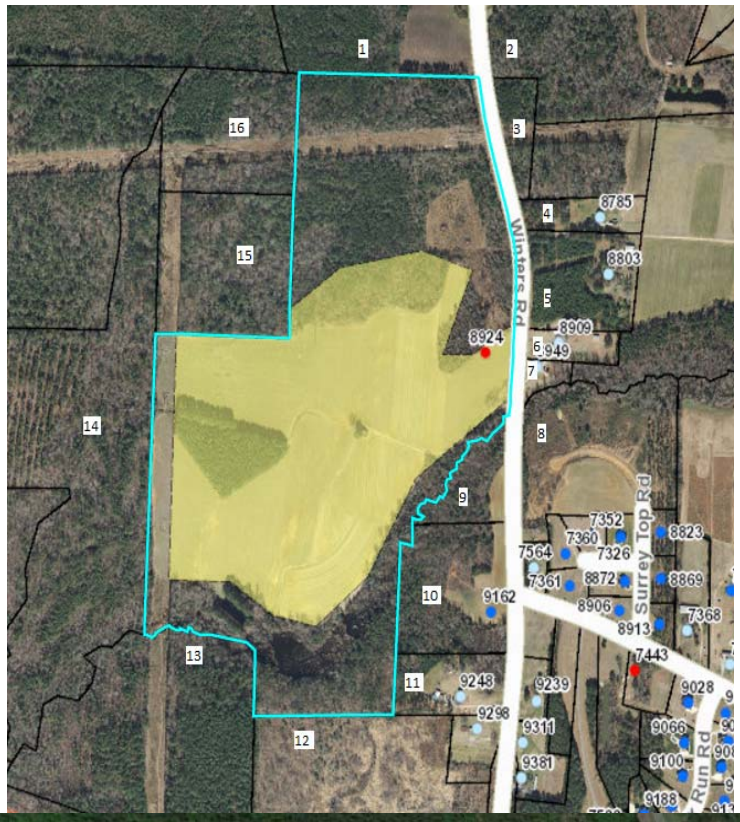
Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	358 Oxford								$478,000		5%
Not	276 Summit	$18,996		$3,550	$106,017	$10,000			$493,564	-3%	
Not	176 Providence	$4,763		$38,250	$23,609		-$10,000	-$25,000	$456,623	4%	
Not	1601 B Caratoke	-$371	$50,000	-$17,600	-$42,467	-$5,000	-$10,000		$414,562	13%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
	Nearby	343 Oxford	10.01	3/9/2017	$490,000	2016	3,753	$130.56	3/3	2 Gar	1.5 Story	Pool	970
	Not	287 Oxford	10.01	9/4/2017	$600,000	2013	4,341	$138.22	5/4.5	8-Gar	1.5 Story	Pool	
	Not	301 Oxford	10.00	4/23/2018	$434,000	2013	3,393	$127.91	5/3	2 Gar	1.5 Story		
	Not	218 Oxford	10.01	4/4/2017	$525,000	2006	4,215	$124.56	4/3	4 Gar	1.5 Story	VG Barn	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	343 Oxford								$490,000		3%
Not	287 Oxford	-$9,051		$9,000	-$65,017	-$15,000	-$25,000		$494,932	-1%	
Not	301 Oxford	-$14,995	-$10,000	$6,510	$36,838				$452,353	8%	
Not	218 Oxford	-$1,150		$26,250	-$46,036		-$10,000	-$10,000	$484,064	1%	

6. Matched Pair – Tracy Solar, Bailey, NC



This project is located in rural Nash County on Winters Road with a 5 MW facility that was built in 2016 on 50 acres. A local builder acquired parcels 9 and 10 following construction as shown below

at rates comparable to other tracts in the area. They then built a custom home for an owner and sold that at a price similar to other nearby homes as shown in the matched pair data below. The retained woods provide a heavy landscaped buffer for this homesite.

Adjoining Land Sales After Solar Farm Completed

#	Solar Farm	TAX ID	Grantor	Grantee	Address	Acres	Date Sold	Sales Price	$/AC	Other
9 &10	Adjoins	316003 & 316004	Cozart	Kingsmill	9162 Winters	13.22	7/21/2016	$70,000	$5,295	
	Not	6056	Billingsly		427 Young	41	10/21/2016	$164,000	$4,000	
	Not	33211	Fulcher	Weikel	10533 Cone	23.46	7/18/2017	$137,000	$5,840	Doublewide, structures
	Not	106807	Perry	Gardner	Claude Lewis	11.22	8/10/2017	$79,000	$7,041	Gravel drive for sub, cleared
	Not	3437	Vaughan	N/A	11354 Old Lewis Sch	18.73	Listing	$79,900	$4,266	Small cemetery,wooded

Adjoining Sales Adjusted

Time	Acres	Location	Other	Adj $/Ac	% Diff
				$5,295	
$0	$400	$0	$0	$4,400	17%
-$292	$292	$0	-$500	$5,340	-1%
-$352	$0	$0	-$1,000	$5,689	-7%
-$213	$0	$0	$213	$4,266	19%
				Average	7%

Adjoining Residential Sales After Solar Farm Completed

#	Solar Farm	n	Address	Acres	Date Sold	Sales Price	Built	GLA	$/GLA	BR/BA	Style	Other
9 &10	Adjoins	gs	9162 Winters	13.22	1/5/2017	$255,000	2016	1,616	$157.80	3/2	Ranch	1296 sf wrkshp
	Not	w	7352 Red Fox	0.93	6/30/2016	$176,000	2010	1,529	$115.11	3/2	2-story	

Adjoining Sales Adjusted

Time	Acres	YB	GLA	Style	Other	Total	% Diff
						$255,000	
$0	$44,000	$7,392	$5,007	$5,000	$15,000	$252,399	1%

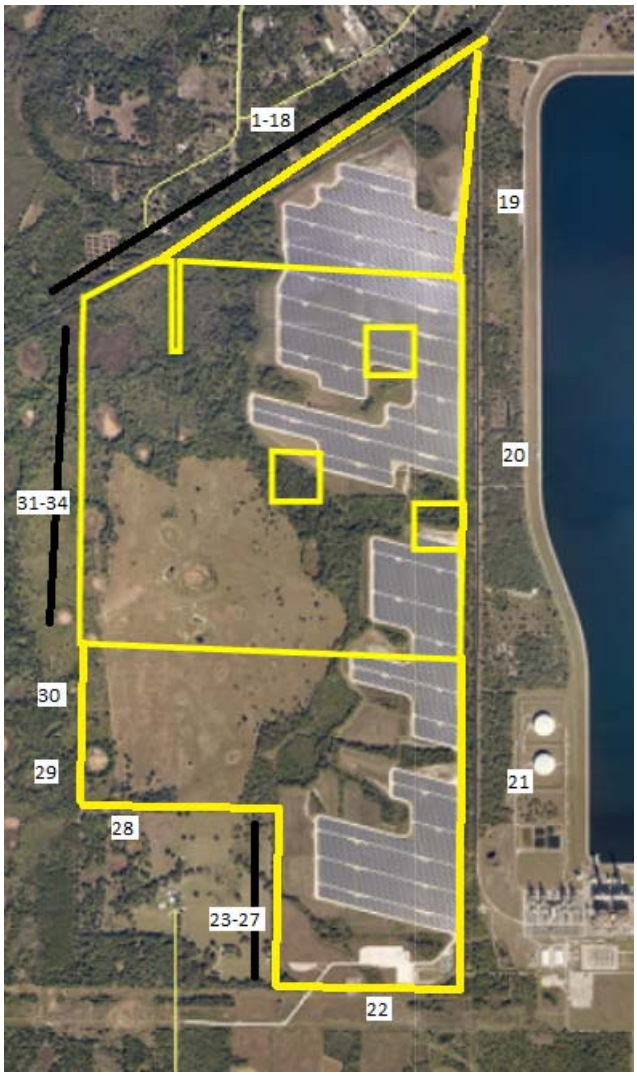
The comparables for the land show either a significant positive relationship or a mild negative relationship to having and adjoining solar farm, but when averaged together they show no negative impact. The wild divergence is due to the difficulty in comping out this tract of land and the wide variety of comparables used. The two comparables that show mild negative influences include a property that was partly developed as a residential subdivision and the other included a doublewide with some value and accessory agricultural structures. The tax assessed value on the improvements were valued at $60,000. So both of those comparables have some limitations for comparison. The two that show significant enhancement due to adjacency includes a property with a cemetery located in the middle and the other is a tract almost twice as large. Still that larger tract after adjustment provides the best matched pair as it required the least adjustment. I therefore conclude that there is no negative impact due to adjacency to the solar farm shown by this matched pair.

The dwelling that was built on the site was a build-to-suit and was compared to a nearby homesale of a property on a smaller parcel of land. I adjusted for that differenced based on a $25,000 value for a 1-acre home site versus the $70,000 purchase price of the larger subject tract. The other adjustments are typical and show no impact due to the adjacency to the solar farm.

The closest solar panel to the home is 780 feet away.

I note that the representative for Kingsmill Homes indicated that the solar farm was never a concern in purchasing the land or selling the home. He also indicated that they had built a number of nearby homes across the street and it had never come up as an issue.

7. Matched Pair – Manatee Solar Farm, Parrish, FL



This solar farm is located near Seminole Trail, Parrish, FL. The solar farm has a 74.50 MW output and is located on a 1,180.38 acre tract and was built in 2016. The tract is owned by Florida Power & Light Company.

I have considered the recent sale of 13670 Highland Road, Wimauma, Florida. This one-story, concrete block home is located just north of the solar farm and separated from the solar farm by a railroad corridor. This home is a 3 BR, 3 BA 1,512 s.f. home with a carport and workshop. The property includes new custom cabinets, granite counter tops, brand new stainless steel appliances, updated bathrooms and new carpet in the bedrooms. The home is sitting on 5 acres. The home was built in 1997.

I have compared this sale to several nearby homesales as part of this matched pair analysis as shown below. The landscaping separating the home from the solar farm is considered heavy.

Solar	TAX ID/Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Note
Adjoins	13670 Highland	5.00	8/21/2017	$255,000	1997	1,512	$168.65	3/3	Carport/Wrkshp	Ranch	Renov.
Not	2901 Arrowsmith	1.91	1/31/2018	$225,000	1979	1,636	$137.53	3/2	2 Garage/Wrkshp	Ranch	
Not	602 Butch Cassidy	1.00	5/5/2017	$220,000	2001	1,560	$141.03	3/2	N/A	Ranch	Renov.
Not	2908 Wild West	1.23	7/12/2017	$254,000	2003	1,554	$163.45	3/2	2 Garage/Wrkshp	Ranch	Renov.
Not	13851 Highland	5.00	9/13/2017	$240,000	1978	1,636	$146.70	4/2	3 Garage	Ranch	Renov.

		Adjoining Sales Adjusted								
Solar	**TAX ID/Address**	**Time**	**Acres**	**YB**	**GLA**	**BR/BA**	**Park**	**Note**	**Total**	**% Diff**
Adjoins	13670 Highland								$255,000	
Not	2901 Arrowsmith	$2,250	$10,000	$28,350	-$8,527	$5,000	-$10,000	$10,000	$262,073	-3%
Not	602 Butch Cassidy	-$2,200	$10,000	-$6,160	-$3,385	$5,000	$2,000		$225,255	12%
Not	2908 Wild West	$0	$10,000	-$10,668	-$3,432	$5,000	-$10,000		$244,900	4%
Not	13851 Highland	$0	$0	$31,920	-$9,095	$3,000	-$10,000		$255,825	0%
									Average	3%

The sales prices of the comparables before adjustments range from $220,000 to $254,000. After adjustments they range from $225,255 to $262,073. The comparables range from no impact to a strong positive impact. The comparables showing -3% and +4% impact on value are considered within a typical range of value and therefore not indicative of any impact on property value.

This set of matched pair data falls in line with the data seen in other states. The closest solar panel to the home at 13670 Highland is 1,180 feet. There is a wooded buffer between these two properties.

I have included a map showing the relative location of these properties below.

8. Matched Pair – McBride Place Solar Farm, Midland, NC

This project is located on Mount Pleasant Road, Midland, North Carolina. The property is on 627 acres on an assemblage of 974.59 acres. The solar farm was approved in early 2017 for a 74.9 MW facility.

I have considered the sale of 4380 Joyner Road which adjoins the proposed solar farm near the northwest section. This property was appraised in April of 2017 for a value of $317,000 with no consideration of any impact due to the solar farm in that figure. The property sold in November

2018 for $325,000 with the buyer fully aware of the proposed solar farm. The landscaping buffer relative to Joyner Road, Hayden Way, Chanel Court and Kristi Lane is considered medium, while the landscaping for the home at the north end of Chanel Court is considered very light.

I have considered the following matched pairs to the subject property.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	4380 Joyner	12.00	11/22/2017	$325,000	1979	1,598	$203.38	3/2	2xGar	Ranch	Outbldg
Not	3870 Elkwood	5.50	8/24/2016	$250,000	1986	1,551	$161.19	3/2.5	Det 2xGar	Craft	
Not	8121 Lower Rocky	18.00	2/8/2017	$355,000	1977	1,274	$278.65	2/2	2xCarprt	Ranch	Eq. Fac.
Not	13531 Cabarrus	7.89	5/20/2016	$267,750	1981	2,300	$116.41	3/2	2xGar	Ranch	

Adjoining Sales Adjusted

Time	Acres	YB	Condition	GLA	BR/BA	Park	Other	Total	% Diff
								$325,000	
$7,500	$52,000	-$12,250	$10,000	$2,273	-$2,000	$2,500	$7,500	$317,523	2%
$7,100	-$48,000	$4,970		$23,156	$0	$3,000	-$15,000	$330,226	-2%
$8,033	$33,000	-$3,749	$20,000	-$35,832	$0	$0	$7,500	$296,702	9%
								Average	3%

The home at 4380 Joyner Road is 275 feet from the closest solar panel.

I also considered the recent sale of a lot at 5800 Kristi Lane that is on the east side of the proposed solar farm. This 4.22-acre lot sold in December 2017 for $94,000. A home was built on this lot in 2019 with the closest point from home to panel at 689 feet. The home site is heavily wooded and their remains a wooded buffer between the solar panels and the home. I spoke with the broker, Margaret Dabbs, who indicated that the solar farm was considered a positive by both buyer and seller as it insures no subdivision will be happening in that area. Buyers in this market are looking for privacy and seclusion.

The breakdown of recent lot sales on Kristi are shown below with the lowest price paid for the lot with no solar farm exposure, though that lot has exposure to Mt Pleasant Road South. Still the older lot sales have exposure to the solar farm and sold for higher prices than the front lot and adjusting for time would only increase that difference.

Adjoining Lot Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	$/AC	$/Lot
	Adjoins	5811 Kristi	3.74	5/1/2018	$100,000	$26,738	$100,000
	Adjoins	5800 Kristi	4.22	12/1/2017	$94,000	$22,275	$94,000
	Not	5822 Kristi	3.43	2/24/2020	$90,000	$26,239	$90,000

The lot at 5811 Kristi Lane sold in May 2018 for $100,000 for a 3.74-acre lot. The home that was built later in 2018 is 505 feet to the closest solar panel. This home then sold to a homeowner for $530,000 in April 2020. I have compared this home sale to other properties in the area as shown below.

Adjoining Residential Sales After Solar Farm Built

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	5811 Kristi	3.74	3/31/2020	$530,000	2018	3,858	$137.38	5/3.5	2 Gar	2-story	Cement Ext
Not	3915 Tania	1.68	12/9/2019	$495,000	2007	3,919	$126.31	3/3.5	2 Gar	2-story	3Det Gar
Not	6782 Manatee	1.33	3/8/2020	$460,000	1998	3,776	$121.82	4/2/2h	2 Gar	2-story	Water
Not	314 Old Hickory	1.24	9/20/2019	$492,500	2017	3,903	$126.18	6/4.5	2 Gar	2-story	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	5811 Kristi								$530,000		5%
Not	3915 Tania	$6,285		$27,225	-$3,852		-$20,000		$504,657	5%	
Not	6782 Manatee	$1,189		$46,000	$4,995	$5,000			$517,183	2%	
Not	314 Old Hickory	$10,680		$2,463	-$2,839	-$10,000			$492,803	7%	

After adjusting the comparables, I found that the average adjusted value shows a slight increase in value for the subject property adjoining a solar farm. As in the other cases, this is a mild positive impact on value but within the typical range of real estate transactions.

I also looked at 5833 Kristi Lane that sold on 9/14/2020 for $625,000. This home is 470 feet from the closest panel.

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
Nearby	5833 Kristi	4.05	9/14/2020	$625,000	2008	4,373	$142.92	5/4	3-Car	2-Brick	
Not	4055 Dakeita	4.90	12/30/2020	$629,000	2005	4,427	$142.08	4/4	4-Car	2-Brick	4DetGar/Stable
Not	9615 Bales	2.16	6/30/2020	$620,000	2007	4,139	$149.79	4/5	3-Car	2-Stone	2DetGar
Not	9522 Bales	1.47	6/18/2020	$600,000	2007	4,014	$149.48	4/4.5	3-Car	2-Stone	

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
5833 Kristi								$625,000			470
4055 Dakeita	-$9,220		$5,661	-$6,138		-$25,000		$594,303	5%		
9615 Bales	$6,455		$1,860	$28,042	-$10,000	-$15,000		$631,356	-1%		
9522 Bales	$7,233		$1,800	$42,930	-$5,000			$646,963	-4%		
										0%	

The average difference is 0% impact and the differences are all within a close range with this set of comparables and supports a finding of no impact on property value.

I have also looked at 4504 Chanel Court. This home sold on January 1, 2020 for $393,500 for this 3,010 square foot home built in 2004 with 3 bedroooms, 3.5 bathrooms, and a 3-car garage. This home includes a full partially finished basement that significantly complicates comparing this to other sales. This home previously sold on January 23, 2017 for $399,000. This was during the time that the solar farm was a known factor as the solar farm was approved in early 2017 and public discussions had already commenced. I spoke with Rachelle Killman with Real Estate Realty, LLC the buyer's agent for this transaction and she indicated that the solar farm was not a factor or consideration for the buyer. She noted that you could see the panels sort of through the trees, but it wasn't a concern for the buyer. She was not familiar with the earlier 2017 sale, but indicated that it was likely too high. This again goes back to the partially finished basement issue. The basement has a fireplace, and an installed 3/4 bathroom but otherwise bare studs and concrete floors with different buyers assigning varying value to that partly finished space. I also reached out to Don Gomez with Don Anthony Realty, LLC as he was the listing agent.

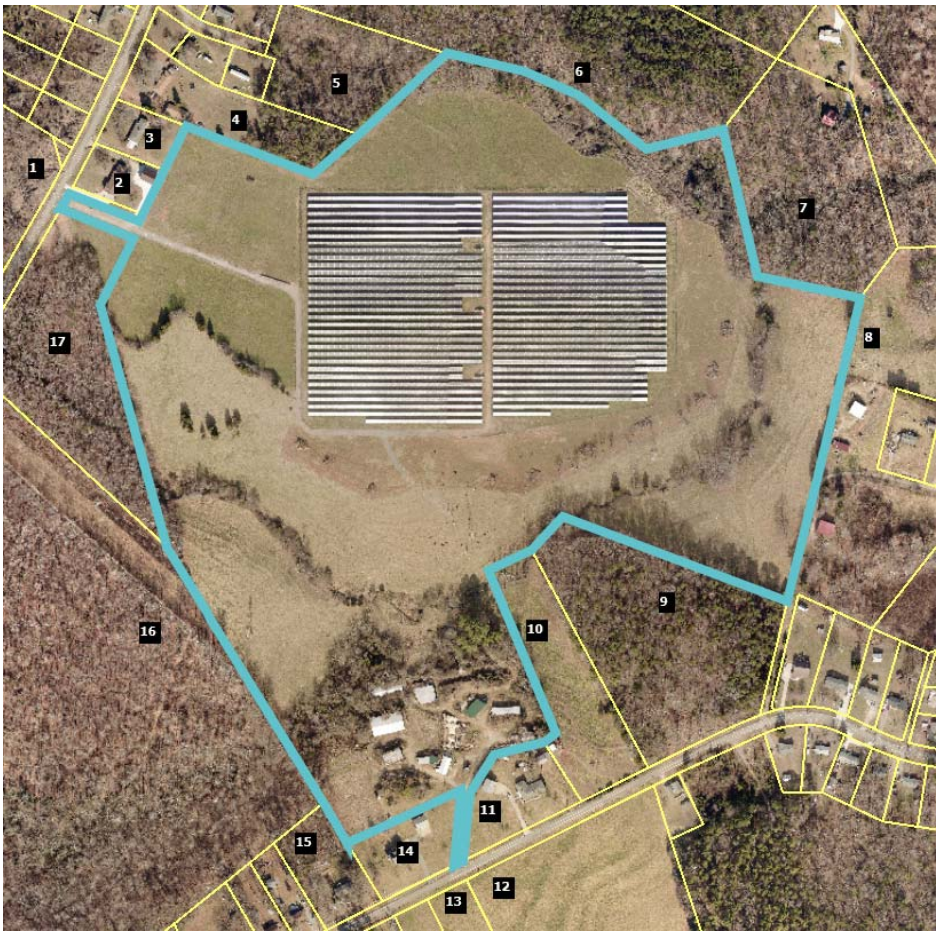
I also looked at the recent sale of 4599 Chanel Court. This home is within 310 feet of solar panels but notably does not have a good landscaping screen in place as shown in the photo below. The plantings appear to be less than 3-feet in height and only a narrow, limited screen of existing hardwoods were kept. The photograph is from the listing.

According to Scott David with Better Homes and Gardens Paracle Realty, this property was under contract for $550,000 contingent on the buyer being able to sell their former home. The former home was apparently overpriced and did not sell and the contract stretched out over 2.5 months.

The seller was in a bind as they had a home they were trying to buy contingent on this closing and were about to lose that opportunity. A cash buyer offered them a quick close at $500,000 and the seller accepted that offer in order to not lose the home they were trying to buy. According to Mr. David, the original contracted buyer and the actual cash buyer never considered the solar farm as a negative. In fact Mr. David noted that the actual buyer saw it as a great opportunity to purchase a home where a new subdivision could not be built behind his house. I therefore conclude that this property supports a finding of no impact on adjoining property, even where the landscaping screen still requires time to grow in for a year-round screen.

I also considered a sale/resale analysis on this property. This same home sold on September 15, 2015 for $462,000. Adjusting this upward by 5% per year for the five years between these sales dates suggests a value of $577,500. Comparing that to the $550,000 contract that suggests a 5% downward impact, which is within a typical market variation. Given that the broker noted no negative impact from the solar farm and the analysis above, I conclude this sale supports a finding of no impact on value.

9. Matched Pair – Mariposa Solar, Gaston County, NC



This project is a 5 MW facility located on 35.80 acres out of a parent tract of 87.61 acres at 517 Blacksnake Road, Stanley that was built in 2016.

I have considered a number of recent sales around this facility as shown below.

The first is identified in the map above as Parcel 1, which is 215 Mariposa Road. This is an older dwelling on large acreage with only one bathroom. I've compared it to similar nearby homes as shown below. The landscaping buffer for this home is considered light.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style
Adjoins	215 Mariposa	17.74	12/12/2017	$249,000	1958	1,551	$160.54	3/1	Garage	Br/Rnch
Not	249 Mariposa	0.48	3/1/2019	$153,000	1974	1,792	$85.38	4/2	Garage	Br/Rnch
Not	110 Airport	0.83	5/10/2016	$166,000	1962	2,165	$76.67	3/2	Crprt	Br/Rnch
Not	1249 Blacksnake	5.01	9/20/2018	$242,500	1980	2,156	$112.48	3/2	Drive	1.5
Not	1201 Abernathy	27.00	5/3/2018	$390,000	1970	2,190	$178.08	3/2	Crprt	Br/Rnch

Adjoining Residential Sales After Solar Farm Approved **Adjoining Sales Adjusted**

Solar	Address	Acres	Date Sold	Sales Price	Time	YB	Acres	GLA	BR/BA	Park	Other	Total	% Diff
Adjoins	215 Mariposa	17.74	12/12/2017	$249,000								$249,000	
Not	249 Mariposa	0.48	3/1/2019	$153,000	-$5,583	-$17,136	$129,450	-$20,576	-$10,000			$229,154	8%
Not	110 Airport	0.83	5/10/2016	$166,000	$7,927	-$4,648	$126,825	-$47,078	-$10,000			$239,026	4%
Not	1249 Blacksnake	5.01	9/20/2018	$242,500	-$5,621	-$37,345	$95,475	-$68,048	-$10,000	$5,000		$221,961	11%
Not	1201 Abernathy	27.00	5/3/2018	$390,000	-$4,552	-$32,760	-$69,450	-$60,705	-$10,000			$212,533	15%
												Average	9%

The average difference after adjusting for all factors is +9% on average, which suggests an enhancement due to the solar farm across the street. Given the large adjustments for acreage and size, I will focus on the low end of the adjusted range at 4%, which is within the typical deviation and therefore suggests no impact on value.

I have also considered Parcel 4 that sold after the solar farm was approved but before it had been constructed in 2016. The landscaping buffer for this parcel is considered light.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	242 Mariposa	2.91	9/21/2015	$180,000	1962	1,880	$95.74	3/2	Carport	Br/Rnch	Det Wrkshop
Not	249 Mariposa	0.48	3/1/2019	$153,000	1974	1,792	$85.38	4/2	Garage	Br/Rnch	
Not	110 Airport	0.83	5/10/2016	$166,000	1962	2,165	$76.67	3/2	Crprt	Br/Rnch	
Not	1249 Blacksnake	5.01	9/20/2018	$242,500	1980	2,156	$112.48	3/2	Drive	1.5	

Adjoining Residential Sales After Solar Farm Approved **Adjoining Sales Adjusted**

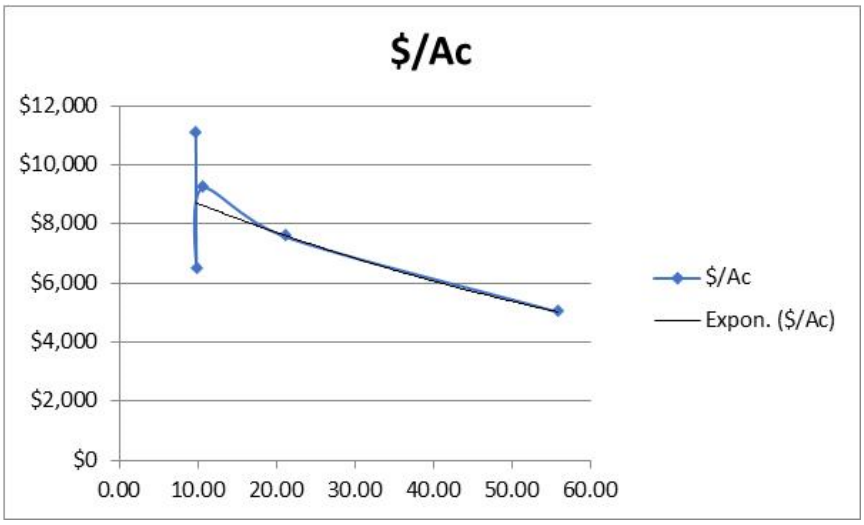
Solar	Address	Acres	Date Sold	Sales Price	Time	YB	Acres	GLA	BR/BA	Park	Other	Total	% Diff
Adjoins	242 Mariposa	2.91	9/21/2015	$180,000								$180,000	
Not	249 Mariposa	0.48	3/1/2019	$153,000	-$15,807	-$12,852	$18,468	$7,513		-$3,000	$25,000	$172,322	4%
Not	110 Airport	0.83	5/10/2016	$166,000	-$3,165	$0	$15,808	-$28,600			$25,000	$175,043	3%
Not	1249 Blacksnake	5.01	9/20/2018	$242,500	-$21,825	-$30,555	-$15,960	-$40,942		$2,000	$25,000	$160,218	11%
												Average	6%

The average difference after adjusting for all factors is +6%, which is again suggests a mild increase in value due to the adjoining solar farm use. The median is a 4% adjustment, which is within a standard deviation and suggests no impact on property value.

I have also considered the recent sale of Parcel 13 that is located on Blacksnake Road south of the project. I was unable to find good land sales in the same 20-acre range, so I have considered sales of larger and smaller acreage. I adjusted each of those land sales for time. I then applied the price per acre to a trendline to show where the expected price per acre would be for 20 acres. As can be seen in the chart below, this lines up exactly with the purchase of the subject property. I therefore conclude that there is no impact on Parcel 13 due to proximity to the solar farm.

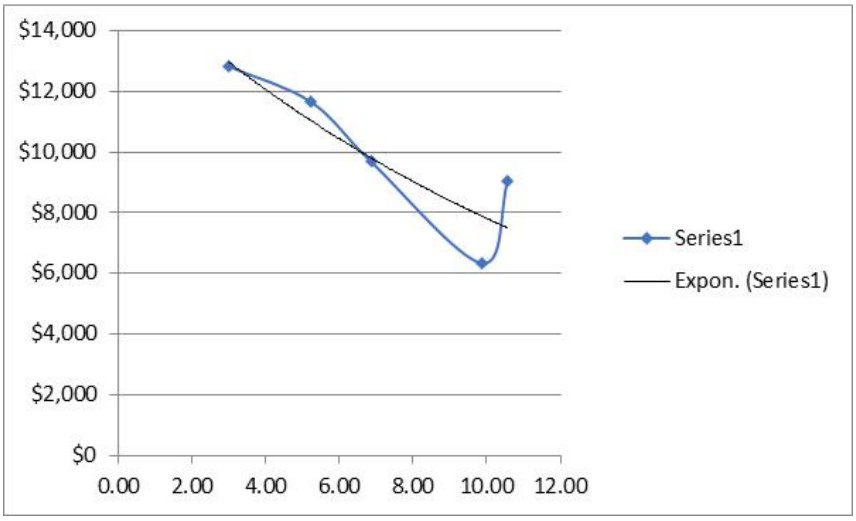
Adjoining Residential Land Sales After Solar Farm Approved **Adjoining Sales Adjusted**

Solar	Tax/Street	Acres	Date Sold	Sales Price	$/Ac	Time	$/Ac
Adjoins	174339/Blacksnake	21.15	6/29/2018	$160,000	$7,565		$7,565
Not	227852/Abernathy	10.57	5/9/2018	$97,000	$9,177	$38	$9,215
Not	17443/Legion	9.87	9/7/2018	$64,000	$6,484	-$37	$6,447
Not	164243/Alexis	9.75	2/1/2019	$110,000	$11,282	-$201	$11,081
Not	176884/Bowden	55.77	6/13/2018	$280,000	$5,021	$7	$5,027

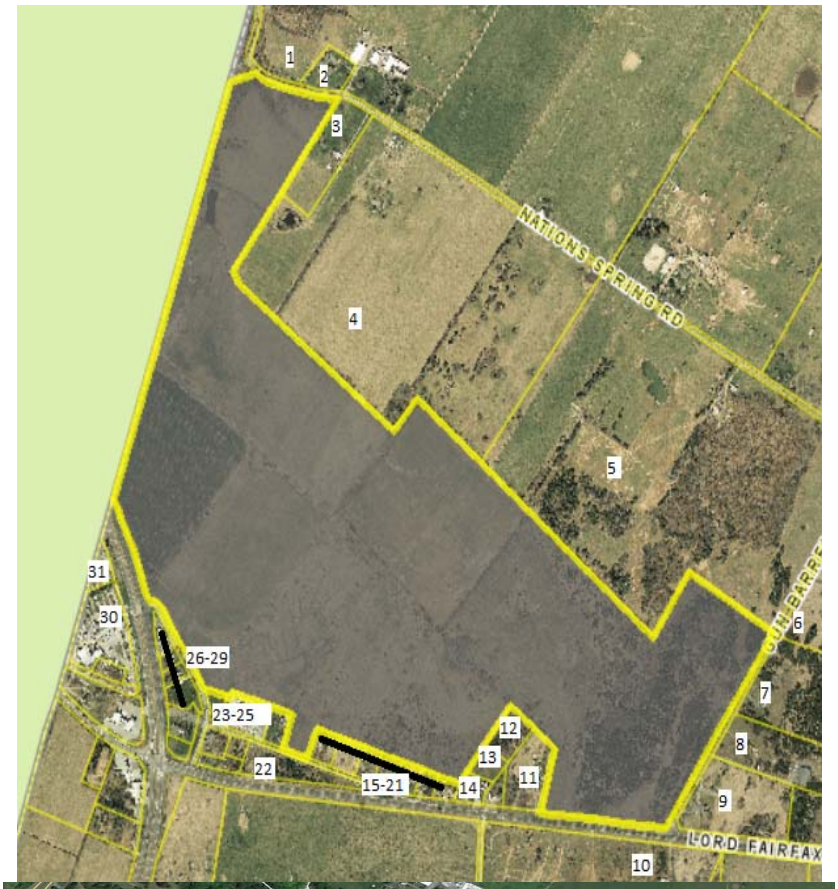


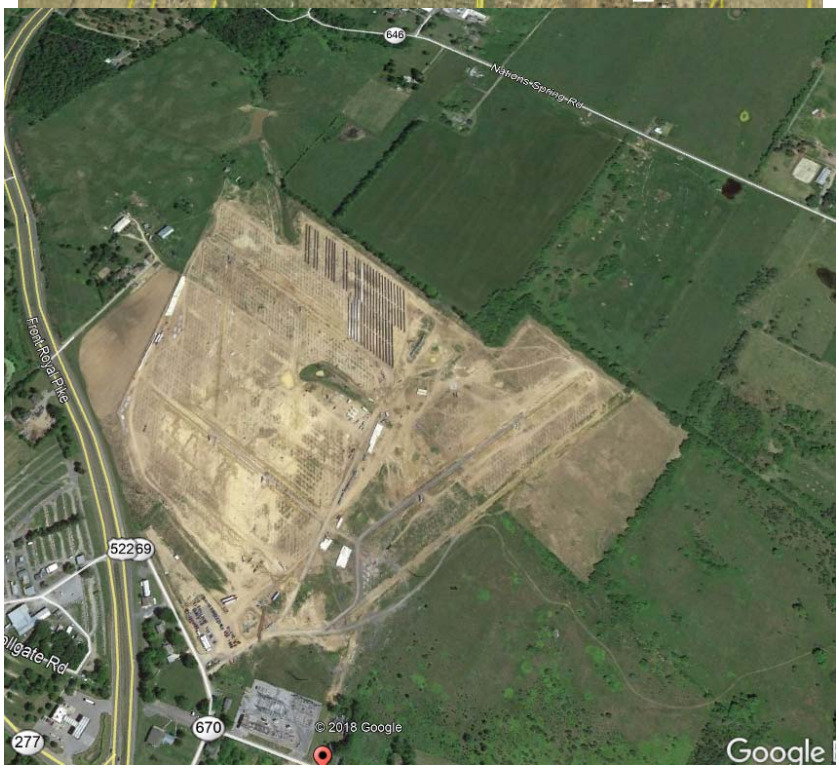
Finally, I have considered the recent sale of Parcel 17 that sold as vacant land. I was unable to find good land sales in the same 7 acre range, so I have considered sales of larger and smaller acreage. I adjusted each of those land sales for time. I then applied the price per acre to a trendline to show where the expected price per acre would be for 7 acres. As can be seen in the chart below, this lines up with the trendline running right through the purchase price for the subject property. I therefore conclude that there is no impact on Parcel 13 due to proximity to the solar farm. I note that this property was improved with a 3,196 square foot ranch built in 2018 following the land purchase, which shows that development near the solar farm was unimpeded.

Adjoining Residential Land Sales After Solar Farm Approved						**Adjoining Sales Adjusted**		
Solar	**Tax/Street**	**Acres**	**Date Sold**	**Sales Price**	**$/Ac**	**Time**	**Location**	**$/Ac**
Adjoins	227039/Mariposa	6.86	12/6/2017	$66,500	$9,694			$9,694
Not	227852/Abernathy	10.57	5/9/2018	$97,000	$9,177	-$116		$9,061
Not	17443/Legion	9.87	9/7/2018	$64,000	$6,484	-$147		$6,338
Not	177322/Robinson	5.23	5/12/2017	$66,500	$12,715	$217	-$1,272	$11,661
Not	203386/Carousel	2.99	7/13/2018	$43,500	$14,548	-$262	-$1,455	$12,832



10. Matched Pair – Clarke County Solar, Clarke County, VA





This project is a 20 MW facility located on a 234-acre tract that was built in 2017.

I have considered two recent sales of Parcel 3. The home on this parcel is 1,230 feet from the closest panel as measured in the second map from Google Earth, which shows the solar farm under construction. This home sold in January 2017 for $295,000 and again in August 2019 for $385,000. I show each sale below and compare those to similar home sales in each time frame. The significant increase in price between 2017 and 2019 is due to a major kitchen remodel, new roof, and related upgrades as well as improvement in the market in general. The sale and later resale of the home with updates and improvements speaks to pride of ownership and increasing overall value as properties perceived as diminished are less likely to be renovated and sold for profit.

I note that 102 Tilthammer includes a number of barns that I did not attribute any value in the analysis. The market would typically give some value for those barns but even without that adjustment there is an indication of a positive impact on value due to the solar farm. The landscaping buffer from this home is considered light.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
3	Adjoins	833 Nations Spr	5.13	8/18/2019	$385,000	1979	1,392	$276.58	3/2	Det Gar	Ranch	UnBsmt
	Not	167 Leslie	5.00	8/19/2020	$429,000	1980	1,665	$257.66	3/2	Det2Gar	Ranch	
	Not	2393 Old Chapel	2.47	8/10/2020	$330,000	1974	1,500	$220.00	3/1.5	Det Gar	Ranch	
	Not	102 Tilthammer	6.70	5/7/2019	$372,000	1970	1,548	$240.31	3/1.5	Det Gar	Ranch	UnBsmt

Adjoining Sales Adjusted

Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
							$385,000			1230
-$13,268		-$2,145	-$56,272		-$5,000	$50,000	$402,315	-4%		
-$9,956	$25,000	$8,250	-$19,008	$5,000		$50,000	$389,286	-1%		
$3,229		$16,740	-$29,991	$5,000			$366,978	5%		
									0%	

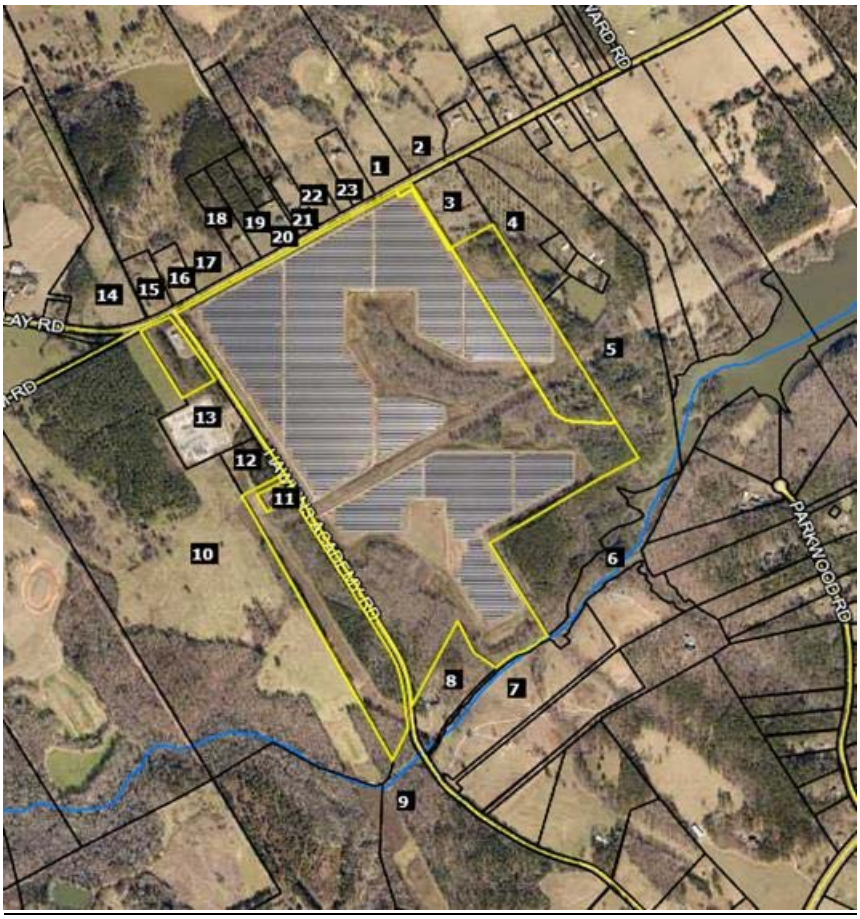
Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
3	Adjoins	833 Nations Spr	5.13	1/9/2017	$295,000	1979	1,392	$211.93	3/2	Det Gar	Ranch	UnBsmt
	Not	6801 Middle	2.00	12/12/2017	$249,999	1981	1,584	$157.83	3/2	Open	Ranch	
	Not	4174 Rockland	5.06	1/2/2017	$300,000	1990	1,688	$177.73	3/2	2 Gar	2-story	
	Not	400 Sugar Hill	1.00	6/7/2018	$180,000	1975	1,008	$178.57	3/1	Open	Ranch	

Adjoining Sales Adjusted

Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
							$295,000			1230
-$7,100	$25,000	-$2,500	-$24,242		$5,000	$50,000	$296,157	0%		
$177		-$16,500	-$42,085		-$10,000	$50,000	$281,592	5%		
-$7,797		$3,600	$54,857	$10,000	$5,000	$50,000	$295,661	0%		
									1%	

11. Matched Pair – Simon Solar, Social Circle, GA



This 30 MW solar farm is located off Hawkins Academy Road and Social Circle Fairplay Road. I identified three adjoining sales to this tract after development of the solar farm. However, one of those is shown as Parcel 12 in the map above and includes a powerline easement encumbering over a third of the 5 acres and adjoins a large substation as well. It would be difficult to isolate those impacts from any potential solar farm impact and therefore I have excluded that sale. I also excluded the recent sale of Parcel 17, which is a farm with conservation restrictions on it that similarly would require a detailed examination of those conservation restrictions in order to see if there was any impact related to the solar farm. I therefore focused on the recent sale of Parcel 7 and the adjoining parcel to the south of that. They are technically not adjoining due to the access road for the flag-shaped lot to the east. Furthermore, there is an apparent access easement serving the two rear lots that encumber these two parcels which is a further limitation on these sales. This analysis assumes that the access easement does not negatively impact the subject property, though it may.

The landscaping buffer relative to this parcel is considered medium.

Adjoining Land Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	$/AC	Type	Other
7+	Adjoins	4514 Hawkins	36.86	3/31/2016	$180,000	$4,883	Pasture	Esmts
	Not	HD Atha	69.95	12/20/2016	$357,500	$5,111	Wooded	N/A
	Not	Pannell	66.94	11/8/2016	$322,851	$4,823	Mixed	*
	Not	1402 Roy	123.36	9/29/2016	$479,302	$3,885	Mixed	**

* Adjoining 1 acre purchased by same buyer in same deed. Allocation assigned on the County Tax Record.

** Dwelling built in 1996 with a 2016 tax assessed value of $75,800 deducted from sales price to reflect land value

Adjoining Sales Adjusted						Avg
Time	Size	Type	Other	Total/Ac	% Diff	% Diff
				$4,883		
$89	$256			$5,455	-12%	
-$90	$241			$4,974	-2%	
-$60	$389			$4,214	14%	
						0%

The range of impact identified by these matched pairs are -12% to +14%, with an average of 0% impact due to the solar farm. The best matched pair with the least adjustment supports a -2% impact due to the solar farm. I note again that this analysis considers no impact for the existing access easements that meander through this property and it may be having an impact. Still at -2% impact as the best indication for the solar farm, I consider that to be no impact given that market fluctuations support +/- 5%.

12. Matched Pair – Candace Solar, Princeton, NC

This 5 MW solar farm is located at 4839 US 70 Highway just east of Herring Road. This solar farm was completed on October 25, 2016.

I identified three adjoining sales to this tract after development of the solar farm with frontage on US 70. I did not attempt to analyze those sales as they have exposure to an adjacent highway and railroad track. Those homes are therefore problematic for a matched pair analysis unless I have similar homes fronting on a similar corridor.

I did consider a land sale and a home sale on adjoining parcels without those complications.

The lot at 499 Herring Road sold to Paradise Homes of Johnston County of NC, Inc. for $30,000 in May 2017 and a modular home was placed there and sold to Karen and Jason Toole on September 29, 2017. I considered the lot sale first as shown below and then the home sale that followed. The landscaping buffer relative to this parcel is considered medium.

Adjoining Land Sales After Solar Farm Approved							**Adjoining Sales Adjusted**				
Parcel	**Solar**	**Address**	**Acres**	**Date Sold**	**Sales Price**	**Other**	**Time**	**Site**	**Other**	**Total**	**% Diff**
16	Adjoins	499 Herring	2.03	5/1/2017	$30,000					$30,000	
	Not	37 Becky	0.87	7/23/2019	$24,500	Sub/Pwr	-$1,679	$4,900		$27,721	8%
	Not	5858 Bizzell	0.88	8/17/2016	$18,000		$390	$3,600		$21,990	27%
	Not	488 Herring	2.13	12/20/2016	$35,000		$389			$35,389	-18%
										Average	5%

Following the land purchase, the modular home was placed on the site and sold. I have compared this modular home to the following sales to determine if the solar farm had any impact on the purchase price.

Adjoining Residential Sales After Solar Farm Approved

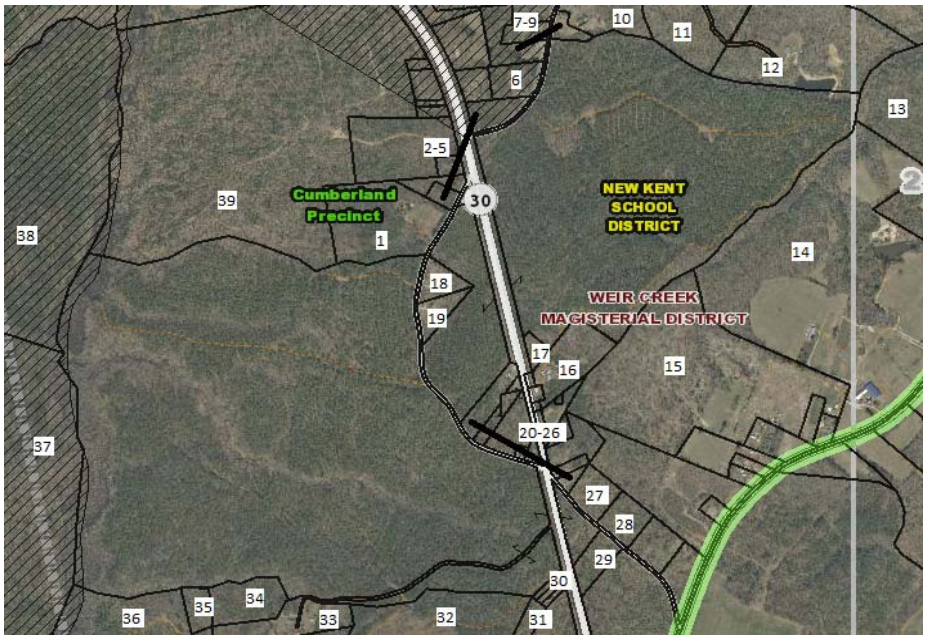
Parcel	**Solar**	**Address**	**Acres**	**Date Sold**	**Sales Price**	**Built**	**GBA**	**$/GBA**	**BR/BA**	**Park**	**Style**	**Other**
16	Adjoins	499 Herring	2.03	9/27/2017	$215,000	2017	2,356	$91.26	4/3	Drive	Modular	
	Not	678 WC	6.32	3/8/2019	$226,000	1995	1,848	$122.29	3/2.5	Det Gar	Mobile	Ag bldgs
	Not	1810 Bay V	8.70	3/26/2018	$170,000	2003	2,356	$72.16	3/2	Drive	Mobile	Ag bldgs
	Not	1795 Bay V	1.78	12/1/2017	$194,000	2017	1,982	$97.88	4/3	Drive	Modular	

Adjoining Residential Sales Af			**Adjoining Sales Adjusted**									**Avg**	
Parcel	**Solar**	**Address**	**Time**	**Site**	**YB**	**GLA**	**BR/BA**	**Park**	**Other**	**Total**	**% Diff**	**% Diff**	**Distance**
16	Adjoins	499 Herring								$215,000			488
	Not	678 WC	-$10,037	-$25,000	$24,860	$37,275	-$5,000	-$7,500	-$20,000	$220,599	-3%		
	Not	1810 Bay V	-$2,579	-$20,000	$11,900	$0				$159,321	26%		
	Not	1795 Bay V	-$1,063		$0	$21,964				$214,902	0%		
												8%	

The best comparable is 1795 Bay Valley as it required the least adjustment and was therefore most similar, which shows a 0% impact. This signifies no impact related to the solar farm.

The range of impact identified by these matched pairs ranges are therefore -3% to +26% with an average of +8% for the home and an average of +4% for the lot, though the best indicator for the lot shows a $5,000 difference in the lot value due to the proximity to the solar farm or a -12% impact.

13. Matched Pair – Walker-Correctional Solar, Barham Road, Barhamsville, VA



This project was built in 2017 and located on 484.65 acres for a 20 MW with the closest home at 110 feet from the closest solar panel with an average distance of 500 feet.

I considered the recent sale identified on the map above as Parcel 19, which is directly across the street and based on the map shown on the following page is 250 feet from the closest panel. A

limited buffering remains along the road with natural growth being encouraged, but currently the panels are visible from the road. Alex Uminski, SRA with MGMiller Valuations in Richmond VA confirmed this sale with the buying and selling broker. The selling broker indicated that the solar farm was not a negative influence on this sale and in fact the buyer noticed the solar farm and then discovered the listing. The privacy being afforded by the solar farm was considered a benefit by the buyer. I used a matched pair analysis with a similar sale nearby as shown below and found no negative impact on the sales price. Property actually closed for more than the asking price. The landscaping buffer is considered light.

Adjoining Residential Sales After Solar Farm Approved

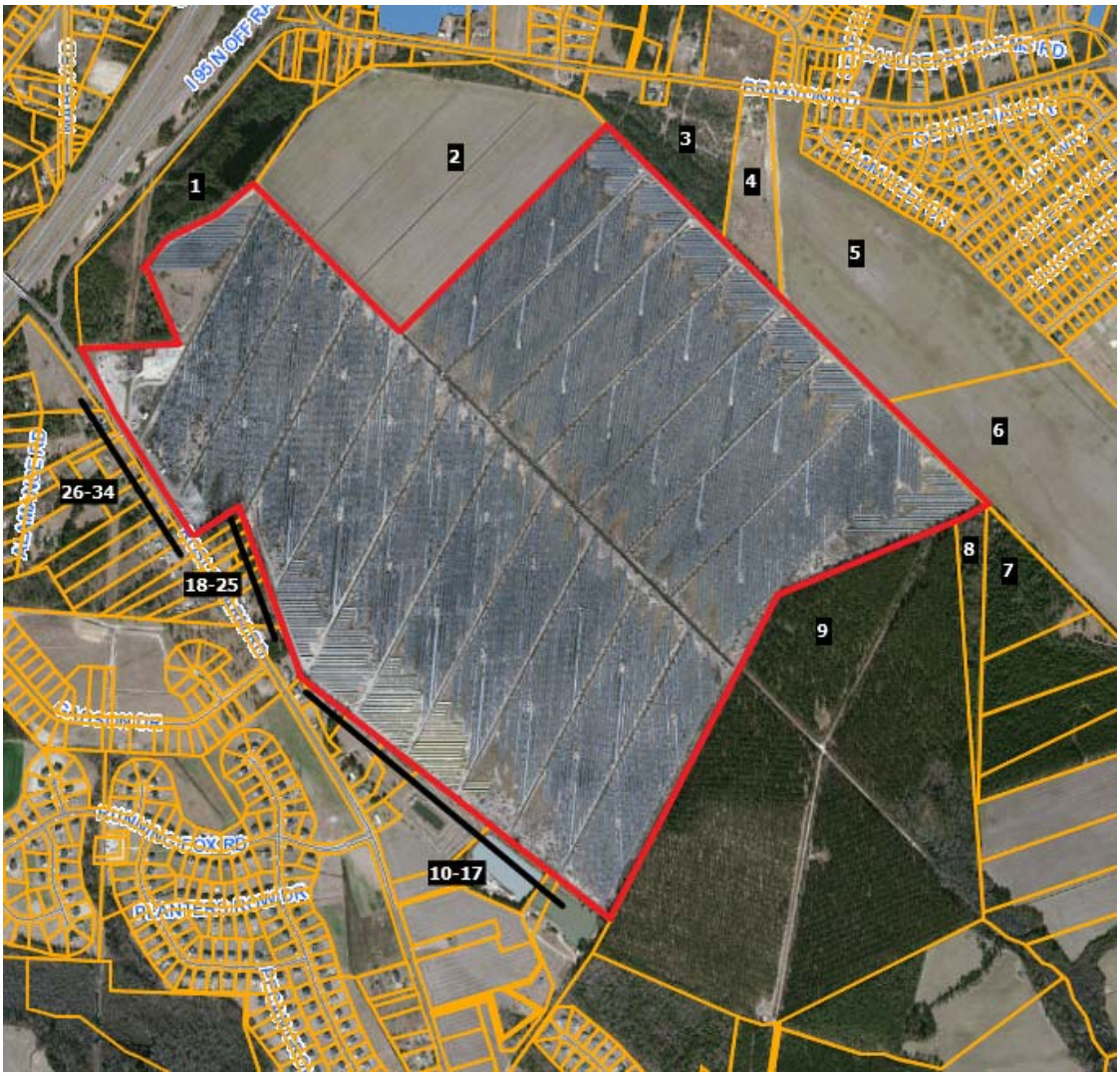
Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	5241 Barham	2.65	10/18/2018	$264,000	2007	1,660	$159.04	3/2	Drive	Ranch	Modular
Not	17950 New Kent	5.00	9/5/2018	$290,000	1987	1,756	$165.15	3/2.5	3 Gar	Ranch	
Not	9252 Ordinary	4.00	6/13/2019	$277,000	2001	1,610	$172.05	3/2	1.5-Gar	Ranch	
Not	2416 W Miller	1.04	9/24/2018	$299,000	1999	1,864	$160.41	3/2.5	Gar	Ranch	

Adjoining Sales Adjusted

Solar	Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
Adjoins	5241 Barham								$264,000		250
Not	17950 New Kent		-$8,000	$29,000	-$4,756	-$5,000	-$20,000	-$15,000	$266,244	-1%	
Not	9252 Ordinary	-$8,310	-$8,000	$8,310	$2,581		-$10,000	-$15,000	$246,581	7%	
Not	2416 W Miller		$8,000	$11,960	-$9,817	-$5,000	-$10,000	-$15,000	$279,143	-6%	
								Average Diff		0%	

I also spoke with Patrick W. McCrerey of Virginia Estates who was marketing a property that sold at 5300 Barham Road adjoining the Walker-Correctional Solar Farm. He indicated that this property was unique with a home built in 1882 and heavily renovated and updated on 16.02 acres. The solar farm was through the woods and couldn't be seen by this property and it had no impact on marketing this property. This home sold on April 26, 2017 for $358,000. I did not set up any matched pairs for this property since it is a unique property that any such comparison would be difficult to rely on. The broker's comments do support the assertion that the adjoining solar farm had no impact on value. The home in this case was 510 feet from the closest panel.

14. Matched Pair – Innovative Solar 46, Roslin Farm Rd, Hope Mills, NC



This project was built in 2016 and located on 532 acres for a 78.5 MW solar farm with the closest home at 125 feet from the closest solar panel with an average distance of 423 feet.

I considered the recent sale of a home on Roslin Farm Road just north of Running Fox Road as shown below. This sale supports an indication of no impact on property value. The landscaping buffer is considered light.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
Adjoins	6849 Roslin Farm	1.00	2/18/2019	$155,000	1967	1,610	$96.27	3/3	Drive	Ranch	Brick	435
Not	6592 Sim Canady	2.43	9/5/2017	$185,000	1974	2,195	$84.28	3/2	Gar	Ranch	Brick	
Not	1614 Joe Hall	1.63	9/3/2019	$145,000	1974	1,674	$86.62	3/2	Det Gar	Ranch	Brick	
Not	109 Bledsoe	0.68	1/17/2019	$150,000	1973	1,663	$90.20	3/2	Gar	Ranch	Brick	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	6849 Roslin Farm								$155,000		5%
Not	6592 Sim Canady	$8,278		-$6,475	-$39,444	$10,000	-$5,000		$152,359	2%	
Not	1614 Joe Hall	-$2,407		-$5,075	-$3,881	$10,000	-$2,500		$141,137	9%	
Not	109 Bledsoe	$404	$10,000	-$4,500	-$3,346		-$5,000		$147,558	5%	

15. Matched Pair – Innovative Solar 42, County Line Rd, Fayetteville, NC

This project was built in 2017 and located on 413.99 acres for a 71 MW with the closest home at 135 feet from the closest solar panel with an average distance of 375 feet.

I considered the recent sales identified on the map above as Parcels 2 and 3, which is directly across the street these homes are 330 and 340 feet away. Parcel 2 includes an older home built in 1976, while Parcel 3 is a new home built in 2019. So the presence of the solar farm had no impact on new construction in the area.

The matched pairs for each of these are shown below. The landscaping buffer relative to these parcels is considered light.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
Adjoins	2923 County Ln	8.98	2/28/2019	$385,000	1976	2,905	$132.53	3/3	2-Car	Ranch	Brick/Pond	340
Not	1928 Shaw Mill	17.00	7/3/2019	$290,000	1977	3,001	$96.63	4/4	2-Car	Ranch	Brick/Pond/Rental	
Not	2109 John McM.	7.78	4/25/2018	$320,000	1978	2,474	$129.35	3/2	Det Gar	Ranch	Vinyl/Pool,Stable	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	2923 County Ln								$385,000		3%
Not	1928 Shaw Mill	-$3,055	$100,000	-$1,450	-$7,422	-$10,000			$368,074	4%	
Not	2109 John McM.	$8,333		-$3,200	$39,023	$10,000		$5,000	$379,156	2%	

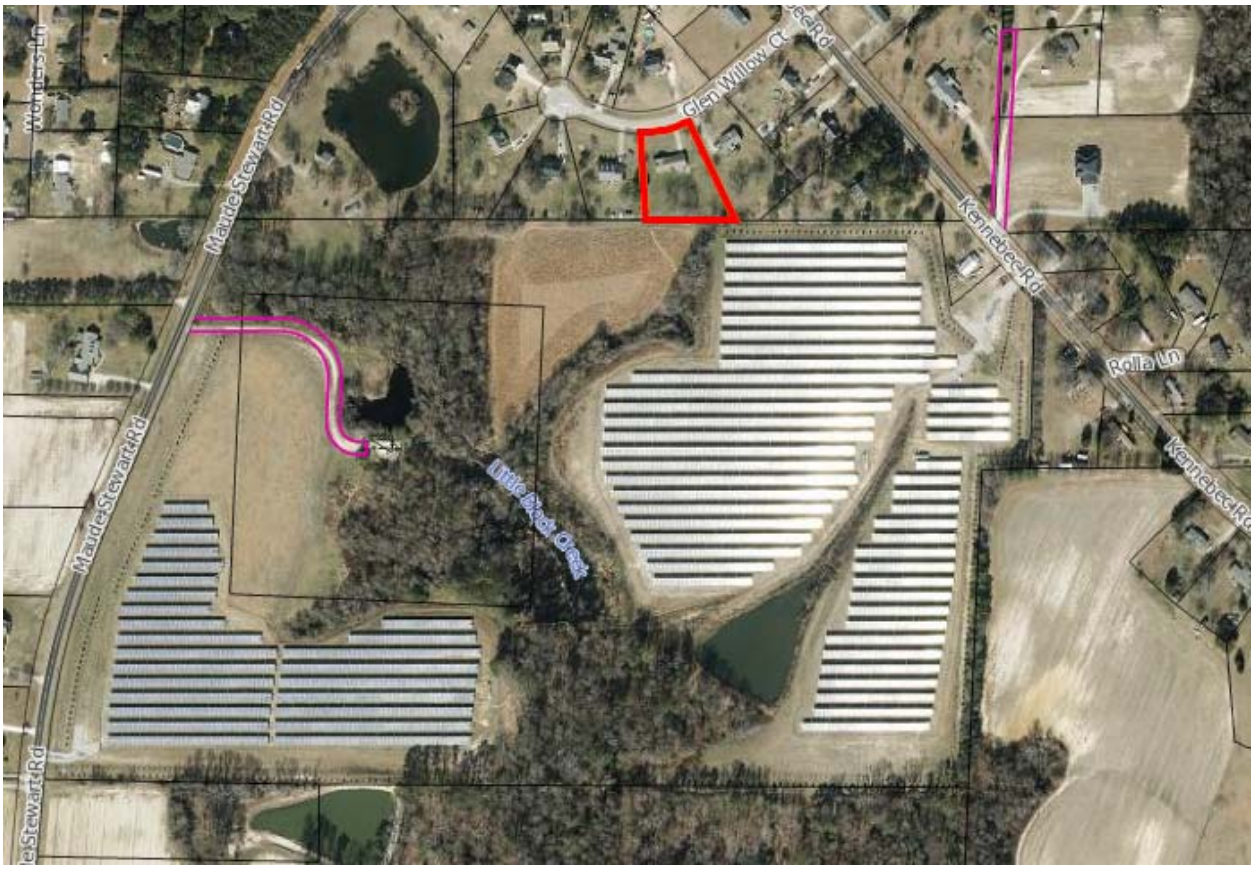
Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
Adjoins	2935 County Ln	1.19	6/18/2019	$266,000	2019	2,401	$110.79	4/3	Gar	2-Story		330
Not	3005 Hemingway	1.17	5/16/2019	$269,000	2018	2,601	$103.42	4/3	Gar	2-Story		
Not	7031 Glynn Mill	0.60	5/8/2018	$255,000	2017	2,423	$105.24	4/3	Gar	2-Story		
Not	5213 Bree Brdg	0.92	5/7/2019	$260,000	2018	2,400	$108.33	4/3	3-Gar	2-Story		

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	2935 County Ln								$266,000		3%
Not	3005 Hemingway	$748		$1,345	-$16,547				$254,546	4%	
Not	7031 Glynn Mill	$8,724		$2,550	-$1,852				$264,422	1%	
Not	5213 Bree Brdg	$920		$1,300	$76			-$10,000	$252,296	5%	

Both of these matched pairs adjust to an average of +3% on impact for the adjoining solar farm, meaning there is a slight positive impact due to proximity to the solar farm. This is within the standard +/- of typical real estate transactions, which strongly suggests no impact on property value. I noted specifically that for 2923 County Line Road, the best comparable is 2109 John McMillan as it does not have the additional rental unit on it. I made no adjustment to the other sale for the value of that rental unit, which would have pushed the impact on that comparable downward – meaning there would have been a more significant positive impact.

16. Matched Pair – Sunfish Farm, Keenebec Rd, Willow Spring, NC



This project was built in 2015 and located on 49.6 acres (with an inset 11.25 acre parcel) for a 6.4 MW project with the closest home at 135 feet with an average distance of 105 feet.

I considered the 2017 sale identified on the map above, which is 205 feet away from the closest panel. The matched pairs for each of these are shown below followed by a more recent map showing the panels at this site. The average difference in the three comparables and the subject property is +3% after adjusting for differences in the sales date, year built, gross living area, and other minor differences. This data is supported by the comments from the broker Brian Schroepfer with Keller Williams that the solar farm had no impact on the purchase price. The landscaping screen is considered light.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style
	Adjoins	7513 Glen Willow	0.79	9/1/2017	$185,000	1989	1,492	$123.99	3/2	Gar	BR/Rnch
	Not	2968 Tram	0.69	7/17/2017	$155,000	1984	1,323	$117.16	3/2	Drive	BR/Rnch
	Not	205 Pine Burr	0.97	12/29/2017	$191,000	1991	1,593	$119.90	3/2.5	Drive	BR/Rnch
	Not	1217 Old Honeycutt	1.00	12/15/2017	$176,000	1978	1,558	$112.97	3/2.5	2Carprt	VY/Rnch

Adjustments											Avg
Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff
Adjoins	7513 Glen Willow								$185,000		
Not	2968 Tram	$601		$3,875	$15,840		$10,000		$185,316	0%	
Not	205 Pine Burr	-$1,915		-$1,910	-$9,688	-$5,000			$172,487	7%	
Not	1217 Old Honeycutt	-$1,557		$9,680	-$5,965	-$5,000		$5,280	$178,438	4%	
											3%

17. Matched Pair – Sappony Solar, Sussex County, VA

This project is a 30 MW facility located on a 322.68-acre tract that was built in the fourth quarter of 2017.

I have considered the 2018 sale of Parcel 17 as shown below. This was a 1,900 s.f. manufactured home on a 6.00-acre lot that sold in 2018. I have compared that to three other nearby manufactured homes as shown below. The range of impacts is within typical market variation with an average of -1%, which supports a conclusion of no impact on property value. The landscaping buffer is considered medium.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
	Adjoins	12511 Palestine	6.00	7/31/2018	$128,400	2013	1,900	$67.58	4/2.5	Open	Manuf	
	Not	15698 Concord	3.92	7/31/2018	$150,000	2010	2,310	$64.94	4/2	Open	Manuf	Fence
	Not	23209 Sussex	1.03	7/7/2020	$95,000	2005	1,675	$56.72	3/2	Det Crpt	Manuf	
	Not	6494 Rocky Br	4.07	11/8/2018	$100,000	2004	1,405	$71.17	3/2	Open	Manuf	

Adjoining Sales Adjusted									Avg	
Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	Distance
							$128,400			1425
$0		$2,250	-$21,299	$5,000			$135,951	-6%		
-$5,660	$13,000	$3,800	$10,209	$5,000	$1,500		$122,849	4%		
-$843		$4,500	$28,185				$131,842	-3%		
									-1%	

18. Matched Pair – Camden Dam, Camden, NC

This 5 MW project was built in 2019 and located on a portion of 49.83 acres.

Parcel 1 noted above along with the home on the adjoining parcel to the north of that parcel sold in late 2018 after this solar farm was approved but prior to construction being completed in 2019. I have considered this sale as shown below. The landscaping screen is considered light.

The comparable at 548 Trotman is the most similar and required the least adjustment shows no impact on property value. The other two comparables were adjusted consistently with one showing significant enhancement and another as showing a mild negative. The best indication is the one requiring the least adjustment. The other two sales required significant site adjustments which make them less reliable. The best comparable and the average of these comparables support a finding of no impact on property value.

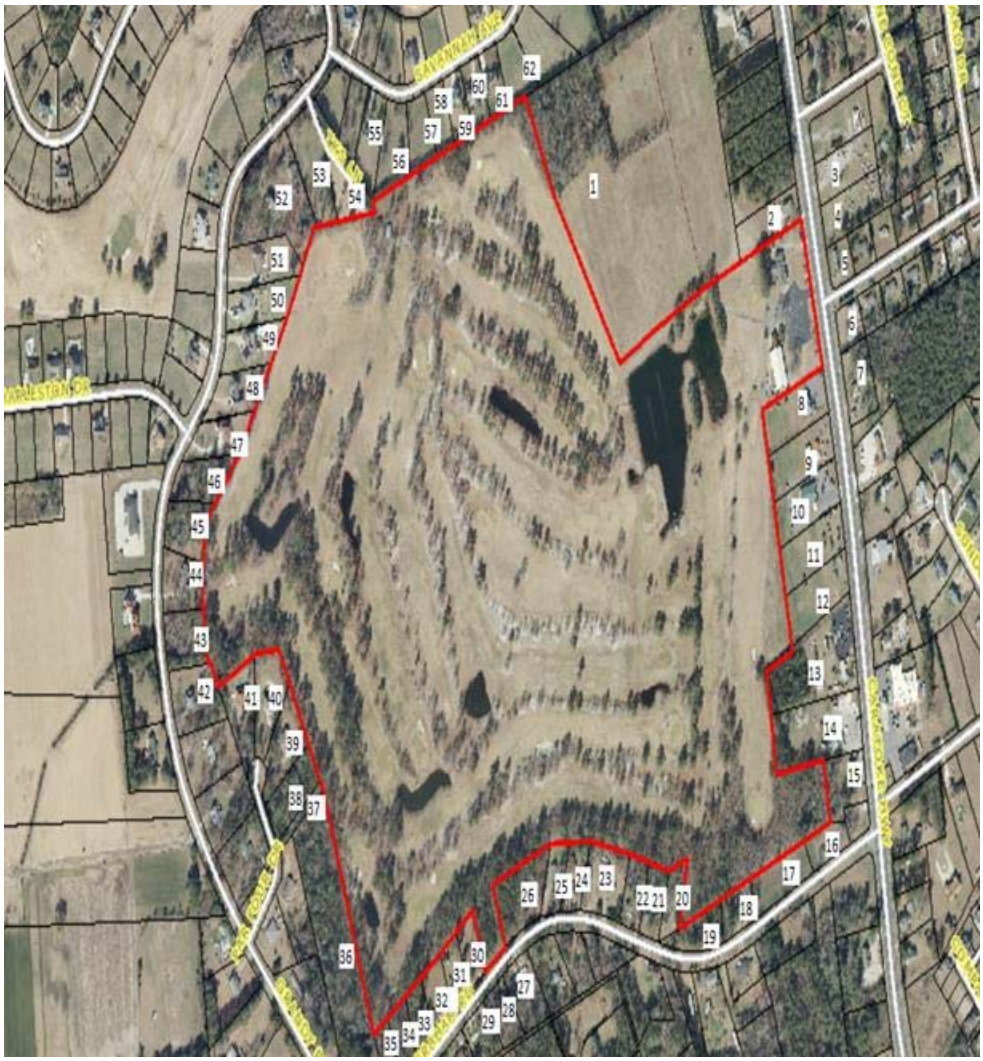
Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
Adjoins	122 N Mill Dam	12.19	11/29/2018	$350,000	2005	2,334	$149.96	3/3.5	3-Gar	Ranch	
Not	548 Trotman	12.10	5/31/2018	$309,000	2007	1,960	$157.65	4/2	Det2G	Ranch	Wrkshp
Not	198 Sand Hills	2.00	12/22/2017	$235,000	2007	2,324	$101.12	4/3	Open	Ranch	
Not	140 Sleepy Hlw	2.05	8/12/2019	$330,000	2010	2,643	$124.86	4/3	1-Gar	1.5 Story	

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
122 N Mill Dam								$350,000			342
548 Trotman	$6,163		-$3,090	$35,377	$5,000			$352,450	-1%		
198 Sand Hills	$8,808	$45,000	-$2,350	$607		$30,000		$317,064	9%		
140 Sleepy Hlw	-$9,258	$45,000	-$8,250	-$23,149	$5,000	$30,000		$369,343	-6%		
										1%	

19. Matched Pair – Grandy Solar, Grandy, NC



This 20 MW project was built in 2019 and located on a portion of 121 acres.

Parcels 40 and 50 have sold since construction began on this solar farm. I have considered both in matched pair analysis below. I note that the marketing for Parcel 40 (120 Par Four) identified the lack of homes behind the house as a feature in the listing. The marketing for Parcel 50 (269 Grandy) identified the property as "very private." Landscaping for both of these parcels is considered light.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
Adjoins	120 Par Four	0.92	8/17/2019	$315,000	2006	2,188	$143.97	4/3	2-Gar	1.5 Story	Pool
Not	102 Teague	0.69	1/5/2020	$300,000	2005	2,177	$137.80	3/2	Det 3G	Ranch	
Not	112 Meadow Lk	0.92	2/28/2019	$265,000	1992	2,301	$115.17	3/2	Gar	1.5 Story	
Not	116 Barefoot	0.78	9/29/2020	$290,000	2004	2,192	$132.30	4/3	2-Gar	2 Story	

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
120 Par Four								$315,000			405
102 Teague	-$4,636		$1,500	$910	$10,000		$20,000	$327,774	-4%		
112 Meadow Lk	$4,937		$18,550	-$7,808	$10,000	$10,000	$20,000	$320,679	-2%		
116 Barefoot	-$12,998		$2,900	-$318			$20,000	$299,584	5%		
										0%	

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
Adjoins	269 Grandy	0.78	5/7/2019	$275,000	2019	1,535	$179.15	3/2.5	2-Gar	Ranch	
Not	307 Grandy	1.04	10/8/2018	$240,000	2002	1,634	$146.88	3/2	Gar	1.5 Story	
Not	103 Branch	0.95	4/22/2020	$230,000	2000	1,532	$150.13	4/2	2-Gar	1.5 Story	
Not	103 Spring Lf	1.07	8/14/2018	$270,000	2002	1,635	$165.14	3/2	2-Gar	Ranch	Pool

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
269 Grandy								$275,000			477
307 Grandy	$5,550		$20,400	-$8,725	$5,000	$10,000		$272,225	1%		
103 Branch	-$8,847		$21,850	$270				$243,273	12%		
103 Spring Lf	$7,871		$22,950	-$9,908	$5,000		-$20,000	$275,912	0%		
										4%	

Both of these matched pairs support a finding of no impact on value. This is reinforced by the listings for both properties identifying the privacy due to no housing in the rear of the property as part of the marketing for these homes.

20. Matched Pair – Champion Solar, Lexington County, SC

This project is a 10 MW facility located on a 366.04-acre tract that was built in 2017.

I have considered the 2020 sale of an adjoining home located off 517 Old Charleston Road. Landscaping is considered light.

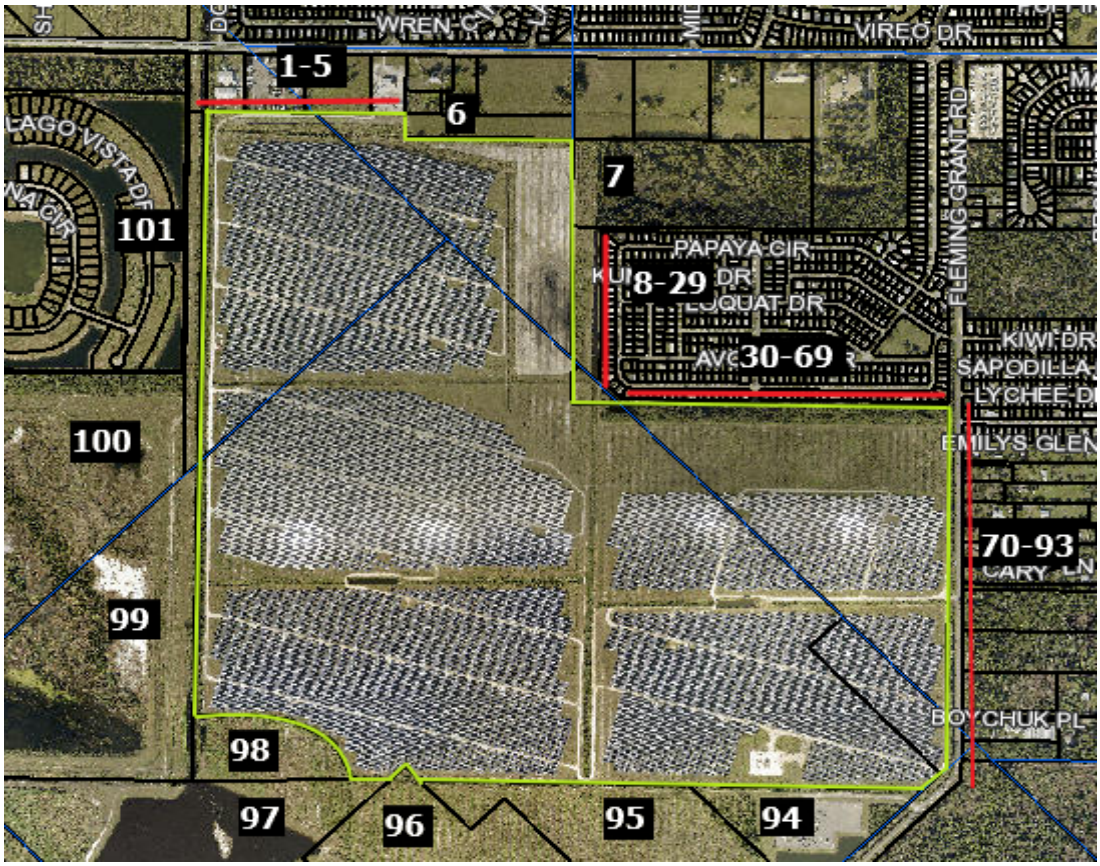
Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	517 Old Charleston	11.05	8/25/2020	$110,000	1962	925	$118.92	3/1	Crport	Br Rnch	
Not	133 Buena Vista	2.65	6/21/2020	$115,000	1979	1,104	$104.17	2/2	Crport	Br Rnch	
Not	214 Crystal Spr	2.13	6/10/2019	$102,500	1970	1,025	$100.00	3/2	Crport	Rnch	
Not	1429 Laurel	2.10	2/21/2019	$126,000	1960	1,250	$100.80	2/1.5	Open	Br Rnch	3 Gar/Brn

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
517 Old Charleston								$110,000			505
133 Buena Vista	$410	$17,000	-$9,775	-$14,917	-$10,000			$97,718	11%		
214 Crystal Spr	$2,482	$18,000	-$4,100	-$8,000	-$10,000		$10,000	$110,882	-1%		
1429 Laurel	$3,804	$18,000	$1,260	-$26,208	-$5,000	$5,000	-$15,000	$107,856	2%		
										4%	

21. Matched Pair – Barefoot Bay Solar Farm, Barefoot Bay, FL



This project is located on 504 acres for a 704.5 MW facility. Most of the adjoining uses are medium density residential with some lower density agricultural uses to the southwest. This project was built in 2018. There is a new subdivision under development to the west.

I have considered a number of recent home sales from the Barefoot Bay Golf Course in the Barefoot Bay Recreation District. There are a number of sales of these mobile/manufactured homes along the eastern boundary and the lower northern boundary. I have compared those home sales to other similar homes in the same community but without the exposure to the solar farm. Staying within the same community keeps location and amenity impacts consistent. I did avoid any comparison with home sales with golf course or lakefront views as that would introduce another variable.

The six manufactured/double wide homes shown below were each compared to three similar homes in the same community and are consistently showing no impact on the adjoining property values. Based on the photos from the listings, there is limited but some visibility of the solar farm to the east, but the canal and landscaping between are providing a good visual buffer and actually are commanding a premium over the non-canal homes.

Landscaping for these adjoining homes is considered light, though photographs from the listings show that those homes on Papaya that adjoin the solar farm from east/west have no visibility of the solar farm and is effectively medium density due to the height differential. The homes that adjoin the solar farm from north/south along Papaya have some filtered view of the solar farm through the trees.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
14	Adjoins	465 Papaya Cr	0.12	7/21/2019	$155,000	1993	1,104	$140.40	2/2	Drive	Manuf	Canal
	Not	1108 Navajo	0.14	2/27/2019	$129,000	1984	1,220	$105.74	2/2	Crprt	Manuf	Canal
	Not	1007 Barefoot	0.11	9/3/2020	$168,000	2005	1,052	$159.70	2/2	Crprt	Manuf	Canal
	Not	1132 Waterway	0.11	7/10/2020	$129,000	1982	1,012	$127.47	2/2	Crprt	Manuf	Canal

Adjoining Sales Adjusted

Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
465 Papaya Cr							$155,000			765
1108 Navajo	$1,565	$5,805	-$9,812				$126,558	18%		
1007 Barefoot	-$5,804	-$10,080	$6,643				$158,759	-2%		
1132 Waterway	-$3,859	$7,095	$9,382				$141,618	9%		
									8%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
19	Adjoins	455 Papaya	0.12	9/1/2020	$183,500	2005	1,620	$113.27	3/2	Crprt	Manuf	Canal
	Not	938 Waterway	0.11	2/12/2020	$160,000	1986	1,705	$93.84	2/2	Crprt	Manuf	Canal
	Not	719 Barefoot	0.12	4/14/2020	$150,000	1996	1,635	$91.74	3/2	Crprt	Manuf	Canal
	Not	904 Fir	0.17	9/27/2020	$192,500	2010	1,626	$118.39	3/2	Crprt	Manuf	Canal

Adjoining Sales Adjusted

Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
455 Papaya							$183,500			750
938 Waterway	$2,724	$15,200	-$6,381				$171,542	7%		
719 Barefoot	$1,770	$6,750	-$1,101				$157,419	14%		
904 Fir	-$422	-$4,813	-$568				$186,697	-2%		
									6%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
37	Adjoins	419 Papaya	0.09	7/16/2019	$127,500	1986	1,303	$97.85	2/2	Crprt	Manuf	Green
	Not	865 Tamarind	0.12	2/4/2019	$133,900	1995	1,368	$97.88	2/2	Crprt	Manuf	Green
	Not	501 Papaya	0.10	6/15/2018	$109,000	1986	1,234	$88.33	2/2	Crprt	Manuf	
	Not	418 Papaya	0.09	8/28/2019	$110,000	1987	1,248	$88.14	2/2	Crprt	Manuf	

Adjoining Sales Adjusted

Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
419 Papaya							$127,500			690
865 Tamarind	$1,828	-$6,026	-$5,090				$124,613	2%		
501 Papaya	$3,637	$0	$4,876			$5,000	$122,513	4%		
418 Papaya	-$399	-$550	$3,878			$5,000	$117,930	8%		
									5%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
39	Adjoins	413 Papaya	0.09	7/16/2020	$130,000	2001	918	$141.61	2/2	Crprt	Manuf	Grn/Upd
	Not	341 Loquat	0.09	2/3/2020	$118,000	1985	989	$119.31	2/2	Crprt	Manuf	Full Upd
	Not	1119 Pocatella	0.19	1/5/2021	$120,000	1993	999	$120.12	2/2	Crprt	Manuf	Green
	Not	1367 Barefoot	0.10	1/12/2021	$130,500	1987	902	$144.68	2/2	Crprt	Manuf	Green/Upd

Adjoining Sales Adjusted

Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
413 Papaya							$130,000			690
341 Loquat	$1,631	$9,440	-$6,777				$122,294	6%		
1119 Pocatella	-$1,749	$4,800	-$7,784			$5,000	$120,267	7%		
1367 Barefoot	-$1,979	$9,135	$1,852				$139,507	-7%		
									2%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
48	Adjoins	343 Papaya	0.09	12/17/2019	$145,000	1986	1,508	$96.15	3/2	Crprt	Manuf	Gn/Fc/Upd
	Not	865 Tamarind	0.12	2/4/2019	$133,900	1995	1,368	$97.88	2/2	Crprt	Manuf	Green
	Not	515 Papaya	0.09	3/22/2018	$145,000	2005	1,376	$105.38	3/2	Crprt	Manuf	Green
	Not	849 Tamarind	0.15	6/26/2019	$155,000	1997	1,716	$90.33	3/2	Crprt	Manuf	Grn/Fnce

Adjoining Sales Adjusted

Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
343 Papaya							$145,000			690
865 Tamarind	$3,566	-$6,026	$10,963				$142,403	2%		
515 Papaya	$7,759	-$13,775	$11,128				$150,112	-4%		
849 Tamarind	$2,273	-$8,525	-$15,030			$5,000	$138,717	4%		
									1%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
52	Nearby	335 Papaya	0.09	4/17/2018	$110,000	1987	1,180	$93.22	2/2	Crprt	Manuf	Green
	Not	865 Tamarind	0.12	2/4/2019	$133,900	1995	1,368	$97.88	2/2	Crprt	Manuf	Green
	Not	501 Papaya	0.10	6/15/2018	$109,000	1986	1,234	$88.33	2/2	Crprt	Manuf	
	Not	604 Puffin	0.09	10/23/2018	$110,000	1988	1,320	$83.33	2/2	Crprt	Manuf	

Adjoining Sales Adjusted

Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
335 Papaya							$110,000			710
865 Tamarind	-$3,306	-$5,356	-$14,721			$0	$110,517	0%		
501 Papaya	-$542	$545	-$3,816			$5,000	$110,187	0%		
604 Puffin	-$1,752	-$550	-$9,333			$5,000	$103,365	6%		
									2%	

I also identified a new subdivision being developed just to the west of this solar farm called The Lakes at Sebastian Preserve. These are all canal-lot homes that are being built with homes starting at $271,000 based on the website and closed sales showing up to $342,000. According to Monique, the onsite broker with Holiday Builders, the solar farm is difficult to see from the lots that back up to that area and she does not anticipate any difficulty in selling those future homes or lots or any impact on the sales price. The closest home that will be built in this development will be approximately 340 feet from the nearest panel.

Based on the closed home prices in Barefoot Bay as well as the broker comments and activity at The Lakes at Sebastian Preserve, the data around this solar farm strongly indicates no negative impact on property value.

22. Matched Pair – Miami-Dade Solar Farm, Miami, FL

This project is located on 346.80 acres for a 74.5 MW facility. All of the adjoining uses are agricultural and residential. This project was built in 2019.

I considered the recent sale of Parcel 26 to the south that sold for over $1.6 million dollars. This home is located on 4.2 acres with additional value in the palm trees according to the listing. The comparables include similar homes nearby that are all actually on larger lots and several include avocado or palm tree income as well. All of the comparables are in similar proximity to the subject and all have similar proximity to the Miami-Dade Executive airport that is located 2.5 miles to the east.

These sales are showing no impact on the value of the property from the adjoining solar farm. The landscaping is considered light.

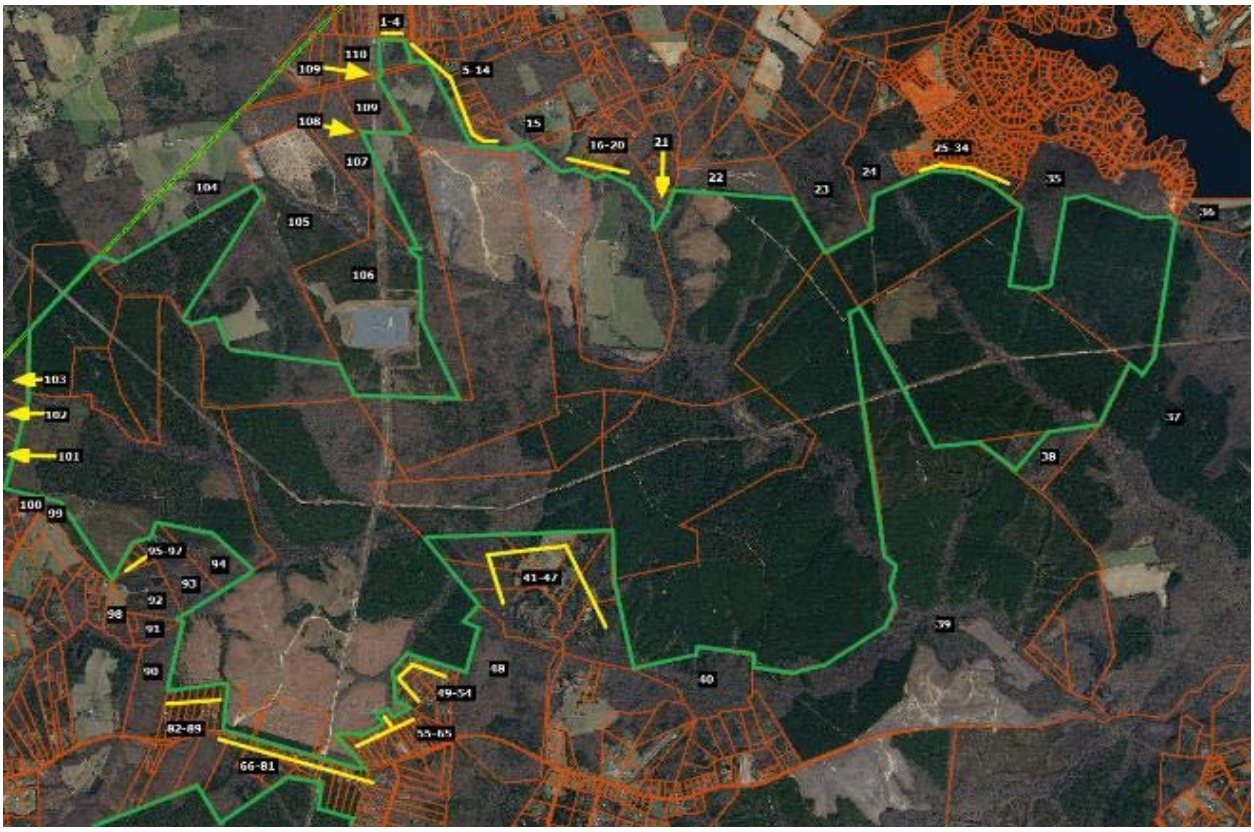
Adjoining Residential Sales After Solar Farm Approved

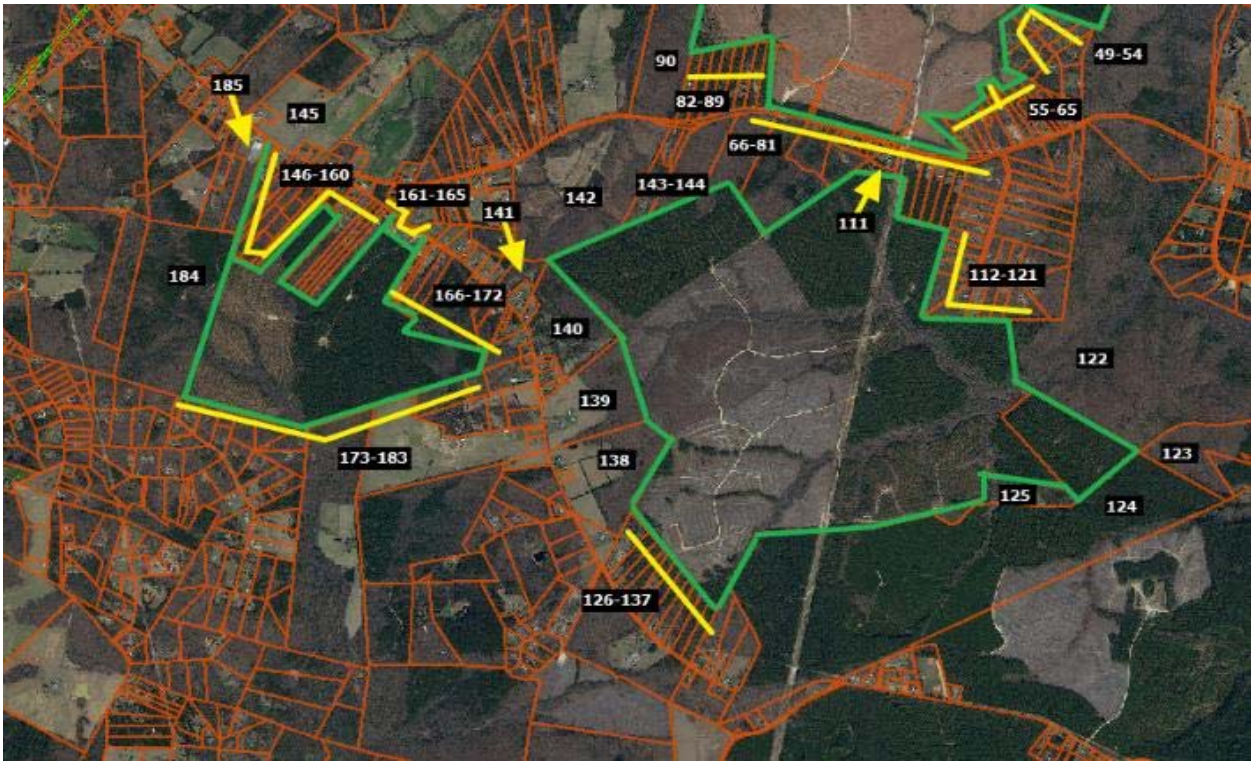
Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
26	Adjoins	13600 SW 182nd	4.20	11/5/2020	$1,684,000	2008	6,427	$262.02	5/5.5	3 Gar	CBS Rnch	Pl/Guest
	Not	18090 SW 158th	5.73	10/8/2020	$1,050,000	1997	3,792	$276.90	5/4	3 Gar	CBS Rnch	
	Not	14311 SW 187th	4.70	10/22/2020	$1,100,000	2005	3,821	$287.88	6/5	3 Gar	CBS Rnch	Pool
	Not	17950 SW 158th	6.21	10/22/2020	$1,730,000	2000	6,917	$250.11	6/5.5	2 Gar	CBS Rnch	Pool

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
13600 SW 182nd								$1,684,000			1390
18090 SW 158th	$2,478		$57,750	$583,703	$30,000			$1,723,930	-2%		
14311 SW 187th	$1,298		$16,500	$600,178	$10,000			$1,727,976	-3%		
17950 SW 158th	$2,041		$69,200	-$98,043		$10,000		$1,713,199	-2%		
										-2%	

23. Matched Pair – Spotsylvania Solar, Paytes, VA





This solar farm is being built in four phases with the area known as Site C having completed construction in November 2020 after the entire project was approved in April 2019. Site C, also known as Pleinmont 1 Solar, includes 99.6 MW located in the southeast corner of the project and shown on the maps above with adjoining parcels 111 through 144. The entire Spotsylvania project totals 617 MW on 3500 acres out of a parent tract assemblage of 6,412 acres.

I have identified three adjoining home sales that occurred during construction and development of the site in 2020.

The first is located on the north side of Site A on Orange Plank Road. The second is located on Nottoway Lane just north of Caparthin Road on the south side of Site A and east of Site C. The third is located on Post Oak Road for a home that backs up to Site C that sold in September 2020 near the completion of construction for Site C.

Spotsylvania Solar Farm

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	12901 Orng Plnk	5.20	8/27/2020	$319,900	1984	1,714	$186.64	3/2	Drive	1.5	Un Bsmt
Not	8353 Gold Dale	3.00	1/27/2021	$415,000	2004	2,064	$201.07	3/2	3 Gar	Ranch	
Not	6488 Southfork	7.26	9/9/2020	$375,000	2017	1,680	$223.21	3/2	2 Gar	1.5	Barn/Patio
Not	12717 Flintlock	0.47	12/2/2020	$290,000	1990	1,592	$182.16	3/2.5	Det Gar	Ranch	

Adjoining Sales Adjusted

Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
12901 Orng Plnk								$319,900		1270
8353 Gold Dale	-$5,219	$20,000	-$41,500	-$56,298		-$20,000		$311,983	2%	
6488 Southfork	-$401	-$20,000	-$61,875	$6,071		-$15,000		$283,796	11%	
12717 Flintlock	-$2,312	$40,000	-$8,700	$17,779	-$5,000	-$5,000		$326,767	-2%	
							Average Diff		4%	

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	9641 Nottoway	11.00	5/12/2020	$449,900	2004	3,186	$141.21	4/2.5	Garage	2-Story	Un Bsmt
Not	26123 Lafayette	1.00	8/3/2020	$390,000	2006	3,142	$124.12	3/3.5	Gar/DtG	2-Story	
Not	11626 Forest	5.00	8/10/2020	$489,900	2017	3,350	$146.24	4/3.5	2 Gar	2-Story	
Not	10304 Pny Brnch	6.00	7/27/2020	$485,000	1998	3,076	$157.67	4/4	2Gar/Dt2	Ranch	Fn Bsmt

Adjoining Sales Adjusted

Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
9641 Nottoway								$449,900		1950
26123 Lafayette	-$2,661	$45,000	-$3,900	$4,369	-$10,000	-$5,000		$417,809	7%	
11626 Forest	-$3,624		-$31,844	-$19,187		-$5,000		$430,246	4%	
10304 Pny Brnch	-$3,030		$14,550	$13,875	-$15,000	-$15,000	-$10,000	$470,396	-5%	
							Average Diff		2%	

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	13353 Post Oak	5.20	9/21/2020	$300,000	1992	2,400	$125.00	4/3	Drive	2-Story	Fn Bsmt
Not	9609 Logan Hgt	5.86	7/4/2019	$330,000	2004	2,352	$140.31	3/2	2Gar	2-Story	
Not	12810 Catharpian	6.18	1/30/2020	$280,000	2008	2,240	$125.00	4/2.5	Drive	2-Story	Bsmt/Nd Pnt
Not	10725 Rbrt Lee	5.01	10/26/2020	$295,000	1995	2,166	$136.20	4/3	Gar	2-Story	Fn Bsmt

Adjoining Sales Adjusted

Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
13353 Post Oak								$300,000		1171
9609 Logan Hgt	$12,070		-$19,800	$5,388		-$15,000	$15,000	$327,658	-9%	
12810 Catharpian	$5,408		-$22,400	$16,000	$5,000		$15,000	$299,008	0%	
10725 Rbrt Lee	-$849		-$4,425	$25,496		-$10,000		$305,222	-2%	
							Average Diff		-4%	

All three of these homes are well set back from the solar panels at distances over 1,000 feet and are well screened from the project. All three show no indication of any impact on property value.

Conclusion – SouthEast Over 5 MW

Southeast USA Over 5 MW
Matched Pair Summary

						Topo	Adj. Uses By Acreage				1 mile Radius (2010-2020 Data)			
	Name	City	State	Acres	MW	Shift	Res	Ag	Ag/Res	Com/Ind	Pop.	Med. Income	Avg. Housing Unit	Veg. Buffer
1	AM Best	Goldsboro	NC	38	5.00	2	38%	0%	23%	39%	1,523	$37,358	$148,375	Light
2	Mulberry	Selmer	TN	160	5.00	60	13%	73%	10%	3%	467	$40,936	$171,746	Lt to Med
3	Leonard	Hughesville	MD	47	5.00	20	18%	75%	0%	6%	525	$106,550	$350,000	Light
4	Gastonia SC	Gastonia	NC	35	5.00	48	33%	0%	23%	44%	4,689	$35,057	$126,562	Light
5	Summit	Moyock	NC	2,034	80.00	4	4%	0%	94%	2%	382	$79,114	$281,731	Light
6	Tracy	Bailey	NC	50	5.00	10	29%	0%	71%	0%	312	$43,940	$99,219	Heavy
7	Manatee	Parrish	FL	1,180	75.00	20	2%	97%	1%	0%	48	$75,000	$291,667	Heavy
8	McBride	Midland	NC	627	75.00	140	12%	10%	78%	0%	398	$63,678	$256,306	Lt to Med
9	Mariposa	Stanley	NC	36	5.00	96	48%	0%	52%	0%	1,716	$36,439	$137,884	Light
10	Clarke Cnty	White Post	VA	234	20.00	70	14%	39%	46%	1%	578	$81,022	$374,453	Light
11	Simon	Social Circle	GA	237	30.00	71	1%	63%	36%	0%	203	$76,155	$269,922	Medium
12	Candace	Princeton	NC	54	5.00	22	76%	24%	0%	0%	448	$51,002	$107,171	Medium
13	Walker	Barhamsville	VA	485	20.00	N/A	12%	68%	20%	0%	203	$80,773	$320,076	Light
14	Innov 46	Hope Mills	NC	532	78.50	0	17%	83%	0%	0%	2,247	$58,688	$183,435	Light
15	Innov 42	Fayetteville	NC	414	71.00	0	41%	59%	0%	0%	568	$60,037	$276,347	Light
16	Sunfish	Willow Spring	NC	50	6.40	30	35%	35%	30%	0%	1,515	$63,652	$253,138	Light
17	Sappony	Stony Crk	VA	322	20.00	N/A	2%	98%	0%	0%	74	$51,410	$155,208	Light
18	Camden Dam	Camden	NC	50	5.00	0	17%	72%	11%	0%	403	$84,426	$230,288	Light
19	Grandy	Grandy	NC	121	20.00	10	55%	24%	0%	21%	949	$50,355	$231,408	Light
20	Champion	Pelion	SC	100	10.00	N/A	4%	70%	8%	18%	1,336	$46,867	$171,939	Light
21	Barefoot Bay	Barefoot Bay	FL	504	74.50	0	11%	87%	0%	3%	2,446	$36,737	$143,320	Lt to Med
22	Miami-Dade	Miami	FL	347	74.50	0	26%	74%	0%	0%	127	$90,909	$403,571	Light
23	Spotyslvania	Paytes	VA	3,500	617.00	160	37%	52%	11%	0%	74	$120,861	$483,333	Md to Hvy
	Average			485	57.04	38	24%	48%	22%	6%	923	$63,955	$237,700	
	Median			234	20.00	20	17%	59%	11%	0%	467	$60,037	$231,408	
	High			3,500	617.00	160	76%	98%	94%	44%	4,689	$120,861	$483,333	
	Low			35	5.00	0	1%	0%	0%	0%	48	$35,057	$99,219	

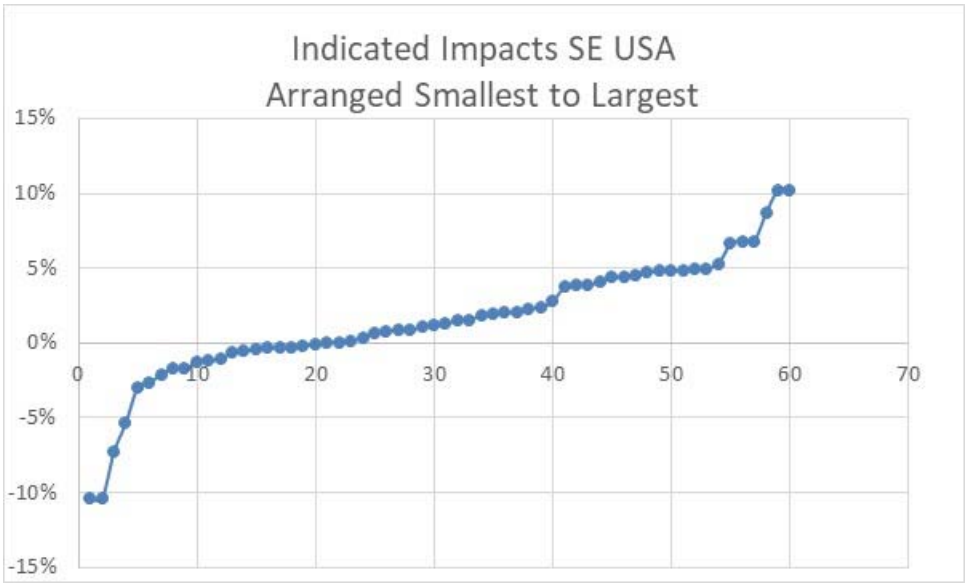
The solar farm matched pairs shown above have similar characteristics to each other in terms of population, but with several outliers showing solar farms in farm more urban areas. The median income for the population within 1 mile of a solar farm is $60,037 with a median housing unit value of $231,408. Most of the comparables are under $300,000 in the home price, with $483,333 being the high end of the set, though I have matched pairs in multiple states over $1,000,000 adjoining solar farms. The adjoining uses show that residential and agricultural uses are the predominant adjoining uses. These figures are in line with the larger set of solar farms that I have looked at with the predominant adjoining uses being residential and agricultural and similar to the solar farm breakdown shown for Virginia and adjoining states as well as the proposed subject property.

Based on the similarity of adjoining uses and demographic data between these sites and the subject property, I consider it reasonable to compare these sites to the subject property.

I have pulled 56 matched pairs from the above referenced solar farms to provide the following summary of home sale matched pairs and land sales next to solar farms. The summary shows that the range of differences is from -10% to +10% with an average of +1% and median of +1%. This means that the average and median impact is for a slight positive impact due to adjacency to a solar farm. However, this +1 to rate is within the typical variability I would expect from real estate. I therefore conclude that this data shows no negative or positive impact due to adjacency to a solar farm.

While the range is seemingly wide, the graph below clearly shows that the vast majority of the data falls between -5% and +5% and most of those are clearly in the 0 to +5% range. This data strongly supports an indication of no impact on adjoining residential uses to a solar farm.

I therefore conclude that these matched pairs support a finding of no impact on value at the subject property for the proposed project, which as proposed will include a landscaped buffer to screen adjoining residential properties.


Indicated Impacts SE USA
Arranged Smallest to Largest
15%
10%
5%
0%
-5%
-10%
-15%
0
10
20
30
40
50
60
70

Residential Dwelling Matched Pairs Adjoining Solar Farms

Pair	Solar Farm	City	State	MW	Approx Distance	Tax ID/Address	Date	Sale Price	Adj. Sale Price	% Diff	Veg. Buffer
1	AM Best	Goldsboro	NC	5	280	3600195570	Sep-13	$250,000			Light
						3600198928	Mar-14	$250,000	$250,000	0%	
2	AM Best	Goldsboro	NC	5	280	3600195361	Sep-13	$260,000			Light
						3600194813	Apr-14	$258,000	$258,000	1%	
3	AM Best	Goldsboro	NC	5	280	3600199891	Jul-14	$250,000			Light
						3600198928	Mar-14	$250,000	$250,000	0%	
4	AM Best	Goldsboro	NC	5	280	3600198632	Aug-14	$253,000			Light
						3600193710	Oct-13	$248,000	$248,000	2%	
5	AM Best	Goldsboro	NC	5	280	3600196656	Dec-13	$255,000			Light
						3601105180	Dec-13	$253,000	$253,000	1%	
6	AM Best	Goldsboro	NC	5	280	3600182511	Feb-13	$247,000			Light
						3600183905	Dec-12	$240,000	$245,000	1%	
7	AM Best	Goldsboro	NC	5	280	3600182784	Apr-13	$245,000			Light
						3600193710	Oct-13	$248,000	$248,000	-1%	
8	AM Best	Goldsboro	NC	5	280	3600195361	Nov-15	$267,500			Light
						3600195361	Sep-13	$260,000	$267,800	0%	
9	Mulberry	Selmer	TN	5	400	0900A011	Jul-14	$130,000			Light
						099CA043	Feb-15	$148,900	$136,988	-5%	
10	Mulberry	Selmer	TN	5	400	099CA002	Jul-15	$130,000			Light
						0990NA040	Mar-15	$120,000	$121,200	7%	
11	Mulberry	Selmer	TN	5	480	491 Dusty	Oct-16	$176,000			Light
						35 April	Aug-16	$185,000	$178,283	-1%	
12	Mulberry	Selmer	TN	5	650	297 Country	Sep-16	$150,000			Medium
						53 Glen	Mar-17	$126,000	$144,460	4%	
13	Mulberry	Selmer	TN	5	685	57 Cooper	Feb-19	$163,000			Medium
						191 Amelia	Aug-18	$132,000	$155,947	4%	
14	Leonard Rd	Hughesville	MD	5.5	230	14595 Box Elder	Feb-16	$291,000			Light
						15313 Bassford Rd	Jul-16	$329,800	$292,760	-1%	
15	Neal Hawkins	Gastonia	NC	5	225	609 Neal Hawkins	Mar-17	$270,000			Light
						1418 N Modena	Apr-18	$225,000	$242,520	10%	
16	Summit	Moyock	NC	80	1,060	129 Pinto	Apr-16	$170,000			Light
						102 Timber	Apr-16	$175,500	$175,101	-3%	
17	Summit	Moyock	NC	80	980	105 Pinto	Dec-16	$206,000			Light
						127 Ranchland	Jun-15	$219,900	$198,120	4%	
18	Tracy	Bailey	NC	5	780	9162 Winters	Jan-17	$255,000			Heavy
						7352 Red Fox	Jun-16	$176,000	$252,399	1%	
19	Manatee	Parrish	FL	75	1180	13670 Highland	Aug-18	$255,000			Heavy
						13851 Highland	Sep-18	$240,000	$255,825	0%	
20	McBride Place	Midland	NC	75	275	4380 Joyner	Nov-17	$325,000			Medium
						3870 Elkwood	Aug-16	$250,000	$317,523	2%	
21	McBride Place	Midland	NC	75	505	5811 Kristi	Mar-20	$530,000			Medium
						3915 Tania	Dec-19	$495,000	$504,657	5%	
22	Mariposa	Stanley	NC	5	1155	215 Mariposa	Dec-17	$249,000			Light
						110 Airport	May-16	$166,000	$239,026	4%	
23	Mariposa	Stanley	NC	5	570	242 Mariposa	Sep-15	$180,000			Light
						110 Airport	Apr-16	$166,000	$175,043	3%	
24	Clarke Cnty	White Post	VA	20	1230	833 Nations Spr	Jan-17	$295,000			Light
						6801 Middle	Dec-17	$249,999	$296,157	0%	
25	Candace	Princeton	NC	5	488	499 Herring	Sep-17	$215,000			Medium
						1795 Bay Valley	Dec-17	$194,000	$214,902	0%	
26	Walker	Barhamsville	VA	20	250	5241 Barham	Oct-18	$264,000			Light
						9252 Ordinary	Jun-19	$277,000	$246,581	7%	
27	AM Best	Goldsboro	NC	5	385	103 Granville Pl	Jul-18	$265,000			Light
						2219 Granville	Jan-18	$260,000	$265,682	0%	
28	AM Best	Goldsboro	NC	5	315	104 Erin	Jun-17	$280,000			Light
						2219 Granville	Jan-18	$265,000	$274,390	2%	
29	AM Best	Goldsboro	NC	5	400	2312 Granville	May-18	$284,900			Light
						2219 Granville	Jan-18	$265,000	$273,948	4%	

Residential Dwelling Matched Pairs Adjoining Solar Farms

Pair	Solar Farm	City	State	MW	Approx Distance	Tax ID/Address	Date	Sale Price	Adj. Sale Price	% Diff	Veg. Buffer
30	AM Best	Goldsboro	NC	5	400	2310 Granville	May-19	$280,000			Light
						634 Friendly	Jul-19	$267,000	$265,291	5%	
31	Summit	Moyock	NC	80	570	318 Green View	Sep-19	$357,000			Light
						336 Green View	Jan-19	$365,000	$340,286	5%	
32	Summit	Moyock	NC	80	440	164 Ranchland	Apr-19	$169,000			Light
						105 Longhorn	Oct-17	$184,500	$186,616	-10%	
33	Summit	Moyock	NC	80	635	358 Oxford	Sep-19	$478,000			Light
						176 Providence	Sep-19	$425,000	$456,623	4%	
34	Summit	Moyock	NC	80	970	343 Oxford	Mar-17	$490,000			Light
						218 Oxford	Apr-17	$525,000	$484,064	1%	
35	Innov 46	Hope Mills	NC	78.5	435	6849 Roslin Farm	Feb-19	$155,000			Light
						109 Bledsoe	Jan-19	$150,000	$147,558	5%	
36	Innov 42	Fayetteville	NC	71	340	2923 County Line	Feb-19	$385,000			Light
						2109 John McMillan	Apr-18	$320,000	$379,156	2%	
37	Innov 42	Fayetteville	NC	71	330	2935 County Line	Jun-19	$266,000			Light
						7031 Glynn Mill	May-18	$255,000	$264,422	1%	
38	Sunfish	Willow Sprng	NC	6.4	205	7513 Glen Willow	Sep-17	$185,000			Light
						205 Pine Burr	Dec-17	$191,000	$172,487	7%	
39	Neal Hawkins	Gastonia	NC	5	145	611 Neal Hawkins	Jun-17	$288,000			Light
						1211 Still Forrest	Jul-18	$280,000	$274,319	5%	
40	Clarke Cnty	White Post	VA	20	1230	833 Nations Spr	Aug-19	$385,000			Light
						2393 Old Chapel	Aug-20	$330,000	$389,286	-1%	
41	Sappony	Stony Creek	VA	20	1425	12511 Palestine	Jul-18	$128,400			Medium
						6494 Rocky Branch	Nov-18	$100,000	$131,842	-3%	
42	Camden Dam	Camden	NC	5	342	122 N Mill Dam	Nov-18	$350,000			Light
						548 Trotman	May-18	$309,000	$352,450	-1%	
43	Grandy	Grandy	NC	20	405	120 Par Four	Aug-19	$315,000			Light
						116 Barefoot	Sep-20	$290,000	$299,584	5%	
44	Grandy	Grandy	NC	20	477	269 Grandy	May-19	$275,000			Light
						103 Spring Leaf	Aug-18	$270,000	$275,912	0%	
45	Champion	Pelion	SC	10	505	517 Old Charleston	Aug-20	$110,000			Light
						1429 Laurel	Feb-19	$126,000	$107,856	2%	
46	Barefoot Bay	Barefoot Bay	FL	74.5	765	465 Papaya	Jul-19	$155,000			Medium
						1132 Waterway	Jul-20	$129,000	$141,618	9%	
47	Barefoot Bay	Barefoot Bay	FL	74.5	750	455 Papaya	Sep-20	$183,500			Medium
						904 Fir	Sep-20	$192,500	$186,697	-2%	
48	Barefoot Bay	Barefoot Bay	FL	74.5	690	419 Papaya	Jul-19	$127,500			Medium
						865 Tamarind	Feb-19	$133,900	$124,613	2%	
49	Barefoot Bay	Barefoot Bay	FL	74.5	690	413 Papaya	Jul-20	$130,000			Medium
						1367 Barefoot	Jan-21	$130,500	$139,507	-7%	
50	Barefoot Bay	Barefoot Bay	FL	74.5	690	343 Papaya	Dec-19	$145,000			Light
						865 Tamarind	Feb-19	$133,900	$142,403	2%	
51	Barefoot Bay	Barefoot Bay	FL	74.5	710	335 Papaya	Apr-18	$110,000			Light
						865 Tamarind	Feb-19	$133,900	$110,517	0%	
52	Miami-Dade	Miami	FL	74.5	1390	13600 SW 182nd	Nov-20	$1,684,000			Light
						17950 SW 158th	Oct-20	$1,730,000	$1,713,199	-2%	
53	Spotsylvania	Paytes	VA	617	1270	12901 Orange Plnk	Aug-20	$319,900			Medium
						12717 Flintlock	Dec-20	$290,000	$326,767	-2%	
54	Spotsylvania	Paytes	VA	617	1950	9641 Nottoway	May-20	$449,900			Medium
						11626 Forest	Aug-20	$489,900	$430,246	4%	
55	Spotsylvania	Paytes	VA	617	1171	13353 Post Oak	Sep-20	$300,000			Heavy
						12810 Catharpin	Jan-20	$280,000	$299,008	0%	
56	McBride Place	Midland	NC	75	470	5833 Kristi	Sep-20	$625,000			Light
						4055 Dakeita	Dec-20	$600,000	$594,303	5%	

MW	Avg. Distance
64.91	612
20.00	479
617.00	1,950
5.00	145

	Indicated Impact
Average	1%
Median	1%
High	10%
Low	-10%

I have further broken down these results based on the MWs, Landscaping, and distance from panel to show the following range of findings for these different categories.

Most of the findings are for homes between 201 and 500 feet. Most of the findings are for Light landscaping screens.

Light landscaping screens are showing no impact on value at any distances, including for solar farms over 75.1 MW.

MW Range 4.4 to 10									
Landscaping	**Light**	**Light**	**Light**	**Medium**	**Medium**	**Medium**	**Heavy**	**Heavy**	**Heavy**
Distance	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**
#	1	19	2	0	1	2	0	0	1
Average	5%	2%	3%	N/A	0%	4%	N/A	N/A	1%
Median	5%	1%	3%	N/A	0%	4%	N/A	N/A	1%
High	5%	10%	4%	N/A	0%	4%	N/A	N/A	1%
Low	5%	-5%	3%	N/A	0%	4%	N/A	N/A	1%

10.1 to 30									
Landscaping	**Light**	**Light**	**Light**	**Medium**	**Medium**	**Medium**	**Heavy**	**Heavy**	**Heavy**
Distance	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**
#	0	3	2	0	0	1	0	0	0
Average	N/A	4%	-1%	N/A	N/A	-3%	N/A	N/A	N/A
Median	N/A	5%	-1%	N/A	N/A	-3%	N/A	N/A	N/A
High	N/A	7%	0%	N/A	N/A	-3%	N/A	N/A	N/A
Low	N/A	0%	-1%	N/A	N/A	-3%	N/A	N/A	N/A

30.1 to 75									
Landscaping	**Light**	**Light**	**Light**	**Medium**	**Medium**	**Medium**	**Heavy**	**Heavy**	**Heavy**
Distance	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**
#	0	2	3	0	0	4	0	0	0
Average	N/A	1%	0%	N/A	N/A	0%	N/A	N/A	N/A
Median	N/A	1%	0%	N/A	N/A	0%	N/A	N/A	N/A
High	N/A	2%	2%	N/A	N/A	9%	N/A	N/A	N/A
Low	N/A	1%	-2%	N/A	N/A	-7%	N/A	N/A	N/A

75.1+									
Landscaping	**Light**	**Light**	**Light**	**Medium**	**Medium**	**Medium**	**Heavy**	**Heavy**	**Heavy**
Distance	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**
#	0	2	5	0	0	2	0	0	1
Average	N/A	-3%	2%	N/A	N/A	1%	N/A	N/A	0%
Median	N/A	-3%	4%	N/A	N/A	1%	N/A	N/A	0%
High	N/A	5%	5%	N/A	N/A	4%	N/A	N/A	0%
Low	N/A	-10%	-3%	N/A	N/A	-2%	N/A	N/A	0%

C. Summary of National Data on Solar Farms

I have worked in 19 states related to solar farms and I have been tracking matched pairs in most of those states. On the following pages I provide a brief summary of those findings showing 37 solar farms over 5 MW studied with each one providing matched pair data supporting the findings of this report.

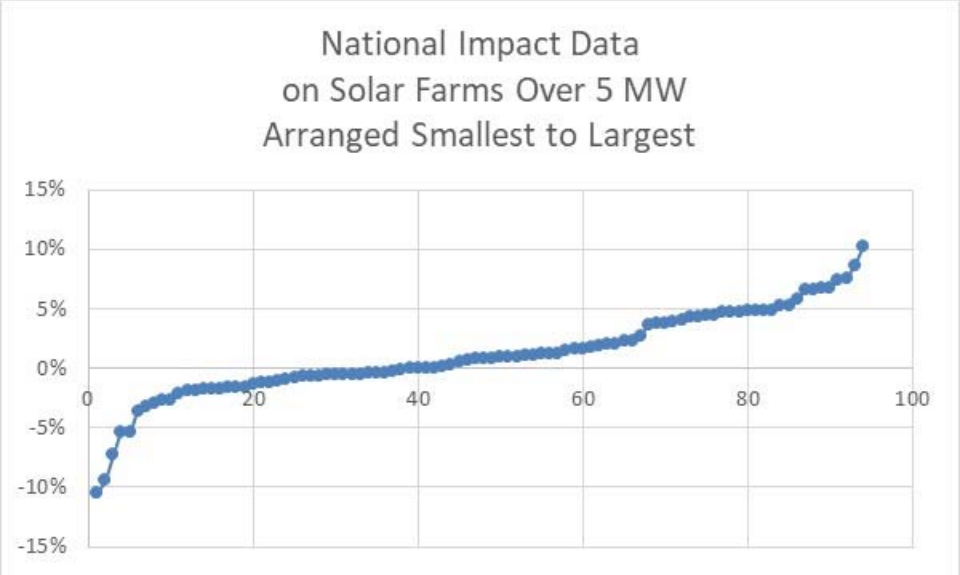
The solar farms summary is shown below with a summary of the matched pair data shown on the following page.

Matched Pair Summary							**Adj. Uses By Acreage**				**1 mile Radius (2010-2020 Data)**			
	Name	**City**	**State**	**Acres**	**MW**	**Topo Shift**	**Res**	**Ag**	**Ag/Res**	**Com/Ind**	**Popl.**	**Med. Income**	**Avg. Housing Unit**	**Veg. Buffer**
1	AM Best	Goldsboro	NC	38	5.00	2	38%	0%	23%	39%	1,523	$37,358	$148,375	Light
2	Mulberry	Selmer	TN	160	5.00	60	13%	73%	10%	3%	467	$40,936	$171,746	Lt to Med
3	Leonard	Hughesville	MD	47	5.00	20	18%	75%	0%	6%	525	$106,550	$350,000	Light
4	Gastonia SC	Gastonia	NC	35	5.00	48	33%	0%	23%	44%	4,689	$35,057	$126,562	Light
5	Summit	Moyock	NC	2,034	80.00	4	4%	0%	94%	2%	382	$79,114	$281,731	Light
7	Tracy	Bailey	NC	50	5.00	10	29%	0%	71%	0%	312	$43,940	$99,219	Heavy
8	Manatee	Parrish	FL	1,180	75.00	20	2%	97%	1%	0%	48	$75,000	$291,667	Heavy
9	McBride	Midland	NC	627	75.00	140	12%	10%	78%	0%	398	$63,678	$256,306	Lt to Med
10	Grand Ridge	Streator	IL	160	20.00	1	8%	87%	5%	0%	96	$70,158	$187,037	Light
11	Dominion	Indianapolis	IN	134	8.60	20	3%	97%	0%	0%	3,774	$61,115	$167,515	Light
12	Mariposa	Stanley	NC	36	5.00	96	48%	0%	52%	0%	1,716	$36,439	$137,884	Light
13	Clarke Cnty	White Post	VA	234	20.00	70	14%	39%	46%	1%	578	$81,022	$374,453	Light
14	Flemington	Flemington	NJ	120	9.36	N/A	13%	50%	28%	8%	3,477	$105,714	$444,696	Lt to Med
15	Frenchtown	Frenchtown	NJ	139	7.90	N/A	37%	35%	29%	0%	457	$111,562	$515,399	Light
16	McGraw	East Windsor	NJ	95	14.00	N/A	27%	44%	0%	29%	7,684	$78,417	$362,428	Light
17	Tinton Falls	Tinton Falls	NJ	100	16.00	N/A	98%	0%	0%	2%	4,667	$92,346	$343,492	Light
18	Simon	Social Circle	GA	237	30.00	71	1%	63%	36%	0%	203	$76,155	$269,922	Medium
19	Candace	Princeton	NC	54	5.00	22	76%	24%	0%	0%	448	$51,002	$107,171	Medium
20	Walker	Barhamsville	VA	485	20.00	N/A	12%	68%	20%	0%	203	$80,773	$320,076	Light
21	Innov 46	Hope Mills	NC	532	78.50	0	17%	83%	0%	0%	2,247	$58,688	$183,435	Light
22	Innov 42	Fayetteville	NC	414	71.00	0	41%	59%	0%	0%	568	$60,037	$276,347	Light
23	Demille	Lapeer	MI	160	28.40	10	10%	68%	0%	22%	2,010	$47,208	$187,214	Light
24	Turrill	Lapeer	MI	230	19.60	10	75%	59%	0%	25%	2,390	$46,839	$110,361	Light
25	Sunfish	Willow Spring	NC	50	6.40	30	35%	35%	30%	0%	1,515	$63,652	$253,138	Light
26	Picture Rocks	Tucson	AZ	182	20.00	N/A	6%	88%	6%	0%	102	$81,081	$280,172	None
27	Avra Valley	Tucson	AZ	246	25.00	N/A	3%	94%	3%	0%	85	$80,997	$292,308	None
28	Sappony	Stony Crk	VA	322	20.00	N/A	2%	98%	0%	0%	74	$51,410	$155,208	Medium
29	Camden Dam	Camden	NC	50	5.00	0	17%	72%	11%	0%	403	$84,426	$230,288	Light
30	Grandy	Grandy	NC	121	20.00	10	55%	24%	0%	21%	949	$50,355	$231,408	Light
31	Champion	Pelion	SC	100	10.00	N/A	4%	70%	8%	18%	1,336	$46,867	$171,939	Light
32	Eddy II	Eddy	TX	93	10.00	N/A	15%	25%	58%	2%	551	$59,627	$139,088	Light
33	Somerset	Somerset	TX	128	10.60	N/A	5%	95%	0%	0%	1,293	$41,574	$135,490	Light
34	DG Amp Piqua	Piqua	OH	86	12.60	2	26%	16%	58%	0%	6,735	$38,919	$96,555	Light
45	Barefoot Bay	Barefoot Bay	FL	504	74.50	0	11%	87%	0%	3%	2,446	$36,737	$143,320	Lt to Med
36	Miami-Dade	Miami	FL	347	74.50	0	26%	74%	0%	0%	127	$90,909	$403,571	Light
37	Spotyslvania	Paytes	VA	3,500	617.00	160	37%	52%	11%	0%	74	$120,861	$483,333	Med to Hvy
	Average			362	42.05	32	24%	52%	19%	6%	1,515	$66,292	$242,468	
	Median			150	17.80	10	16%	59%	7%	0%	560	$62,384	$230,848	
	High			3,500	617.00	160	98%	98%	94%	44%	7,684	$120,861	$515,399	
	Low			35	5.00	0	1%	0%	0%	0%	48	$35,057	$96,555	

From these 37 solar farms, I have derived 94 matched pairs. The matched pairs show no negative impact at distances as close as 105 feet between a solar panel and the nearest point on a home. The range of impacts is -10% to +10% with an average and median of +1%.

	MW	Avg. Distance		Indicated Impact
Average	44.80	569	**Average**	1%
Median	14.00	400	**Median**	1%
High	617.00	1,950	**High**	10%
Low	5.00	145	**Low**	-10%

While the range is broad, the two charts below show the data points in range from lowest to highest. There is only 3 data points out of 94 that show a negative impact. The rest support either a finding of no impact or 9 of the data points suggest a positive impact due to adjacency to a solar farm. As discussed earlier in this report, I consider this data to strongly support a finding of no impact on value as most of the findings are within typical market variation and even within that, most are mildly positive findings.



D. Larger Solar Farms

I have also considered larger solar farms to address impacts related to larger projects. Projects have been increasing in size and most of the projects between 100 and 1000 MW are newer with little time for adjoining sales. I have included a breakdown of solar farms with 20 MW to 80 MW facilities with one 617 MW facility.

Matched Pair Summary - @20 MW And Larger							Adj. Uses By Acreage				1 mile Radius (2010-2019 Data)			
	Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com/Ind	Popl.	Med. Income	Avg. Housing Unit	Veg. Buffer
1	Summit	Moyock	NC	2,034	80.00	4	4%	0%	94%	2%	382	$79,114	$281,731	Light
2	Manatee	Parrish	FL	1,180	75.00	20	2%	97%	1%	0%	48	$75,000	$291,667	Heavy
3	McBride	Midland	NC	627	75.00	140	12%	10%	78%	0%	398	$63,678	$256,306	Lt to Med
4	Grand Ridge	Streator	IL	160	20.00	1	8%	87%	5%	0%	96	$70,158	$187,037	Light
5	Clarke Cnty	White Post	VA	234	20.00	70	14%	39%	46%	1%	578	$81,022	$374,453	Light
6	Simon	Social Circle	GA	237	30.00	71	1%	63%	36%	0%	203	$76,155	$269,922	Medium
7	Walker	Barhamsville	VA	485	20.00	N/A	12%	68%	20%	0%	203	$80,773	$320,076	Light
8	Innov 46	Hope Mills	NC	532	78.50	0	17%	83%	0%	0%	2,247	$58,688	$183,435	Light
9	Innov 42	Fayetteville	NC	414	71.00	0	41%	59%	0%	0%	568	$60,037	$276,347	Light
10	Demille	Lapeer	MI	160	28.40	10	10%	68%	0%	22%	2,010	$47,208	$187,214	Light
11	Turrill	Lapeer	MI	230	19.60	10	75%	59%	0%	25%	2,390	$46,839	$110,361	Light
12	Picure Rocks	Tucson	AZ	182	20.00	N/A	6%	88%	6%	0%	102	$81,081	$280,172	Light
13	Avra Valley	Tucson	AZ	246	25.00	N/A	3%	94%	3%	0%	85	$80,997	$292,308	None
14	Sappony	Stony Crk	VA	322	20.00	N/A	2%	98%	0%	0%	74	$51,410	$155,208	None
15	Grandy	Grandy	NC	121	20.00	10	55%	24%	0%	21%	949	$50,355	$231,408	Medium
16	Barefoot Bay	Barefoot Bay	FL	504	74.50	0	11%	87%	0%	3%	2,446	$36,737	$143,320	Lt to Med
17	Miami-Dade	Miami	FL	347	74.50	0	26%	74%	0%	0%	127	$90,909	$403,571	Light
18	Spotyslvania	Paytes	VA	3,500	617.00	160	37%	52%	11%	0%	74	$120,861	$483,333	Med to Hvy
	Average			640	76.03		19%	64%	17%	4%	721	$69,501	$262,659	
	Median			335	29.20		12%	68%	2%	0%	293	$72,579	$273,135	
	High			3,500	617.00		75%	98%	94%	25%	2,446	$120,861	$483,333	
	Low			121	19.60		1%	0%	0%	0%	48	$36,737	$110,361	

The breakdown of adjoining uses, population density, median income and housing prices for these projects are very similar to those of the larger set. The matched pairs for each of these were considered earlier and support a finding of no negative impact on the adjoining home values.

I have included a breakdown of solar farms with 50 MW to 617 MW facilities adjoining.

Matched Pair Summary - @50 MW And Larger							Adj. Uses By Acreage				1 mile Radius (2010-2019 Data)			
	Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com/Ind	Popl.	Med. Income	Avg. Housing Unit	Veg. Buffer
1	Summit	Moyock	NC	2,034	80.00	4	4%	0%	94%	2%	382	$79,114	$281,731	Light
2	Manatee	Parrish	FL	1,180	75.00	20	2%	97%	1%	0%	48	$75,000	$291,667	Heavy
3	McBride	Midland	NC	627	75.00	140	12%	10%	78%	0%	398	$63,678	$256,306	Lt to Med
4	Innov 46	Hope Mills	NC	532	78.50	0	17%	83%	0%	0%	2,247	$58,688	$183,435	Light
5	Innov 42	Fayetteville	NC	414	71.00	0	41%	59%	0%	0%	568	$60,037	$276,347	Light
6	Barefoot Bay	Barefoot Bay	FL	504	74.50	0	11%	87%	0%	3%	2,446	$36,737	$143,320	Lt to Med
7	Miami-Dade	Miami	FL	347	74.50	0	26%	74%	0%	0%	127	$90,909	$403,571	Light
8	Spotyslvania	Paytes	VA	3,500	617.00	160	37%	52%	11%	0%	74	$120,861	$483,333	Med to Hvy
	Average			1,142	143.19		19%	58%	23%	1%	786	$73,128	$289,964	
	Median			580	75.00		15%	67%	0%	0%	390	$69,339	$279,039	
	High			3,500	617.00		41%	97%	94%	3%	2,446	$120,861	$483,333	
	Low			347	71.00		2%	0%	0%	0%	48	$36,737	$143,320	

The breakdown of adjoining uses, population density, median income and housing prices for these projects are very similar to those of the larger set. The matched pairs for each of these were considered earlier and support a finding of no negative impact on the adjoining home values.

The data for these larger solar farms is shown in the SE USA and the National data breakdowns with similar landscaping, setbacks and range of impacts that fall mostly in the +/-5% range as can be seen earlier in this report.

On the following page I show 81 projects ranging in size from 50 MW up to 1,000 MW with an average size of 111.80 MW and a median of 80 MW. The average closest distance for an adjoining home is 263 feet, while the median distance is 188 feet. The closest distance is 57 feet. The mix of adjoining uses is similar with most of the adjoining uses remaining residential or agricultural in nature. This is the list of solar farms that I have researched for possible matched pairs and not a complete list of larger solar farms in those states.

Parcel #	State	City	Name	Output (MW)	Total Acres	Used Acres	Avg. Dist to home	Closest Home	Adjoining Use by Acre			
									Res	Agri	Ag/R	Com
78	NC	Moyock	Summit/Ranchland	80	2034		674	360	4%	94%	0%	2%
133	MS	Hattiesburg	Hattiesburg	50	1129	479.6	650	315	35%	65%	0%	0%
179	SC	Ridgeland	Jasper	140	1600	1000	461	108	2%	85%	13%	0%
211	NC	Enfield	Chestnut	75	1428.1		1,429	210	4%	96%	0%	0%
222	VA	Chase City	Grasshopper	80	946.25				6%	87%	5%	1%
226	VA	Louisa	Belcher	88	1238.1			150	19%	53%	28%	0%
305	FL	Dade City	Mountain View	55	347.12		510	175	32%	39%	21%	8%
319	FL	Jasper	Hamilton	74.9	1268.9	537	3,596	240	5%	67%	28%	0%
336	FL	Parrish	Manatee	74.5	1180.4		1,079	625	2%	50%	1%	47%
337	FL	Arcadia	Citrus	74.5	640				0%	0%	100%	0%
338	FL	Port Charlotte	Babcock	74.5	422.61				0%	0%	100%	0%
353	VA	Oak Hall	Amazon East(ern sh	80	1000		645	135	8%	75%	17%	0%
364	VA	Stevensburg	Greenwood	100	2266.6	1800	788	200	8%	62%	29%	0%
368	NC	Warsaw	Warsaw	87.5	585.97	499	526	130	11%	66%	21%	3%
390	NC	Ellerbe	Innovative Solar 34	50	385.24	226	N/A	N/A	1%	99%	0%	0%
399	NC	Midland	McBride	74.9	974.59	627	1,425	140	12%	78%	9%	0%
400	FL	Mulberry	Alafia	51	420.35		490	105	7%	90%	3%	0%
406	VA	Clover	Foxhound	91	1311.8		885	185	5%	61%	17%	18%
410	FL	Trenton	Trenton	74.5	480		2,193	775	0%	26%	55%	19%
411	NC	Battleboro	Fern	100	1235.4	960.71	1,494	220	5%	76%	19%	0%
412	MD	Goldsboro	Cherrywood	202	1722.9	1073.7	429	200	10%	76%	13%	0%
434	NC	Conetoe	Conetoe	80	1389.9	910.6	1,152	120	5%	78%	17%	0%
440	FL	Debary	Debary	74.5	844.63		654	190	3%	27%	0%	70%
441	FL	Hawthorne	Horizon	74.5	684				3%	81%	16%	0%
484	VA	Newsoms	Southampton	100	3243.9		-	-	3%	78%	17%	3%
486	VA	Stuarts Draft	Augusta	125	3197.4	1147	588	165	16%	61%	16%	7%
491	NC	Misenheimer	Misenheimer 2018	80	740.2	687.2	504	130	11%	40%	22%	27%
494	VA	Shacklefords	Walnut	110	1700	1173	641	165	14%	72%	13%	1%
496	VA	Clover	Piney Creek	80	776.18	422	523	195	15%	62%	24%	0%
511	NC	Scotland Neck	American Beech	160	3255.2	1807.8	1,262	205	2%	58%	38%	3%
514	NC	Reidsville	Williamsburg	80	802.6	507	734	200	25%	12%	63%	0%
517	VA	Luray	Cape	100	566.53	461	519	110	42%	12%	46%	0%
518	VA	Emporia	Fountain Creek	80	798.3	595	862	300	6%	23%	71%	0%
525	NC	Plymouth	Macadamia	484	5578.7	4813.5	1,513	275	1%	90%	9%	0%
526	NC	Mooresboro	Broad River	50	759.8	365	419	70	29%	55%	16%	0%
555	FL	Mulberry	Durrance	74.5	463.57	324.65	438	140	3%	97%	0%	0%
560	NC	Yadkinville	Sugar	60	477	357	382	65	19%	39%	20%	22%
561	NC	Enfield	Halifax 80mw 2019	80	1007.6	1007.6	672	190	8%	73%	19%	0%
577	VA	Windsor	Windsor	85	564.1	564.1	572	160	9%	67%	24%	0%
579	VA	Paytes	Spotsylvania	500	6412	3500			9%	52%	11%	27%
582	NC	Salisbury	China Grove	65	428.66	324.26	438	85	58%	4%	38%	0%
583	NC	Walnut Cove	Lick Creek	50	1424	185.11	410	65	20%	64%	11%	5%
584	NC	Enfield	Sweetleaf	94	1956.3	1250	968	160	5%	63%	32%	0%
586	VA	Aylett	Sweet Sue	77	1262	576	1,617	680	7%	68%	25%	0%
593	NC	Windsor	Sumac	120	3360.6	1257.9	876	160	4%	90%	6%	0%
599	TN	Somerville	Yum Yum	147	4000	1500	1,862	330	3%	32%	64%	1%
602	GA	Waynesboro	White Oak	76.5	516.7	516.7	2,995	1,790	1%	34%	65%	0%
603	GA	Butler	Butler GA	103	2395.1	2395.1	1,534	255	2%	73%	23%	2%
604	GA	Butler	White Pine	101.2	505.94	505.94	1,044	100	1%	51%	48%	1%
605	GA	Metter	Live Oak	51	417.84	417.84	910	235	4%	72%	23%	0%
606	GA	Hazelhurst	Hazelhurst II	52.5	947.15	490.42	2,114	105	9%	64%	27%	0%
607	GA	Bainbridge	Decatur Parkway	80	781.5	781.5	1,123	450	2%	27%	22%	49%
608	GA	Leslie-DeSoto	Americus	1000	9661.2	4437	5,210	510	1%	63%	36%	0%
616	FL	Fort White	Fort White	74.5	570.5	457.2	828	220	12%	71%	17%	0%
621	VA	Spring Grove	Loblolly	150	2181.9	1000	1,860	110	7%	62%	31%	0%
622	VA	Scottsville	Woodridge	138	2260.9	1000	1,094	170	9%	63%	28%	0%
625	NC	Middlesex	Phobos	80	754.52	734	356	57	14%	75%	10%	0%
628	MI	Deerfield	Carroll Road	200	1694.8	1694.8	343	190	12%	86%	0%	2%
633	VA	Emporia	Brunswick	150.2	2076.4	1387.3	1,091	240	4%	85%	11%	0%
634	NC	Elkin	Partin	50	429.4	257.64	945	155	30%	25%	15%	30%

Parcel #	State	City	Name	Output (MW)	Total Acres	Used Acres	Avg. Dist to home	Closest Home	Adjoining Use by Acre Res	Agri	Ag/R	Com
638	GA	Dry Branch	Twiggs	200	2132.7	2132.7	-	-	10%	55%	35%	0%
639	NC	Hope Mills	Innovative Solar 46	78.5	531.87	531.87	423	125	17%	83%	0%	0%
640	NC	Hope Mills	Innovative Solar 42	71	413.99	413.99	375	135	41%	59%	0%	0%
645	NC	Stanley	Hornet	75	1499.5	858.4	663	110	30%	40%	23%	6%
650	NC	Grifton	Grifton 2	56	681.59	297.6	363	235	1%	99%	0%	0%
651	NC	Grifton	Buckleberry	52.1	367.67	361.67	913	180	5%	54%	41%	0%
657	KY	Greensburg	Horseshoe Bend	60	585.65	395	1,394	63	3%	36%	61%	0%
658	KY	Campbellsville	Flat Run	55	429.76	429.76	408	115	13%	52%	35%	0%
666	FL	Archer	Archer	74.9	636.94	636.94	638	200	43%	57%	0%	0%
667	FL	New Smyrna Bea	Pioneer Trail	74.5	1202.8	900	1,162	225	14%	61%	21%	4%
668	FL	Lake City	Sunshine Gateway	74.5	904.29	472	1,233	890	11%	80%	8%	0%
669	FL	Florahome	Coral Farms	74.5	666.54	580	1,614	765	19%	75%	7%	0%
672	VA	Appomattox	Spout Spring	60	881.12	673.37	836	335	16%	30%	46%	8%
676	TX	Stamford	Alamo 7	106.4	1663.1	1050	-	-	6%	83%	0%	11%
677	TX	Fort Stockton	RE Roserock	160	1738.2	1500	-	-	0%	100%	0%	0%
678	TX	Lamesa	Lamesa	102	914.5	655	921	170	4%	41%	11%	44%
679	TX	Lamesa	Ivory	50	706	570	716	460	0%	87%	2%	12%
680	TX	Uvalde	Alamo 5	95	830.35	800	925	740	1%	93%	6%	0%
684	NC	Waco	Brookcliff	50	671.03	671.03	560	150	7%	21%	15%	57%
689	AZ	Arlington	Mesquite	320.8	3774.5	2617	1,670	525	8%	92%	0%	0%
692	AZ	Tucson	Avalon	51	479.21	352	-	-	0%	100%	0%	0%
				81								
			Average	111.80	1422.4	968.4	1031	263	10%	62%	22%	6%
			Median	80.00	914.5	646.0	836	188	7%	64%	17%	0%
			High	1000.00	9661.2	4813.5	5210	1790	58%	100%	100%	70%
			Low	50.00	347.1	185.1	343	57	0%	0%	0%	0%

VII. Distance Between Homes and Panels

I have measured distances at matched pairs as close as 105 feet between panel and home to show no impact on value. This measurement goes from the closest point on the home to the closest solar panel. This is a strong indication that at this distance there is no impact on adjoining homes.

However, in tracking other approved solar farms across Kentucky, North Carolina and other states, I have found that it is common for there to be homes within 100 to 150 feet of solar panels. Given the visual barriers in the form of privacy fencing or landscaping, there is no sign of negative impact.

I have also tracked a number of locations where solar panels are between 50 and 100 feet of single-family homes. In these cases the landscaping is typically a double row of more mature evergreens at time of planting. There are many examples of solar farms with one or two homes closer than 100-feet, but most of the adjoining homes are further than that distance.

VIII. Topography

As shown on the summary charts for the solar farms, I have been identifying the topographic shifts across the solar farms considered. Differences in topography can impact visibility of the panels, though typically this results in distant views of panels as opposed to up close views. The topography noted for solar farms showing no impact on adjoining home values range from as much as 160-foot shifts across the project. Given that appearance is the only factor of concern and that distance plus landscape buffering typically addresses up close views, this leaves a number of potentially distant views of panels. I specifically note that in Crittenden in KY there are distant views of panels from the adjoining homes that showed no impact on value.

General rolling terrain with some distant solar panel views are showing no impact on adjoining property value.

IX. Potential Impacts During Construction

I have previously been asked by the Kentucky Siting Board about potential impacts during construction. This is not a typical question I get as any development of a site will have a certain amount of construction, whether it is for a commercial agricultural use such as large-scale poultry operations or a new residential subdivision. Construction will be temporary and consistent with other development uses of the land and in fact dust from the construction will likely be less than most other construction projects given the minimal grading. I would not anticipate any impacts on property value due to construction on the site.

I note that in the matched pairs that I have included there have been a number of home sales that happened after a solar farm was approved but before the solar farm was built showing no impact on property value. Therefore the anticipated construction had no impact as shown by that data.

X. Scope of Research

I have researched over 800 solar farms and sites on which solar farms are existing and proposed in Kentucky, Illinois, Tennessee, North Carolina, Virginia as well as other states to determine what uses are typically found in proximity with a solar farm. The data I have collected and provide in this report strongly supports the assertion that solar farms are having no negative consequences on adjoining agricultural and residential values.

Beyond these references, I have quantified the adjoining uses for a number of solar farm comparables to derive a breakdown of the adjoining uses for each solar farm. The chart below shows the breakdown of adjoining or abutting uses by total acreage.

Percentage By Adjoining Acreage

	Res	Ag	Res/AG	Comm	Ind	Avg Home	Closest Home	All Res Uses	All Comm Uses
Average	19%	53%	20%	2%	6%	887	344	91%	8%
Median	11%	56%	11%	0%	0%	708	218	100%	0%
High	100%	100%	100%	93%	98%	5,210	4,670	100%	98%
Low	0%	0%	0%	0%	0%	90	25	0%	0%

Res = Residential, Ag = Agriculture, Com = Commercial

Total Solar Farms Considered: 705

I have also included a breakdown of each solar farm by number of adjoining parcels to the solar farm rather than based on adjoining acreage. Using both factors provides a more complete picture of the neighboring properties.

Percentage By Number of Parcels Adjoining

	Res	Ag	Res/AG	Comm	Ind	Avg Home	Closest Home	All Res Uses	All Comm Uses
Average	61%	24%	9%	2%	4%	887	344	93%	6%
Median	65%	19%	5%	0%	0%	708	218	100%	0%
High	100%	100%	100%	60%	78%	5,210	4,670	105%	78%
Low	0%	0%	0%	0%	0%	90	25	0%	0%

Res = Residential, Ag = Agriculture, Com = Commercial

Total Solar Farms Considered: 705

Both of the above charts show a marked residential and agricultural adjoining use for most solar farms. Every single solar farm considered included an adjoining residential or residential/agricultural use.

XI. Specific Factors Related To Impacts on Value

I have completed a number of Impact Studies related to a variety of uses and I have found that the most common areas for impact on adjoining values typically follow a hierarchy with descending levels of potential impact. I will discuss each of these categories and how they relate to a solar farm.

1. Hazardous material
2. Odor
3. Noise
4. Traffic
5. Stigma
6. Appearance

1. Hazardous material

A solar farm presents no potential hazardous waste byproduct as part of normal operation. Any fertilizer, weed control, vehicular traffic, or construction will be significantly less than typically applied in a residential development and even most agricultural uses.

The various solar farms that I have inspected and identified in the addenda have no known environmental impacts associated with the development and operation.

2. Odor

The various solar farms that I have inspected produced no odor.

3. Noise

Whether discussing passive fixed solar panels, or single-axis trackers, there is no negative impact associated with noise from a solar farm. The transformer reportedly has a hum similar to an HVAC that can only be heard in close proximity to this transformer and the buffers on the property are sufficient to make emitted sounds inaudible from the adjoining properties. No sound is emitted from the facility at night.

The various solar farms that I have inspected were inaudible from the roadways.

4. Traffic

The solar farm will have no onsite employee's or staff. The site requires only minimal maintenance. Relative to other potential uses of the site (such as a residential subdivision), the additional traffic generated by a solar farm use on this site is insignificant.

5. Stigma

There is no stigma associated with solar farms and solar farms and people generally respond favorably towards such a use. While an individual may express concerns about proximity to a solar farm, there is no specific stigma associated with a solar farm. Stigma generally refers to things such as adult establishments, prisons, rehabilitation facilities, and so forth.

Solar panels have no associated stigma and in smaller collections are found in yards and roofs in many residential communities. Solar farms are adjoining elementary, middle and high schools as well as churches and subdivisions. I note that one of the solar farms in this report not only adjoins a church, but is actually located on land owned by the church. Solar panels on a roof are often cited as an enhancement to the property in marketing brochures.

I see no basis for an impact from stigma due to a solar farm.

6. Appearance

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

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.

Whenever you consider the impact of a proposed project on viewshed or what the adjoining owners may see from their property it is important to distinguish whether or not they have a protected viewshed or not. Enhancements for scenic vistas are often measured when considering properties that adjoin preserved open space and parks. However, adjoining land with a preferred view today conveys no guarantee that the property will continue in the current use. Any consideration of the impact of the appearance requires a consideration of the wide variety of other uses a property already has the right to be put to, which for solar farms often includes subdivision development, agricultural business buildings such as poultry, or large greenhouses and the like.

Dr. Randall Bell, MAI, PhD, and author of the book **Real Estate Damages**, Third Edition, on Page 146 "Views of bodies of water, city lights, natural settings, parks, golf courses, and other amenities are considered desirable features, particularly for residential properties." Dr. Bell continues on Page 147 that "View amenities may or may not be protected by law or regulation. It is sometimes argued that views have value only if they are protected by a view easement, a zoning ordinance, or covenants, conditions, and restrictions (CC&Rs), although such protections are relatively

uncommon as a practical matter. The market often assigns significant value to desirable views irrespective of whether or not such views are protected by law."

Dr. Bell concludes that a view enhances adjacent property, even if the adjacent property has no legal right to that view. He then discusses a "borrowed" view where a home may enjoy a good view of vacant land or property beyond with a reasonable expectation that the view might be partly or completely obstructed upon development of the adjoining land. He follows that with "This same concept applies to potentially undesirable views of a new development when the development conforms to applicable zoning and other regulations. Arguing value diminution in such cases is difficult, since the possible development of the offending property should have been known." In other words, if there is an allowable development on the site then arguing value diminution with such a development would be difficult. This further extends to developing the site with alternative uses that are less impactful on the view than currently allowed uses.

This gets back to the point that if a property has development rights and could currently be developed in such a way that removes the viewshed such as a residential subdivision, than a less intrusive use such as a solar farm that is easily screened by landscaping would not have a greater impact on the viewshed of any perceived value adjoining properties claim for viewshed. Essentially, if there are more impactful uses currently allowed, then there is no viewshed enhancement to adjoining parcels.

7. Conclusion

On the basis of the factors described above, it is my professional opinion that the proposed solar farm will not negatively impact adjoining property values. The only category of impact of note is appearance, which is addressed through setbacks and landscaping buffers. The matched pair data supports that conclusion.

XII. Conclusion

The matched pair analysis shows no negative impact in home values due to abutting or adjoining a solar farm as well as no impact to abutting or adjacent vacant residential or agricultural land. The criteria that typically correlates with downward adjustments on property values such as noise, odor, and traffic all support a finding of no impact on property value.

Very similar solar farms in very similar areas have been found by hundreds of towns and counties not to have a substantial injury 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 adjoining agricultural uses, schools, churches, and residential developments.

I have found no difference in the mix of adjoining uses or proximity to adjoining homes based on the size of a solar farm and I have found no significant difference in the matched pair data adjoining larger solar farms versus smaller solar farms. The data in the Southeast is consistent with the larger set of data that I have nationally, as is the more specific data located in and around Kentucky.

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 negative impact on the value of adjoining or abutting property. 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 no traffic.

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Kirkland Appraisals, LLC

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www.kirklandappraisals.com

Professional Experience

Kirkland Appraisals, LLC, Raleigh, N.C. — 2003 – Present
Commercial appraiser

Hester & Company, Raleigh, N.C.
Commercial appraiser — 1996 – 2003

Professional Affiliations

MAI (Member, Appraisal Institute) designation #11796 — 2001
NC State Certified General Appraiser # A4359 — 1999
VA State Certified General Appraiser # 4001017291
SC State Certified General Appraiser # 6209
FL State Certified General Appraiser # RZ3950
IL State Certified General Appraiser # 553.002633
KY State Certified General Appraiser # 5522

Education

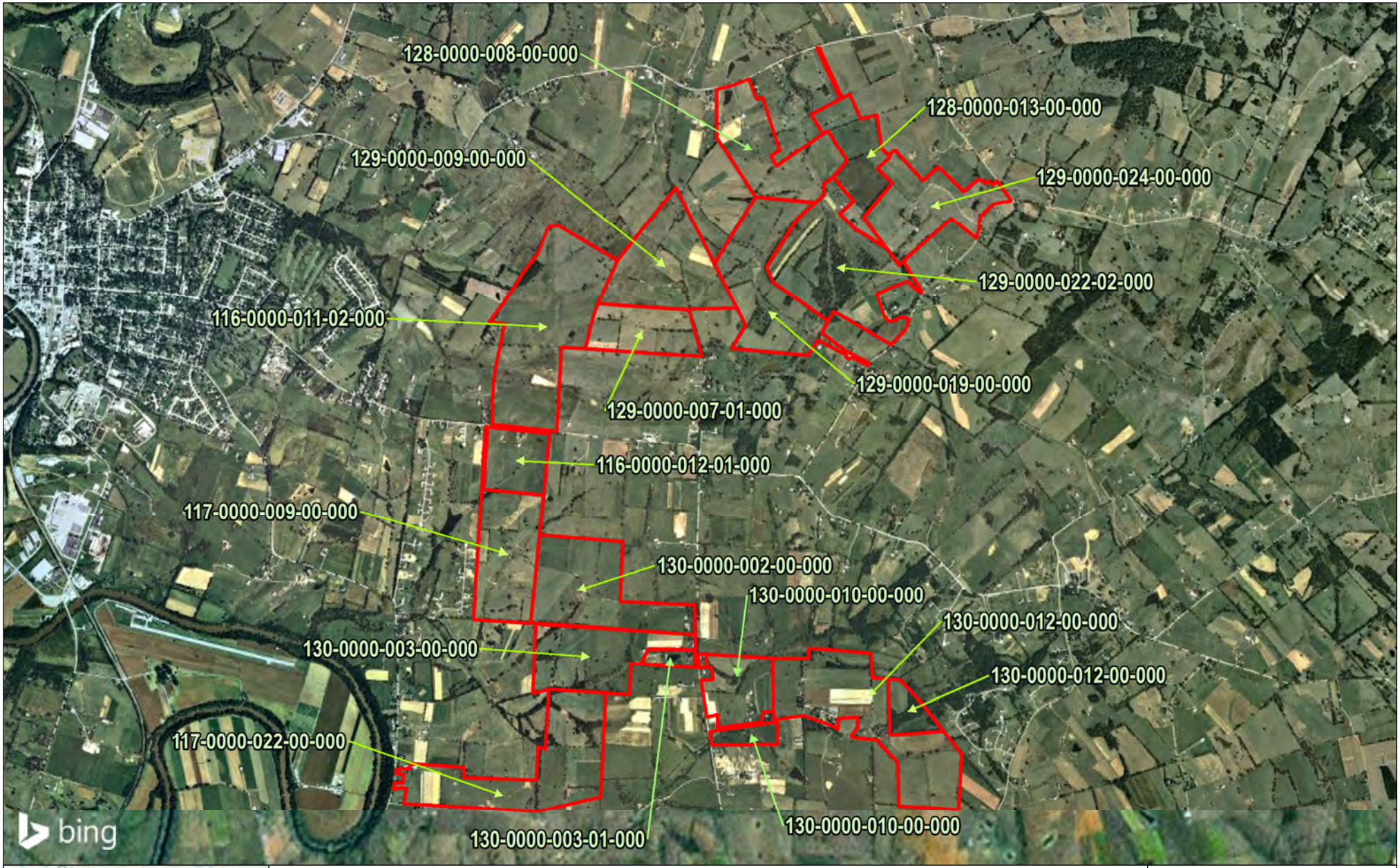
Bachelor of Arts in English, University of North Carolina, Chapel Hill — 1993

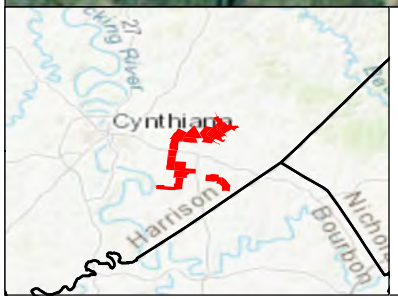
Continuing Education

Florida Appraisal Laws and Regulations	2020
Michigan Appraisal Law	2020
Uniform Standards of Professional Appraisal Practice Update	2020
Uniform Appraisal Standards for Federal Land Acquisitions (Yellow Book)	2019
The Cost Approach	2019
Income Approach Case Studies for Commercial Appraisers	2018
Introduction to Expert Witness Testimony for Appraisers	2018
Appraising Small Apartment Properties	2018
Florida Appraisal Laws and Regulations	2018
Uniform Standards of Professional Appraisal Practice Update	2018
Appraisal of REO and Foreclosure Properties	2017
Appraisal of Self Storage Facilities	2017
Land and Site Valuation	2017
NCDOT Appraisal Principles and Procedures	2017
Uniform Standards of Professional Appraisal Practice Update	2016
Forecasting Revenue	2015
Wind Turbine Effect on Value	2015
Supervisor/Trainee Class	2015
Business Practices and Ethics	2014
Subdivision Valuation	2014
Uniform Standards of Professional Appraisal Practice Update	2014
Introduction to Vineyard and Winery Valuation	2013
Appraising Rural Residential Properties	2012

Uniform Standards of Professional Appraisal Practice Update	2012
Supervisors/Trainees	2011
Rates and Ratios: Making sense of GIMs, OARs, and DCFs	2011
Advanced Internet Search Strategies	2011
Analyzing Distressed Real Estate	2011
Uniform Standards of Professional Appraisal Practice Update	2011
Business Practices and Ethics	2011
Appraisal Curriculum Overview (2 Days – General)	2009
Appraisal Review - General	2009
Uniform Standards of Professional Appraisal Practice Update	2008
Subdivision Valuation: A Comprehensive Guide	2008
Office Building Valuation: A Contemporary Perspective	2008
Valuation of Detrimental Conditions in Real Estate	2007
The Appraisal of Small Subdivisions	2007
Uniform Standards of Professional Appraisal Practice Update	2006
Evaluating Commercial Construction	2005
Conservation Easements	2005
Uniform Standards of Professional Appraisal Practice Update	2004
Condemnation Appraising	2004
Land Valuation Adjustment Procedures	2004
Supporting Capitalization Rates	2004
Uniform Standards of Professional Appraisal Practice, C	2002
Wells and Septic Systems and Wastewater Irrigation Systems	2002
Appraisals 2002	2002
Analyzing Commercial Lease Clauses	2002
Conservation Easements	2000
Preparation for Litigation	2000
Appraisal of Nonconforming Uses	2000
Advanced Applications	2000
Highest and Best Use and Market Analysis	1999
Advanced Sales Comparison and Cost Approaches	1999
Advanced Income Capitalization	1998
Valuation of Detrimental Conditions in Real Estate	1999
Report Writing and Valuation Analysis	1999
Property Tax Values and Appeals	1997
Uniform Standards of Professional Appraisal Practice, A & B	1997
Basic Income Capitalization	1996

SAR EXHIBIT C





Legend

Project Boundary

0 550 1,100 2,200

Feet

RECURRENT ENERGY

Figure 2 - Parcel Data

Property Owner Map

Date:	Project No:	Figure No:
June 2021	E320201803	

Date Created: 9/30/2021 Date Revised: 9/30/2021 File Path: S:\PROJECTS\RecurrentEnergy\E320201803 – Blue Moon CUP_KSB Applications\GIS\Parcel Data Map3.mxd

GIS Analyst: chad.martin

Data Source: Basemap: Bing Maps Aerial (2020)

Project Parcels

	Landowner No.	Primary Landowner	Agreement Name	Parcel: Parcel #	Total Acreage
	1	Cynona Farms, LLC	Solar Ground Lease Agreement	130-0000-002-00-000	113.9
	1	Cynona Farms, LLC	Solar Ground Lease Agreement	116-0000-011-02-000	172.8
	1 & 2	Cynona Farms, LLC	1 - Solar Ground Lease Agreement, 2 - Access and Utility Easement	130-0000-003-00-000	89.9
	3	Gerald M. Whalen	Solar Ground Lease Agreement	129-0000-024-00-000	90
	3	Gerald M. Whalen	Solar Ground Lease Agreement	128-0000-013-00-000	87
	4, 5 & 6	James C. Wilson	4 - Solar Ground Lease Agreement, 5 - Option Agreement for the Purchase and Sale of Real Property 6 - Access and Utility Easement	117-0000-009-00-000	95
	7	James O. McKee	Solar Ground Lease Agreement	117-0000-022-00-000	139.572
	8	Pam McCauley White	Solar Ground Lease Agreement	116-0000-012-01-000	45.4
	9	Paul D. Wilson	Solar Ground Lease Agreement	129-0000-009-00-000	102
	10	Richard B Midden	Option to Purchase Waiver and Recognition of Validity of Agreement dated Aug 4, 2020	129-0000-022-02-000	137.432
	10	Richard B Midden	Option to Purchase Waiver and Recognition of Validity of Agreement dated Aug 4, 2020	129-0000-019-00-000	115.721
	11	William R. Cook	Solar Ground Lease Agreement	129-0000-007-01-000	131.606
	12	Kent Bradford	Access and Utility Easement	130-0000-003-01-000	10
	13	Chapel Mastin Jr.	Solar Ground Lease Agreement	130-0000-012-00-000	173
	14	Sarah Jane Haley	Access and Utility Easement	130-0000-004-00-000	1.35
	15	Kevin Bradford	[Purchase Option]	128-0000-008-00-000	66 [portion of larger parcel]
	16	Teryl Tribble	Option and Solar Ground Lease Agreement	130-0000-010-00-000	

BLUE MOON ENERGY LLC: ADJACENT PARCEL INFORMATION

NAME	Address1	USPS Certified Mail #	MAILING ADDRESS	City	ST	Zip	APN	PARCEL LOCATION	PIDN	ACRES	Deed
Anderson Gary R & Robin J Lee-Ander		7020 3160 0000 9359 1374	2136 Ky Hwy 36 E	Cynthiana	KY	41031	116-0000-010-01-000	Ky Hwy 36 E 2136	116-00-00-010.01	1.56364723405	229-181
Arnold Martha Lynn		7020 3160 0000 9359 7949	1470 Shadynook Pike	Cynthiana	KY	41031-9236	141-0000-003-00-000	Shadynook Pk 1470	141-00-00-003.00	1.78812580670	249/478
Asher Julie & David B		7020 3160 0000 9359 6751	597 Steffe Lane	Cynthiana	KY	41031-	130-0000-012-02-000	Steffe Ln 597	130-00-00-012.02	3.38753724476	289-423
Batte Marvin T & Victoria S		7020 3160 0000 9359 6652	429 Shadynook Pk	Cynthiana	KY	41031	129-0000-016-00-000	Shadynook Pk 429	129-00-00-016.00	14.06840564990	349-688
Bennett Jeffrey D & Janet M		7020 3160 0000 9359 1305	2528 Ky Hwy 36 E	Cynthiana	KY	41031	116-0000-011-04-000	Ky Hwy 36 E	116-00-00-011.04	38.51768824570	257-213
Berry Allen W & Anita		7020 3160 0000 9359 6423	1800 Shadynook Pike	Cynthiana	KY	41031-9238	141-0000-004-00-000	Shadynook Pk 1800	141-00-00-004.00	106.3910088690 0	120-618
Boone One Llc	% Carolyn Fern King Gallagher	7020 3160 0000 9359 6553	289 Grimes Batterton Rd	Paris	KY	40361	117-0000-008-02-000	Old Lair Rd	117-00-00-008.02	103.1475459130 0	355-358
Bradford Keith		7020 3160 0000 9359 6492	3012 Ky Hwy 392	Cynthiana	KY	41031	128-0000-016-00-000	Ky Hwy 392 3012	128-00-00-016.00	89.84463457050	191-356
Bradford Kent S & Mary Beth		7020 3160 0000 9359 8519	858 Ky Hwy 1940	Cynthiana	KY	41031	130-0000-003-01-000	Ky Hwy 1940 858	130-00-00-003.01	9.77632456561	230-244
Bradford Kevin		7020 3160 0000 9359 7789 7020 3160	1654 Ky Highway 392	Cynthiana	KY	41031	128-0000-008-00-000	Ky Hwy 392	128-00-00-008.00	95.53860091190	195-491

BLUE MOON ENERGY LLC: ADJACENT PARCEL INFORMATION

		0000 9359 6515									
Bradford Sue & Kevin Dell Bradford		7020 3160 0000 9359 1312	1912 Ky Hwy 392	Cynthiana	KY	41031	128-0000-003-00-000	Ky Hwy 392 1912	128-00-00-003.00	68.19167995650	
Brewer Tammy & Troy Jr		7020 3160 0000 9359 7956	1342 Shadynook Pk	Cynthiana	KY	41031	141-0000-002-00-000	Shadynook Pk 1342	141-00-00-002.00	2.41861035314	358-471
Carrel Mark L & Melanie S		7020 3160 0000 9359 7697	535 Shadynook Pk	Cynthiana	KY	41031	129-0000-019-01-000	Shadynook Pk 535	129-00-00-019.01	9.02501683567	200-593
Carter Gary Wayne & Carolyn Sue		7020 3160 0000 9359 6621	923 Ky Hwy 1940	Cynthiana	KY	41031	130-0000-010-01-000	Ky Hwy 1940 923	130-00-00-010.01	1.81330961862	171/280
Clyde Elizabeth M & James S		7020 3160 0000 9359 6607	283 Cook Pk	Cynthiana	KY	41031-	130-0000-013-00-000	Steffe Ln 488	130-00-00-013.00	164.05885315800	318-163
Colson Joyce		7020 3160 0000 9359 1367	750 Ky Hwy 392	Cynthiana	KY	41031-	116-0000-001-00-000	Ky Hwy 392 750	116-00-00-001.00	115.66359883000	263-373
Cook William R & Theresa S		7020 3160 0000 9359 7901 7020 3160 0000 9359 6713	430 Hedges Ln	Cynthiana	KY	41031	129-0000-008-00-000	Hedges Ln 430	129-00-00-008.00	3.37784967561	160-298
Cook William R & Theresa S		7020 3160 0000 9359 7901 7020 3160 0000 9359 6713	430 Hedges Ln	Cynthiana	KY	41031-	129-0000-007-01-000	Hedges Ln	129-00-00-007.01	71.02061110330	343-472
Corbin Richard A & Betty Six		7020 3160 0000 9359 6263	725 Shaw Lane	Cynthiana	KY	41031-7418	140-0000-009-03-000	Shaw Ln 725	140-00-00-009.03	5.19523517919	198-290

BLUE MOON ENERGY LLC: ADJACENT PARCEL INFORMATION

Craycraft Steven A & Sherry S		7020 3160 0000 9359 7703	2974 Ky Hwy 36 E	Cynthiana	K Y	41031 -	129-0000-002-00-000	Ky Hwy 36 E 3041	129-00-00-002.00	33.37416269810	340-162
Craycraft Steven A & Sherry S &	Steven A Ii Craycraft	7019 2970 0000 7274 5381	2974 Ky Hwy 36 E	Cynthiana	K Y	41031 -	116-0000-011-03-000	Ky Hwy 36 E	116-00-00-011.03	51.59702939770	323-442
Curtis Joshua A & Rachel R Barnes		7020 3160 0000 9359 7895	1402 Ky Hwy 1940	Cynthiana	K Y	41031 -	130-0000-008-00-000	Ky Hwy 1940 1402	130-00-00-008.00	100.2587649990	348-002
Dampier Irvin L & Martha L		7020 3160 0000 9359 6577	690 Shadynook Pike	Cynthiana	K Y	41031 -9226	129-0000-021-00-000	Shadynook Pk 690	129-00-00-021.00	0.99604812433	140-692
Davis Charles M & Judith B		7020 3160 0000 9359 6683	173 Indian Woods Trail	Cynthiana	K Y	41031	130-0000-032-00-000	Indian Woods Trail 173	130-00-00-032.00	2.06178765139	199-38
Florence Donald R		7020 3160 0000 9359 6379	2044 Ky Hwy 392	Cynthiana	K Y	41031 -9407	128-0000-007-00-000	Ky Hwy 392 2130	128-00-00-007.00	96.84173144630	183-700
Gasser Donald Jr		7020 3160 0000 9359 7994	100 Delta Ct	Cynthiana	K Y	41031	117-0000-041-00-000	Jill Ln 242	117-00-00-041.00	1.01991562808	364-499
Grayson Brian L		7020 3160 0000 9359 7871	P O Box 81	Cynthiana	K Y	41031	130-0000-007-02-000	Steffe Ln 312	130-00-00-007.02	4.71969290069	236-670
Grinstead Frances Jane & Malcolm B		7020 3160 0000 9359 6300	136 Mckee Ln	Cynthiana	K Y	41031	117-0000-024-02-000	Mckee Ln 136	117-00-00-024.02	11.25571364260	232-224
Haley Sarah Jane		7020 3160 0000 9359 6614	855 Ky Hwy 1940	Cynthiana	K Y	41031	130-0000-004-00-000	Ky Hwy 1940 855	130-00-00-004.00	1.25254256478	188-133
Hemlock Daniel D & Katie A		7020 3160 0000 9359 6638	4400 Ky Hwy 36 E	Cynthiana	K Y	41031	130-0000-020-05-000	Ky Hwy 36 E 4400	130-00-00-020.05	76.44415878600	244-318

BLUE MOON ENERGY LLC: ADJACENT PARCEL INFORMATION

Hostetler Mose L & Anna M		7020 3160 0000 9359 6720	815 Shaw Ln	Cynthiana	KY	41031	141-0000-005-01-000	Shaw Ln 815	141-00-00-005.01	77.80081032220	
Ingram Sheila D		7020 3160 0000 9359 6409	317 Indian Woods Trail	Cynthiana	KY	41031	130-0000-026-00-000	Indian Woods Trail 317	130-00-00-026.00	4.98100392149	190-89
Ishmael Marty W		7020 3160 0000 9359 6546	122 Jill Ln	Cynthiana	KY	41031-	117-0000-045-00-000	Jill Lane 122	117-00-00-045.00	1.29887619244	284-172
Kinsey Brian S & Jamie M		7020 3160 0000 9359 1398	390 Jill Lane	Cynthiana	KY	41031	117-0000-038-00-000	Jill Ln 390	117-00-00-038.00	1.36763466632	243/604
Landrum Timmy		7020 3160 0000 9359 7970	324 Jill Ln	Cynthiana	KY	41031-	117-0000-039-00-000	Jill Ln 324	117-00-00-039.00	1.20565230944	318-626
Lemons Stephen Jason &	Heather Lynn Neace Lemons	7020 3160 0000 9359 6324	2783 Old Lair Rd	Cynthiana	KY	41031	117-0000-021-00-000	Old Lair Rd 2783	117-00-00-021.00	1.87449786434	367-692
Levi Terry A & Donna		7020 3160 0000 9359 1299	2109 Ruthland Rd	Cynthiana	KY	41031-	116-0000-011-00-000	Ky Hwy 36 E 2157	116-00-00-011.00	79.54118272280	323-457
Lucky Mona Sue		7020 3160 000 9359 7758	2718 Old Lair Rd	Cynthiana	KY	41031	117-0000-020-00-000	Old Lair Rd 2718	117-00-00-020.00	8.00233879084	132-447
Lusby L C & Donna		7020 3160 0000 9359 6737	1050 Us Hwy 27 S Ste 3	Cynthiana	KY	41031	117-0000-008-00-000	Wiglesworth Ln 180	117-00-00-008.00	91.51566919890	212-284
Magee Edward Jr Est		7020 3160 0000 9359 7765	380 Ky Hwy 1940	Cynthiana	KY	41031-9188	130-0000-001-00-000	Ky Hwy 1940 380 & Ky Hwy 36 E 3616	130-00-00-001.00	82.78952909450	117-535
Magee Edward Jr Est		7020 3160 0000 9359 7765	380 Ky Hwy 1940	Cynthiana	KY	41031-9188	130-0000-001-00-000	Ky Hwy 1940 380 & Ky Hwy 36 E 3616	130-00-00-001.00	225.69956770300	117-535

BLUE MOON ENERGY LLC: ADJACENT PARCEL INFORMATION

Magee Edward Jr & Judith & Janet		7020 3160 0000 9359 7765	380 Ky Hwy 1940	Cynthiana	KY	41031	116-0000-012-00-000	Ky Hwy 36 E 2528	116-00-00-012.00	97.88241603290	191-53
Martin Teddy T & Sheila		7020 3160 0000 9359 8014	100 Colony Dr	Cynthiana	KY	41031	116-0000-009-09-000	Colony Dr 100; 128; 139; & 176	116-00-00-009.09	23.66347021710	365-605
Mccloskey Margaret		7020 3160 0000 9359 6447	P O Box 384	Cynthiana	KY	41031-0384	130-0000-017-00-000	Ky Hwy 36 E 3920	130-00-00-017.00	35.11623000310	297-199
Mckee Frank T & Dorothy J		7020 3160 0000 9359 7963	2829 Millwood Drive	Dallas	TX	75234	117-0000-025-00-000	Mckee Lane 967	117-00-00-025.00	83.86060592850	246/700
Mckee James O & Shirley		7020 3160 0000 9359 7826	2871 Old Lair Road	Cynthiana	KY	41031	117-0000-023-00-000	Old Lair Rd 2871	117-00-00-023.00	0.87788302033	146-256
Mckee John Irrevocable	Special Needs Trust	7020 3160 0000 9359 1336	484 Eals Ln	Cynthiana	KY	41031	117-0000-024-04-000	Mckee Ln 649 & 673	117-00-00-024.04	1.50064699573	358-392
Midden Richard & Maribeth		7020 3160 0000 9359 1282	579 Shadynook Pk	Cynthiana	KY	41031-	129-0000-019-02-000	Shadynook Pk 579	129-00-00-019.02	19.38844879700	308-734
Moore Charles Kenneth & Mary Waits		7020 3160 0000 9359 6461	564 Shadynook Pike	Cynthiana	KY	41031-9224	129-0000-020-00-000	Shadynook Pk 564	129-00-00-020.00	48.34708679940	162-538
Moore Cynthia R & Keith Lane		7020 3160 0000 9359 6294	2951 Old Lair Rd	Cynthiana	KY	41031-	117-0000-022-02-000	Old Lair Rd 2951	117-00-00-022.02	2.54997853078	268-179
Moore David F & Judith Carol Magee		7020 3160 0000 9359 7680	1205 Shadynook Pk	Cynthiana	KY	41031	129-0000-023-02-000	Shadynook Pk 1205	129-00-00-023.02	28.54521582810	357-418
Msj Construction Company Inc		7020 3160 0000 9359 6430	P.O. Box 457	Cynthiana	KY	41031-	115-0000-038-00-000	Baldnag Ln 174 & 143 & 293	115-00-00-038.00	195.72133373100	312-758

BLUE MOON ENERGY LLC: ADJACENT PARCEL INFORMATION

Neace Isaac & Elizabeth		7020 3160 0000 9359 6348	2821 Old Lair Road	Cynthiana	KY	41031-4638	117-0000-022-01-000	Old Lair Rd 2821	117-00-00-022.01	0.94706642412	214-472
Obryan Rick & Anita		7020 3160 0000 9359 6508	490 Shaw Ln	Cynthiana	KY	41031-	128-0000-025-00-000	Shaw Ln 490	128-00-00-025.00	68.51189758350	331-146
Owsley Gina		7020 3160 0000 9359 6560	29 Steffe Ln	Cynthiana	KY	41031-	130-0000-010-02-000	Steffe Ln 29	130-00-00-010.02	1.46874432989	275-363
Perraut Larry T Sr		7020 3160 0000 9359 7727	1116 Ky Hwy 1771	Cynthiana	KY	41031	130-0000-022-00-000	Ky Hwy 1771 1116	130-00-00-022.00	132.22529759100	181-310
Reno John R & Martha		7020 3160 0000 9359 6768	865 Shadynook Pk	Cynthiana	KY	41031-	129-0000-022-00-000	Shadynook Pk 865	129-00-00-022.00	13.77598248060	
Rose Edward & Trudi		7020 3160 0000 9359 7888	1287 Ky Hwy 1940	Cynthiana	KY	41031	130-0000-007-05-000	Ky Hwy 1940 1287	130-00-00-007.05	1.98703728805	203-214
Royalty Brian & Heather G		7020 3160 0000 9359 6522	146 Jill Ln	Cynthiana	KY	41031-	117-0000-044-00-000	Jill Ln 146	117-00-00-044.00	1.55989397711	309-130
Sanders Melanie L & Bobby L		7020 3160 0000 9359 6676	215 Indian Woods Trail	Cynthiana	KY	41031-	130-0000-032-01-000	Indian Woods Trail 215	130-00-00-032.01	1.98717285444	284-096
Saurer Rebecca L		7020 3160 0000 9359 7758 7020 3160 0000 9359 7741	P O Box 33	Fisherville	KY	40023	117-0000-024-03-000	Old Lair Rd	117-00-00-024.03	27.24171088700	232-234
Simpson Drew & Carrie		7020 3160 0000 9359 6478	182 Jill Ln	Cynthiana	KY	41031-	117-0000-043-00-000	Jill Ln 182	117-00-00-043.00	1.15949813448	298-823

BLUE MOON ENERGY LLC: ADJACENT PARCEL INFORMATION

Sing Curtis J		7020 3160 0000 9359 7659	107 Battle Grove Ave	Cynthiana	KY	41031 -	130-0000-032-02-000	Indian Woods Trail 261	130-00-00-032.02	1.98395860649	279-028
Sparks Whitney Brooke		7020 3160 0000 9359 1350	801 Waits Rd	Cynthiana	KY	41031	129-0000-023-04-000	Shadynook Pk		4.88610841518	371-440
Stinson Teresa & Terry &	Jo Anne & Rick Wilhoite	7020 3160 0000 9359 1329	484 Eals Ln	Cynthiana	KY	41031	117-0000-024-01-000	Mckee Ln 673 & 649	117-00-00-024.01	1.96887337696	358-399
Stubbs Linda B		7020 3160 0000 9359 8007	198 Jill Ln	Cynthiana	KY	41031	117-0000-042-00-000	Jill Ln 198	117-00-00-042.00	1.41585065798	256-132
Thomas Bobby E & Mary Lou		7020 3160 0000 9359 6539	162 Winterwood Ln	Cynthiana	KY	41031 -8776	128-0000-010-00-000	Winterwood Ln 162 & 163	128-00-00-010.00	38.69273618280	134-727
Tribble Teryl Elisabeth		7020 3160 0000 9359 7918	197 Steffe Ln	Cynthiana	KY	41031	130-0000-010-00-000	Steffe Ln 197 & 185	130-00-00-010.00	15.05974424270	
Tribble Teryl Elisabeth		7020 3160 0000 9359 7918 7020 3160 0000 9359 7864	197 Steffe Ln	Cynthiana	KY	41031	130-0000-010-00-000	Steffe Ln 197 & 185	130-00-00-010.00	51.27068193260	
Tribble Teryl Elizabeth		7020 3160 0000 9359 7918 7020 3160 0000 9359 7864	197 Steffe Ln	Cynthiana	KY	41031 -	130-0000-011-00-000	Steffe Ln 263	130-00-00-011.00	1.27851686751	292-447
Vallandingham William T & Junie L		7020 3160 0000 9359 7987	292 Jill Lane	Cynthiana	KY	41031 -	117-0000-040-00-000	Jill Ln 292	117-00-00-040.00	1.22447389108	271-645
Vela Robert D & Dawn T	% Amos J Rose & Jacob A Rose	7020 3160 0000 9359 6744	116 Catherine St	Carlisle	KY	40311	130-0000-007-00-000	Ky Hwy 1940 1401 & 1365	130-00-00-007.00	23.53607799310	347-324

BLUE MOON ENERGY LLC: ADJACENT PARCEL INFORMATION

Wade Rachel P & Tony		7020 3160 0000 9359 1381	37 Cherry Ln	Cynthiana	KY	41031-	116-0000-010-00-000	Ky Hwy 36 E	116-00-00-010.00	22.62623416220	344-420
Whalen Bradford M		7020 3160 0000 9359 7819 7020 3160 0000 9359 1343	1375 Shadynook Pk	Cynthiana	KY	41031	128-0000-013-01-000	Ky Hwy 392 2608	128-00-00-013.01	25.57107083150	360-352
Whitaker Chad Levi		7019 2970 0000 7274 5374	801 Waits Rd	Cynthiana	KY	41031-	129-0000-023-03-000	Shadynook Pk	129-00-00-023.03	18.14110950950	319-321
Whitaker Helen & Kenneth Levi		7020 3160 0000 9359 6393	960 Ky Hwy 1940	Cynthiana	KY	41031-	130-0000-006-00-000	Ruddles Mill Rd	130-00-00-006.00	86.22842355910	303-247
Whitaker Kenneth L & Helen F		7020 3160 0000 9359 6393	960 Ky Hwy 1940	Cynthiana	KY	41031-9184	130-0000-005-00-000	Ky Hwy 1940 960	130-00-00-005.00	40.45446584330	142/411
Whitaker Kenneth Levi & Helen F		7020 3160 0000 9359 6393	960 Ky Hwy 1940	Cynthiana	KY	41031-	141-0000-001-00-000	Off Shadynook Rd	141-00-00-001.00	126.515088162000	303-257
Wiglesworth Bradley E		7020 3160 0000 9359 6485	P O Box 262	Cynthiana	KY	41031-	128-0000-026-00-000	Shaw Ln 764	128-00-00-026.00	0.52828689527	327-658
Zimmerman Ken		7020 3160 0000 9359 7710	413 Hedges Ln	Cynthiana	KY	41031	129-0000-002-06-000	Hedges Ln 413	129-00-00-002.06	1.90731419290	367-682

SAR EXHIBIT D

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TECHNICAL MEMORANDUM

Title: Sound Emissions Assessment

Project: Blue Moon Solar
Location: Harrison County, KY
Prepared For: Cardno
Prepared By: David M. Hessler, P.E., INCE
Revision: A
Issue Date: 10/11/21
Reference No: TM-2205-080321-A

Attachments:
Plot 1 Expected Sound Contours during Normal Daytime Operation
Plot 2 Estimated Sound Contours at Night
Table T-2205-080221-0 Source Input Derivations

1.0 Introduction

A computer noise model of the proposed Blue Moon Solar Project near Cynthiana in Harrison County, Kentucky has been developed to map the operational sound contours from the facility so that its anticipated sound levels at nearby residences can be graphically visualized and evaluated.

This report summarizes the modeling methodology, sound source derivations and the expected far field sound emissions from the facility during normal daytime operations and also at night when the project is essentially idle, but the substation transformer remains energized.

2.0 Modeling Methodology and Source Inputs

2.1 Modeling Methodology

The project has been modeled using the Cadna/A® software program, which was developed specifically for power generation applications. The sound pressure level at any point of interest is calculated from the sum of all individual sources, such as inverters and transformers, in strict accordance with ISO 9613-2 *Acoustics – Attenuation of sound during propagation outdoors*. A

mid-range ground absorption coefficient, A_g, of 0.5, on a scale of 0 (reflective) to 1 (completely absorptive), has been used for the entire model space. This value is probably somewhat conservative, since open fields and wooded areas would typically be assigned a higher coefficient resulting in lower receptor levels. No specific credit has been taken for losses through wooded areas due to foliage. ISO standard day conditions of 10 deg. C (50 deg. F) and 70% relative humidity are also assumed.

2.2 Source Inputs

Much more important than the modeling software and propagation assumptions, however, are the source input levels. In this case, there are two principal sound sources associated with normal daytime project operation: the substation step-up transformer and the electric current inverters, which are distributed through the panel arrays. The inverters essentially gather the DC electrical power generated by a section of panels, convert it to alternating current and then send it to the collection substation via underground cables.

The only other sound that emanates from the project is from the small tracking system motors that intermittently tilt each panel array a few degrees to optimize its angle towards the sun. These motors are only active for a few seconds at a time and are normally only faintly audible when standing within the panel array itself; consequently, this sound source is not significant with respect to off-site receptor locations.

2.2.1 Substation Transformer

Transformer suppliers don't generally provide detailed sound emissions information, such as the sound power level or frequency content of the unit's sound, and typically only offer a near field sound pressure level estimate. Consequently, it is common, if not obligatory, practice when noise modeling to derive the octave band sound power level spectrum for transformers using an empirically derived algorithm based on the unit's MegaVolt Ampere (MVA) rating. Numerous transformers over a wide range of sizes and manufacturers were measured in a field study[1] carried out on behalf of the Edison Electric Institute to develop a formulaic relationship between the MVA rating and sound power.

The precise main transformer model, rating and manufacturer for this project has not yet been completely finalized, but the best estimate at this time is for a unit with a rating of 48/64/80 MVA for the following three operating conditions ONAN (oil natural air natural, no radiator fans on), ONAF1 (oil natural air forced, radiator fans on), and ONAF2 (oil natural air forced, radiator fans on high speed). The cooling regime and radiator fan speed are thermostatically controlled and depends on the ambient temperature. While operation in ONAN or ONAF1 mode is by far the most common situation, the modeling assumes the 80 MVA ONAF2 mode as a worst case for

[1] Bolt Beranek and Newman, Inc. on behalf of the Edison Electric Institute, "Electric Power Plant Environmental Noise Guide, Vol. II, 2nd Ed.", Cambridge, MA, 1984.

daytime operations during the peak of summer. The sound power level (Lw) spectrum associated with this rating is calculated using the EEI methodology in Section 1 of **Table T-2205-080321-0** and tabulated below.

Table 2.2.1.1
Design 80 MVA ONAF2 Main Step-up Transformer Sound Power Level (Lw) Spectrum - Daytime

OBCF[2], Hz	31.5	63	125	250	500	1k	2k	4k	8k	**dBA**
Lw, dB re 1 pW	94	100	102	97	97	91	86	81	74	**97**

It is important to note that this sound power level of 97 dBA re 1 pW[3] is not the sound level that would be observed close to the unit, as might be imagined, but rather is an intangible, mathematical quantity that is derived for modeling purposes from both the near field sound pressure level and the physical size of the unit. As shown in Table T-2205-080321-0, the EEI algorithm predicts a near field sound pressure level (what would be measured with a meter) of 78 dBA for this size unit.

It is also important to note that the empirical EEI algorithm was developed in the 1980's and now tends to over-predict the sound power levels of modern transformers. As an example, the chart below (Fig. 2.2.1.1) shows the octave band sound pressure level recently measured 45 m away from a 108 MVA ONAF1 transformer at an operating solar site compared to the sound level derived from the EEI methodology for such a rating.

[2] Octave Band Center Frequency
[3] The notation "re 1 pW" means 'with reference to 1 picoWatt', or 10^{-12} W, and is used to emphasize that the quantity is a power level rather than a more common pressure level, which would be expressed in Pascals.

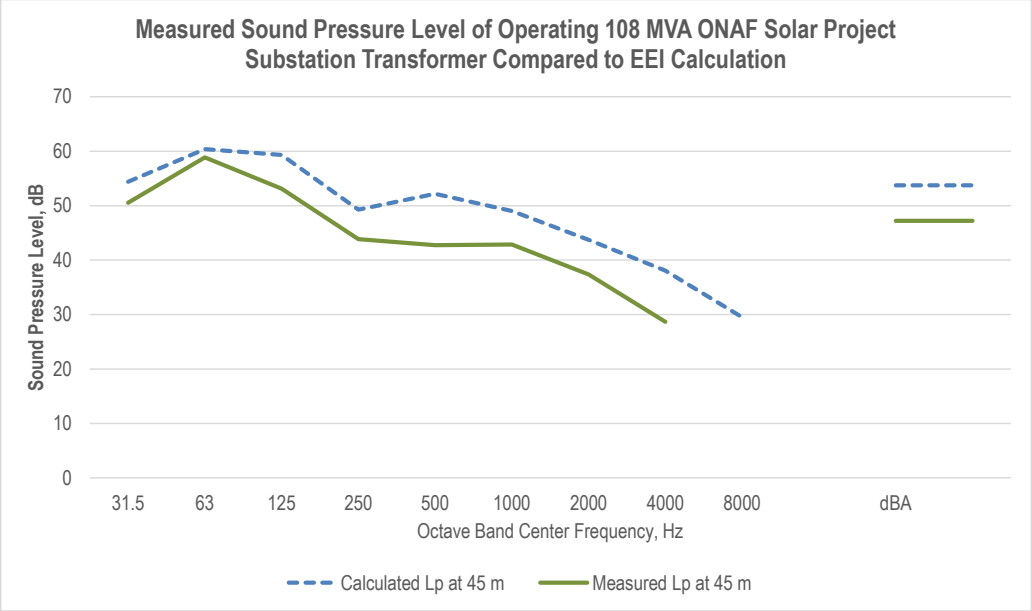

Figure 2.2.1.1

As can be seen, the mathematical algorithm significantly over-estimates the transformer sound level in nearly every octave band and by about 7 dBA overall. Nevertheless, the EEI calculated spectrum in Table 2.2.1.1 has been used in this assessment to model the daytime sound emissions from the substation. This source input is not only likely to be highly conservative due to the calculation methodology itself but also assumes the radiator fans are on at high speed – something that might only happen a few times a year during extraordinarily hot conditions.

At night the project shuts down completely; however, the substation transformer remains energized and back feeds a small amount of house load power to the project (rather than delivering power to the grid) and could also interact with the grid by supplying some reactive compensation. The sound level associated with this mode of operation is probably very minimal, but to be conservative the minimum 48 MVA ONAN rating for this transformer has been assumed, which yields the following sound power level based on the (likely conservative) EEI methodology.

Table 2.2.1.2
Design 48 MVA ONAN Main Step-up Transformer Sound Power Level (Lw) Spectrum - Nighttime

OBCF, Hz	31.5	63	125	250	500	1k	2k	4k	8k	**dBA**
Lw, dB re 1 pW	90	96	98	93	93	87	82	77	70	**94**

2.2.2 Inverters

At the present time the specific inverter model for the project has not yet been completely finalized but the TMEIC Ninja-5 4200kW is currently anticipated. Sound information for this model has been obtained from a field sound test report provided by the manufacturer that indicates that a five module grouping produces an average near field sound pressure level of 80.5 dBA. After accounting for the physical size of a 5 unit group and a 1 m measurement distance the nominal sound power level comes out to 99 dBA re 1 pW, as shown in Section 2 of Table T-2205-080221-0. The octave band frequency content for this model (not given in the supplier's report) has been inferred from a much more detailed test report for a similar unit obtained from another inverter manufacturer, SMA. The design sound power level spectrum for each inverter is given below.

Table 2.2.2.1
Design Inverter Sound Power Level (Lw) Spectrum (TMEIC Ninja-5, 4200 kW)

OBCF, Hz	31.5	63	125	250	500	1k	2k	4k	8k	**dBA**
Lw, dB re 1 pW	97	97	97	98	93	90	88	93	90	**99**

3.0 Model Results, Assessment and Conclusions

The calculated A-weighted sound contours from the project during full operation on a sunny day are shown in **Plot 1**. The contours are taken out to a low value of 40 dBA for informational purposes, but the threshold for any potentially adverse noise impact may be essentially taken as 45 dBA (orange contour). A sound level of 45 dBA is a common design goal and regulatory limit for *nighttime* sound emissions. This value originates from guidelines[4] published many years ago by the U.S. Environmental Protection Agency, where a maximum day-night average (Ldn) sound of 55 dBA is recommended for "outdoors in residential areas and farms and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis for use." The descriptor Ldn is a derived quantity based on 24 hourly average levels with a 10 dB factor applied to nighttime levels to account for the greater sensitivity to noise at night. In simpler terms, an Ldn of 55 dBA essentially translates to 55 dBA during the day and 45 dBA at night.

As can be seen from Plot 1, all residences, whether participating or not, in the project area are well outside of the 45 dBA sound contour. Moreover, all non-participating residences are outside of the 40 dBA contour, which generally represents a project sound level that is so low in absolute terms that complaints are highly unlikely even in quiet rural environments with very low

[4] U.S. Environmental Protection Agency, Office of Noise Abatement and Control, "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety," EPA/ONAC 550/9-74-004, March, 1974.

background levels. Consequently, little or no adverse community reaction is anticipated during normal daytime operations.

At night all of the inverters are inactive and any possible noise from the project would be confined to the immediate vicinity of the substation. The conservatively estimated sound contours from the project at night are shown in **Plot 2**. This figure shows that all residences, regardless of participation status, are well beyond even the low 40 dBA contour. These very quiet levels indicate that any adverse noise impact at night is also highly unlikely.

In addition to the overall A-weighted sound level, the potentially tonal character of the sound from transformers must also be considered. Identifiable tonal sounds can lead to complaints even when the overall A-weighted sound level is fairly low. In this case, the sound emissions from the substation transformer are not expected to contain any prominent discrete tones at the nearest non-participating residences, which are roughly 1400 feet from the substation. The nearest participant is about 1000 ft. away. Transformers are normally tonal in the near field but the prominence of any tones drops away quickly with distance and becomes insignificant, usually within 150 to 500 ft. For example, the 108 MVA solar project transformer discussed in conjunction with Figure 2.2.1.1 above had no prominent tones remaining at only 45 m (148 ft.) - as shown in the A-weighted 1/3 octave band frequency spectrum plotted in Figure 3.0.1.

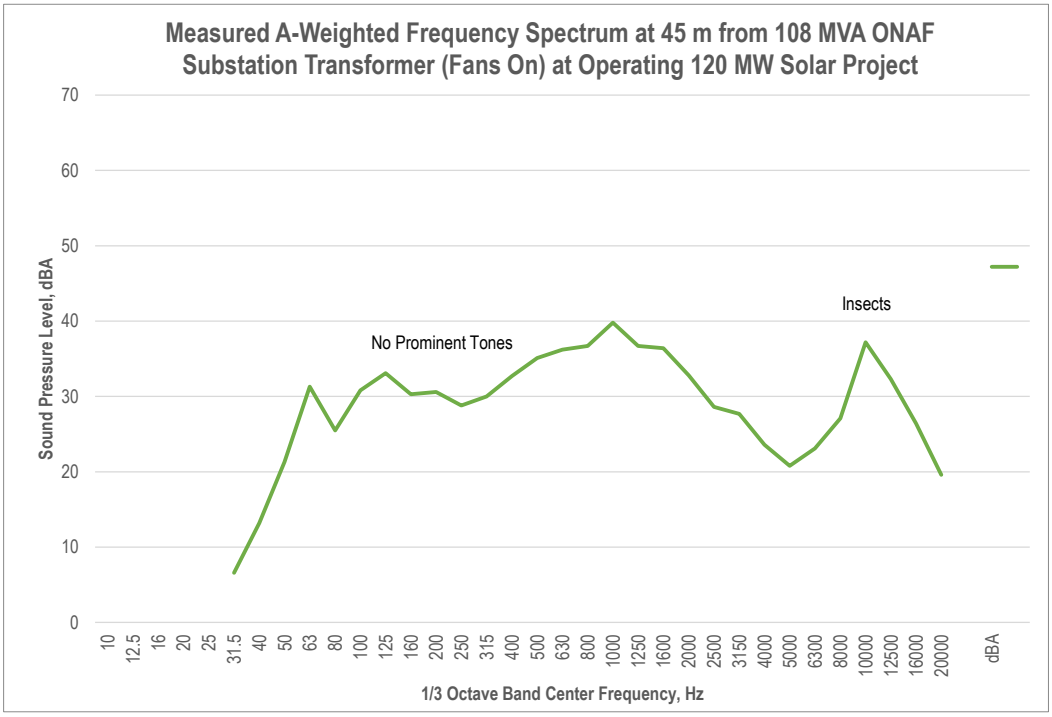

Figure 3.0.1

The only tone that appears in the measurement is a peak at 10 kHz due to cicadas. The small peak at 60 Hz, which *is* from the transformer, is not significant or even audible, since in the lower

frequencies (<125 Hz) the prominence must be 15 dB above the average of the neighboring bands to constitute a tone as defined in Annex B.1 of ANSI/ASA X12.9-2013/Part 3[5]. Consequently, it can be reasonably concluded that due to the distances from the substation to any homes that the project will not produce any potentially disturbing prominent discrete tones.

[5] American National Standards Institute/Acoustical Society of America, ANSI/ASA 12.9-2013/Part 3, *Quantities and Procedures for Description and Measurement of Environmental Sound – Part 3: Short-term Measurements with an Observer Present*, Melville, NY, 2013.

Hessler Associates, Inc.
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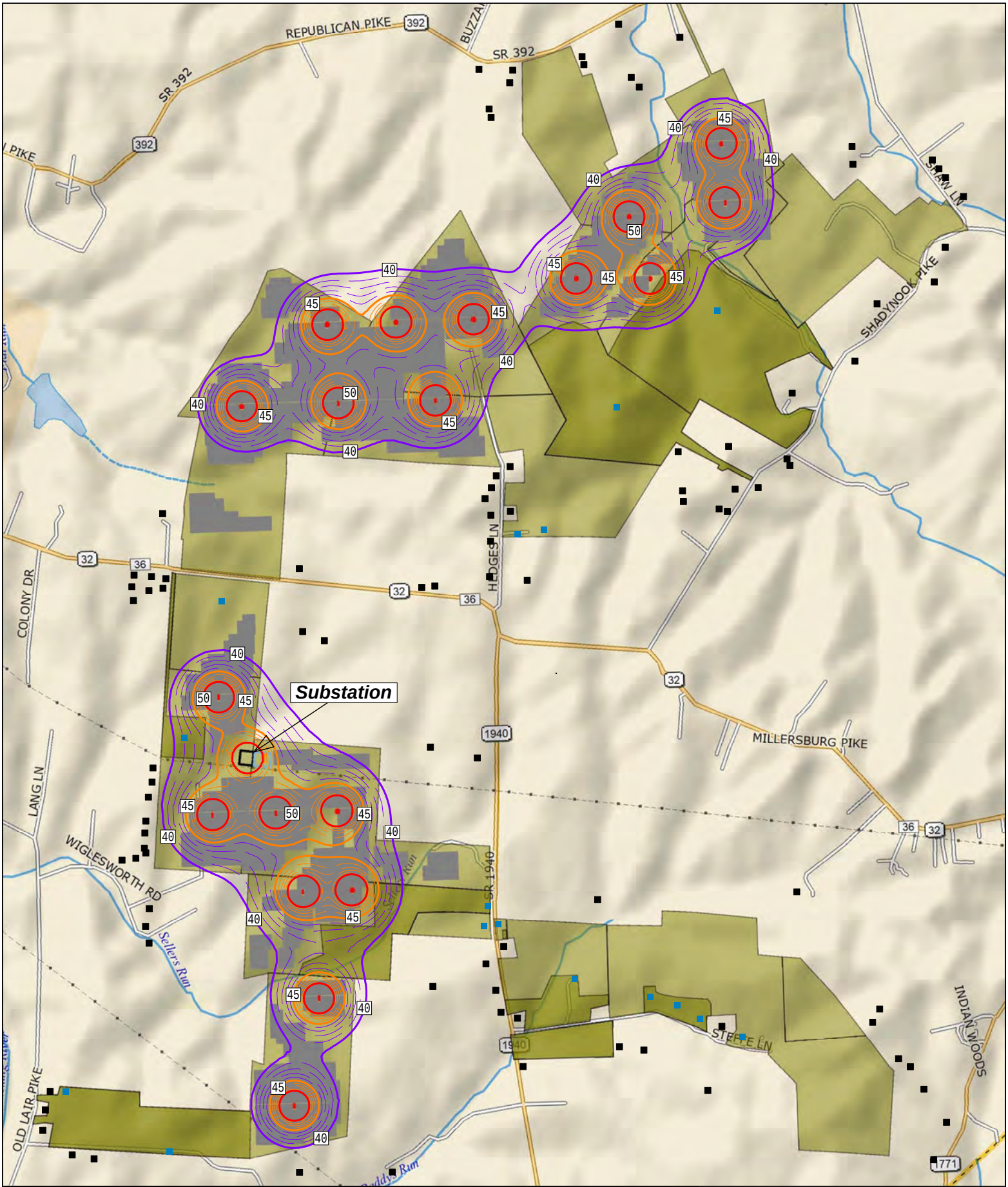
Table: T-2205-080221-0
Title: Substation Transformer and Inverter Sound Power Level Deriviations
Project: Blue Moon Solar
Revision: 0
Date: 8/2/21

Descriptor			Octave Band Center Frequency, Hz 31.5	63	125	250	500	1000	2000	4000	8000	dBA	dBC	
1. Main Step Up Transformer in Collector Substation														
A. Daytime - Sound Power Level Estimate Based on Max. MegaVolt Ampere (MVA) Rating - ONAF2														
Max Expected MVA Rating (ONAF2) (1)	**80**	MVA										97		
Standard NEMA Rating		NEMA = 55 +12 log (MVA), per EEI Guide (2)										78		
Size Factor (10 log s) Based on MVA												19		
Frequency Adjustment Factors			-3	3	5	0	0	-6	-11	-16	-23			
Near Field Lp(1 m) Based on NEMA Rating			75	81	83	78	78	72	67	62	55	**78**		
Lw = NEMA Rating + Size Factor + Freq. Adj. Factors														
Design Max. Lw for Modeling - Daytime			**94**	**100**	**102**	**97**	**97**	**91**	**86**	**81**	**74**	**97**	Day	
B. Nighttime - Sound Power Level Estimate Based on Min. MegaVolt Ampere (MVA) Rating - ONAN														
Estimated MVA Rating (ONAN) (3)	**48**	MVA										93		
Standard NEMA Rating		NEMA = 55 +12 log (MVA), per EEI Guide (2)										75		
Size Factor (10 log s) Based on MVA												18		
Frequency Adjustment Factors			-3	3	5	0	0	-6	-11	-16	-23			
Near Field Lp(1 m) Based on NEMA Rating			72	78	80	75	75	69	64	59	52	**76**		
Lw = NEMA Rating + Size Factor + Freq. Adj. Factors														
Design Lw for Modeling - Nighttime			**90**	**96**	**98**	**93**	**93**	**87**	**82**	**77**	**70**	**94**	Night	

(1) Oil Natural Air Forced (ONAF2), All radiator fans on high speed.
(2) Edison Electric Institute, "Electric Power Plant Environmental Noise Guide", 2nd Ed., BBN, 1984.
(3) Oil Natural Air Natural (ONAN), All radiator fans off.

2. TMEIC Ninja-5 4200kW, Model PVU-0840GR													
Sound power level derived from manufacturer field test report - 5 module skid at operating site													
Maximum Measured Average Lp(1 m), TMEIC Report 4/23/20												**80.5**	
5 Module Skid Surface Area at 1 m	64	m^2											
Nominal Overall Lw, dBA re 1 pW												**99**	
Estimate frequency spectrum from test report for generally similar SMA SC4600-UP, 4600 kW Unit													
Measured SMA SC4600-UP Lw Spectrum, Ref.			89.0	89.1	88.9	90.6	85.4	82.4	80.7	84.8	81.8	91	
Normalize Spectrum to 99 dBA			8	8	8	8	8	8	8	8	8		
Design Lw Spectrum for Modeling			**97**	**97**	**97**	**98**	**93**	**90**	**88**	**93**	**90**	**99**	

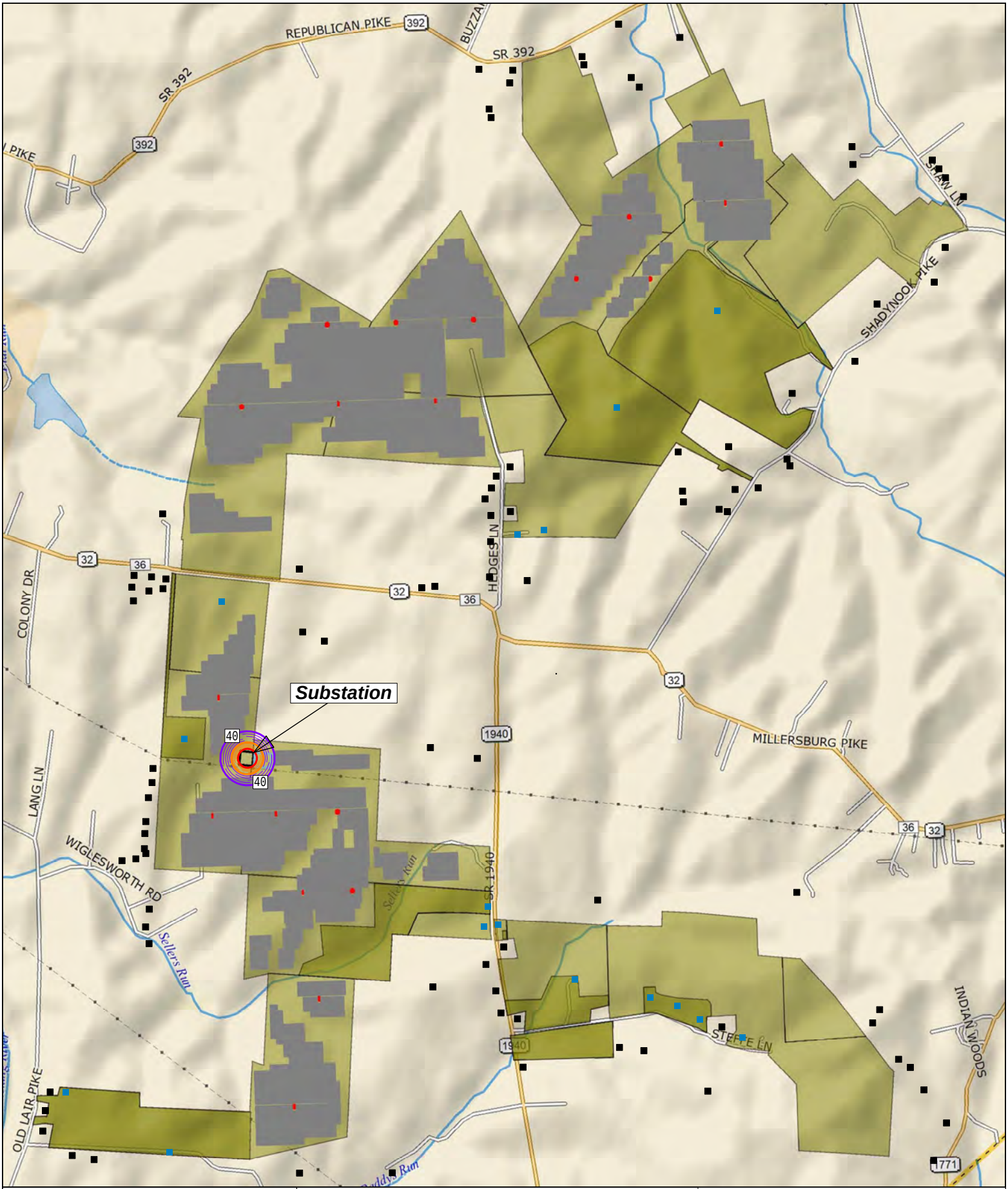
Notes:
Lp = Sound Pressure Level, dB re 20 μPa
Lw = Sound Power Level, dB re 1 pW



Project: **Blue Moon Solar**	*Description:* **Plot 1**
Prepared for: **Cardno**	**Predicted Sound Contours (dBA) of Facility during Daytime Operation**
Date: October 11, 2021	*Drawing #:* BM-Rev-D-1-1

Legend:

- Non-Participating Residence
- Participating Residence
- Project Area



Project: **Blue Moon Solar**	*Description:* **Plot 2**	*Legend:* Non-Participating Residence
Prepared for: **Cardno**	**Predicted Sound Contours (dBA) of Facility during Nighttime Operation**	Participating Residence
Date: October 11, 2021 / *Drawing #:* BM-Rev-D-2-1		Project Area

Construction Noise Assessment

Blue Moon Solar Project

October 2021

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Prepared for	Blue Moon Energy, LLC 3000 E. Cesar Chavez St. Suite 400 Austin, TX 78702
Project Name	Construction Noise Assessment Blue Moon Solar Project
Job Reference	E320201803
Date:	October 2021

Table of Contents

Figures

Tables

Acronyms

ADT	average daily traffic
dBA	A-weighted decibel scale
FHWA	Federal Highway Administration

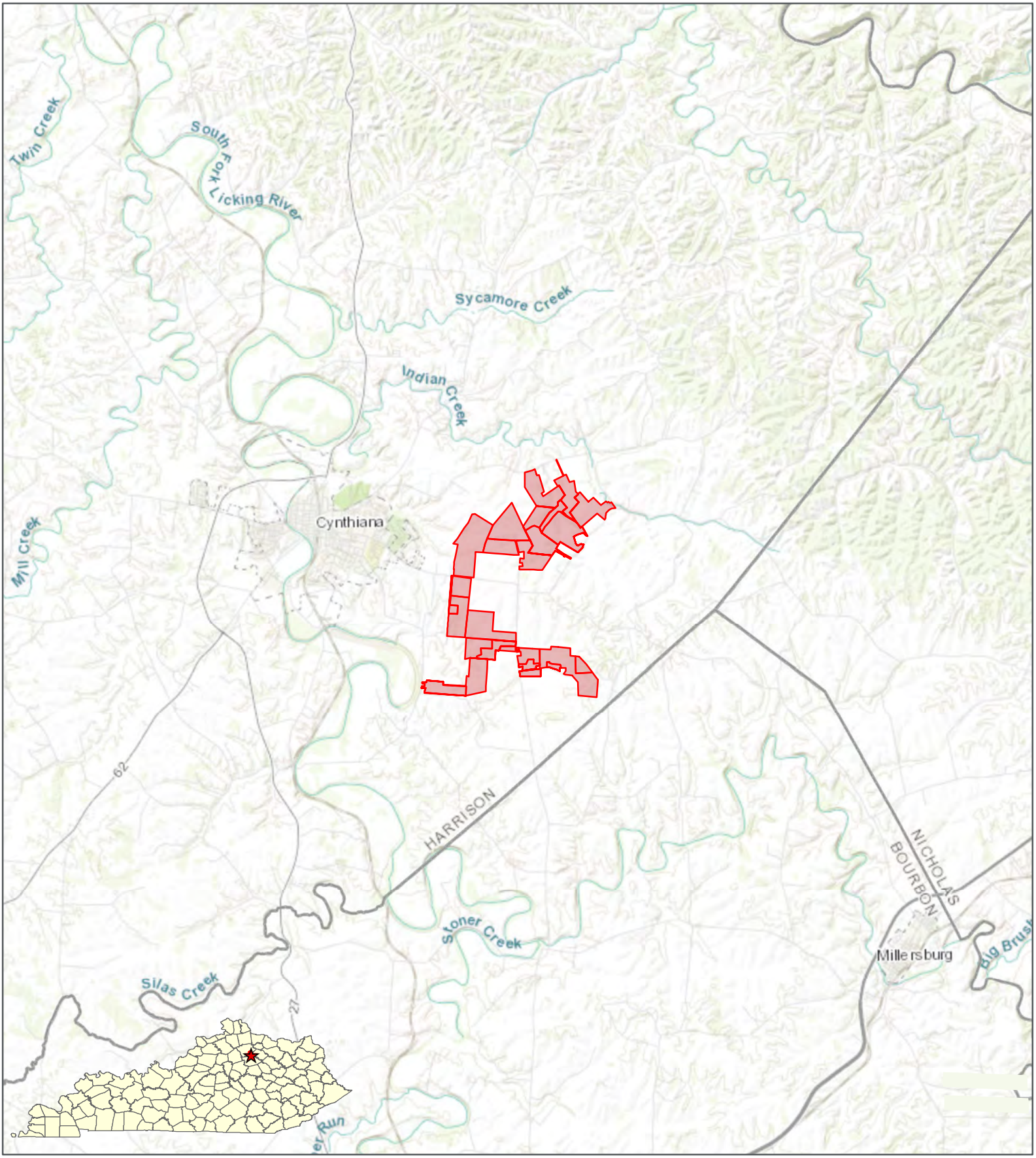
1 Introduction

1.1 Project Description

The proposed Blue Moon Solar Facility (Project) is located approximately 2-miles east of Cynthiana, in Harrison County, Kentucky (Figure 1-1). It is bisected by KY-32 (Millersburg Pike) which runs east/west through the Project area, and by KY-1940 (Ruddles Mill Rd), which runs north/south through the Project Area.

At the time of this study, the total acreage of the privately-owned parcels within which the Project is planned is 1,581-acre (Study Area), but only 651 acres are expected to be occupied by project components (Project Area). The land use within and immediately adjacent to the Project area consists primarily of agricultural land, with two large overhead transmission lines that intersect the Project.

The proposed Project is a solar power electric generation facility with a generating capacity up to 70 MW. The Project will include the installation single axis tracking solar panel arrays mounted on support piles that are driven into the ground. Additionally, a collection substation will be constructed, which will collect the generated electricity and increase the voltage for transfer to the electric transmission grid. Inverters will be installed to convert the generated electricity from direct current to alternating current, which will be transferred to the collection substation via buried collection lines. Groupings of facility infrastructure will be surrounded by fencing for safety and security. Gravel covered permanent access roads will be constructed to provide access to solar array components for the use by maintenance crews and emergency services.



0 1 2 3 Miles

0 1 2 3 4 Kilometers

Project Area

7.5' Quadrangles:
Cynthiana, KY (1984)
Shady Nook, KY (1984)
Shawhan, KY (1984)
Millersburg, KY (1984)

PLSS: unsectioned

1-1: Project Location - USGS Topographic Quad

Noise Assessment for the Blue Moon Solar Project
Blue Moon Solar, LLC
Harrison County, Kentucky

Cardno
76 San Marcos Street
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GIS Analyst: samuel.waltman

2 Noise Study

The Project will contribute sounds to the existing environment through the use of vehicles and equipment during construction, operation, and maintenance of the Project. Potential impacts could result from the proximity of Project sound sources to sensitive receptors, typical sound levels associated with equipment, the timing of sound-generating activities, and the duration that sensitive receptors will be affected. Sensitive receptors are locations that may be sensitive to sound, such as residences, businesses, places of worship, and schools.

Sounds in this study are quantified using the A-weighted decibel scale (dBA). This is a weighted scale for judging loudness that corresponds to the hearing threshold of the human ear. For reference, the following examples in Table 1 show levels for common sounds measured in dBA at a typical distance from the source.

Table 1 Typical Sound Levels Generated by Common Sources

Sources (by distance)	Typical Sound Level by Distance (dBA)	Human Judgment Of Loudness
Ambulance Siren (100 feet) Gas Lawn Mower (3 feet)	100	Very Loud
Passenger Car, 65 mph (25 feet) Living Room Stereo (15 feet) Vacuum Cleaner (10 feet)	70	Loud
Air Conditioning Unit (100 feet)	60	1/2 as Loud
Light Traffic (100 feet)	50	1/4 as Loud
Bird Calls (distant)	40	Quiet (1/8 as loud)

Source: San Diego County (2008)

2.1 Existing Noise Conditions

2.1.1 Receptor Sites near the Project

The nearest concentration of sensitive receptors is in the town of Cynthiana along Jill Ln on the western side of the Project Area. The nearest non-participating residence will be located more than 500 feet from proposed Project Components. The nearest public sensitive receptor will be the Ashford Acres Inn, which is located over 2,000 feet west of the nearest proposed solar panels (Figure 2-1).

2.1.2 Existing Noise from Adjacent Properties

Adjacent properties to the Project are primarily agricultural and currently produce noise at sound levels similar to those that will be associated with the Project. In addition, existing traffic generates sound within the Project area. The Project is bisected by two-lane roadways that receive local traffic typical of a rural farming community (e.g., cars, trucks, tractors, and semi-trucks).

2.1.3 Existing Project Area Noise

Transportation-related sound sources such as cars, trucks, and trains are the principal sources of baseline, ambient sounds in rural communities. Existing sound conditions across the Project consist of typical sounds produced from farming and agriculture activities. Trucks, harvesters, tractors, and other farming equipment used during harvesting, bailing operations, and transportation produce sound. Other baseline sounds more common in rural areas include livestock and wildlife (e.g., insects, birds, and frogs).

Panels
Fenceline
Potential Noise Receptors (200ft Buffer)
Substation and POI
Project Area

0 1 Kilometers

7.5' Quadrangles:
Cynthiana, KY (1984)
Shady Nook, KY (1984)
Shawhan, KY (1984)
Millersburg, KY (1984)

PLSS: unsectioned

2-1: Noise Receptors Map

Noise Assessment for the Blue Moon Solar Project
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2.2 Proposed Construction Noise Conditions

2.2.1 Equipment and Machinery

Because a majority of the Project Area is currently used for crop production, the need for extensive tree removal and earthmoving to prepare the site is anticipated to be relatively minor. Construction of the solar facility will use equipment typical for site development, such as dozers, graders, loaders, pile drivers, and trucks. The U.S. Department of Transportation, Federal Highway Administration (FHWA), publishes sound levels for typical construction equipment, which are shown in Table 2 below. No sound generated by typical construction equipment will violate Harrison County ordinances.

The amount of sound generated during construction will vary depending on the type of activities occurring on a given day. Grading equipment, bobcats, pile drivers, and other construction equipment typically emit sounds between 76 to 90 dBA at 50 feet (FHWA 1999, 2006). Sounds associated with these types of equipment will primarily occur during the initial site set up – grading and access road construction, which is expected to last approximately 12 months. It is anticipated that pile driving for rack support foundations will create the loudest sound (98 and 101 dBA at 50 feet, FHWA 1999, 2009). Installation of each rack support foundation takes between 30 seconds to 2 minutes, depending on soil conditions; it is anticipated this activity will take up to 6 to 8 months across the entire Project. Finally, installation of the solar panels on the tracking racks will emit sound levels similar to general construction (75 to 85 dBA at 50 feet). Typically, a forklift is used to place individual panels on the tracking rack system. The sounds from all construction activities will dissipate with distance and will be audible at varying levels, depending on the locations of the equipment and receptors. Note that construction activities will be sequenced and concentrated to specific areas of activity, rather than across the entire Project Area simultaneously. These sound impacts will be temporary and limited to daytime hours.

Table 2 Typical Noise Level by Equipment Type

Equipment	Typical Noise Level (dBA) 50 Feet from Sources
Air Compressor	81
Backhoe	80
Dozer	85
Generator	81
Pickup Truck	55
Pile Driver (Impact)	84-101
Pneumatic Tool	85
Pump	76
Spike Driver	77
Tie Cutter	84
Tie Handler	80
Tie Inserter	85
Tractor	84
Truck	88
Welder/Torch	73

Note: FHWA Construction Noise Handbook (FHWA 2009). Table based on US Environmental Protection Agency report and measured data. Exact sound levels may vary depending on manufacturer and model.

2.2.2 Roadway Noise during Construction

Construction traffic will use the existing county roadway system to access the Project facilities and deliver construction materials and personnel. Based upon the sound levels published by FHWA, the sounds contributed by construction vehicles such as semi-trucks, light passenger cars, and trucks fall within acceptable ranges if the sounds do not occur between 11:00 p.m. and 6:00 a.m. Construction traffic sounds will be similar to common farm equipment and typical vehicles on local roadways.

2.3 Noise Summary and Conclusions

Sound generated during construction is expected to only occur during daylight hours and will be generated by heavy equipment, passenger cars and trucks, and tool use during assembly of the Project. Sound will be present in the Project during construction; however, because of the size of the Project and the distance to the nearest receptors, construction will not contribute to a significant sound increase when compared to sound currently occurring onsite (i.e., the operation of farming equipment and crop harvesting) and baseline ambient sound levels.

3 References

Federal Highway Administration (FHWA). 2006. Handbook - Construction Noise - Noise – Environment https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/ Accessed October 2021.

Oregon Department of Transportation. 1999. Guardrail installation noise level evaluation final report. 43pp.

San Diego County. 2008. Table 1 Sound Levels of Typical Noise Sources and Noise Environments. Available at: https://www.sandiegocounty.gov/dplu/docs/081024/TM5499-NOISE-T.pdf. Accessed October, 2021.

About Cardno

Cardno is an ASX-200 professional infrastructure and environmental services company, with expertise in the development and improvement of physical and social infrastructure for communities around the world. Cardno's team includes leading professionals who plan, design, manage, and deliver sustainable projects and community programs. Cardno is an international company listed on the Australian Securities Exchange [ASX:CDD].

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SAR EXHIBIT E

TRANSPORTATION EFFECT AND ROUTE EVALUATION STUDY

FOR

Blue Moon Energy LLC

Solar Energy Generation Project

Harrison County, Kentucky

Developer:

RECURRENT ENERGY

Prepared by:

FISHER ASSOCIATES

September 2021

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1. Introduction

This study provides an evaluation of potential traffic and transportation impacts associated with the construction of the proposed Blue Moon Energy Project (Project) in Harrison County, Kentucky. This analysis is based on Project plans, Project Sponsor construction data, and additional gathered data. The purpose of the transportation impact study is to inform the Project environmental review. The following Project impact analysis topics are addressed in this study:

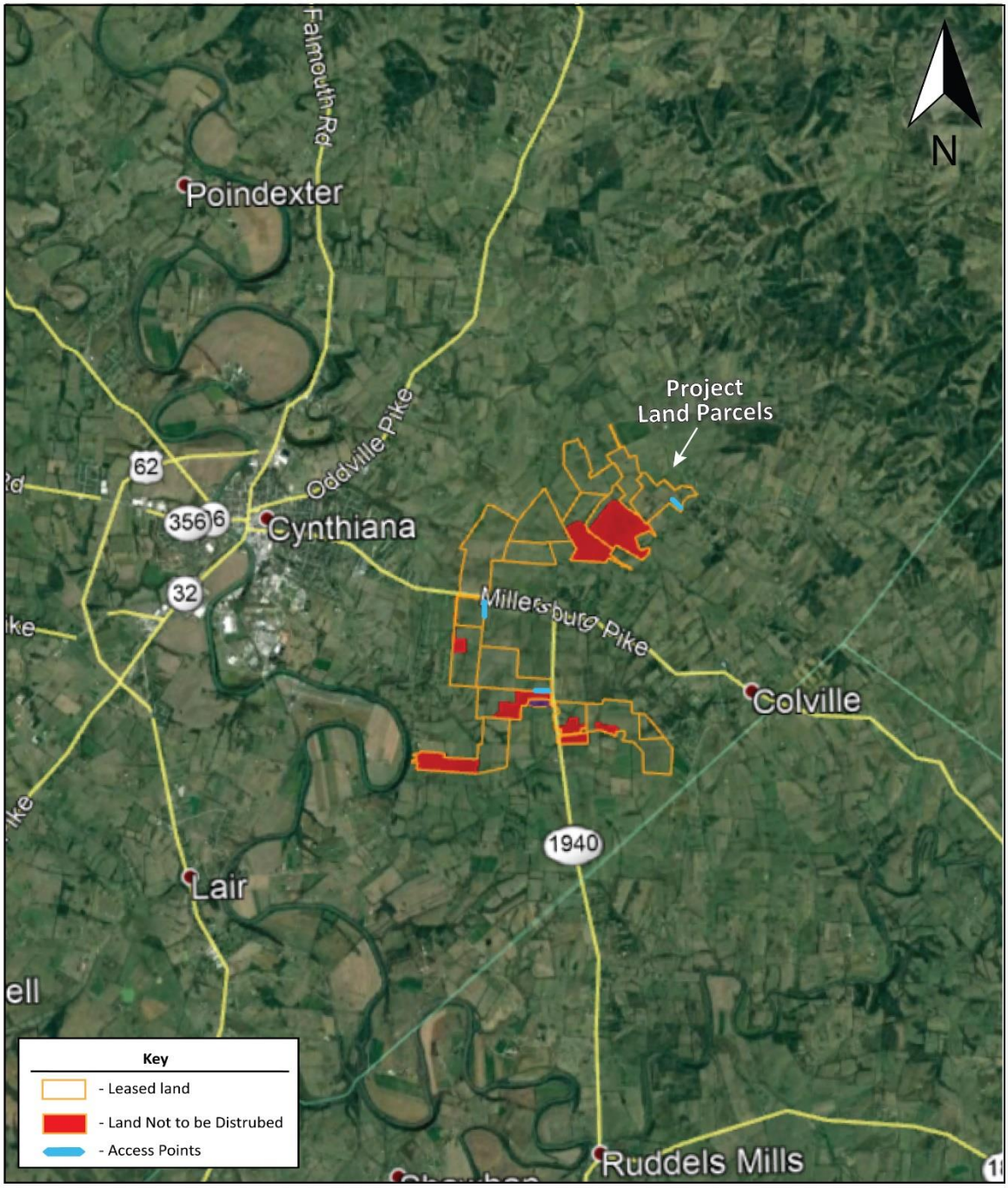
- Level of Service (LOS) traffic operations,
- Vehicle Miles Traveled (VMT),
- Transit,
- Walking and
- Bicycling.

1.1 Project Location and Site

The Project site is located in Harrison County on portions of 15 privately-owned parcels (as listed in the CUP application) approximately 2 miles east of the City of Cynthiana and 2.5 miles west of the unincorporated community of Colville.

Figure 1 shows the Project Location and Site Plan.

Figure 1: Project Location & Site Plan



Blue Moon Energy Project
Traffic Impact Study
Project Location

1.2 Study Scope and Approach

The scope of this transportation study includes analysis of impacts under the following two scenarios:

- Existing Conditions – this scenario represents current traffic and transportation conditions prior to commencement of Project construction.
- Existing plus Project Conditions – this scenario is identical to Existing Conditions, but with the addition of Project-generated construction traffic.

Typically, most transportation studies focus on impacts after a project is constructed and in operation, as the expected traffic generation once in operation is usually higher than that generated under any construction phase or combination of phases. For this Project, however, the reverse is true. Once the Project is in operation, an average of up to four workers would be onsite each weekday, which would result in daily vehicle volumes below any threshold of measurable or adverse effect. As such, this study focuses on construction-related impacts.

Given the minimal traffic that would be generated by the Project on a daily basis once in operation, the study focuses only on near-term impacts, and as such, no cumulative year analysis has been conducted. Study roadway segments were evaluated using the Highway Capacity Manual 6th Edition[1] operations methodology to determine potential Project effects on local traffic operations during construction. Project-generated VMT was evaluated for informational purposes. Project trips were estimated based on a Project Sponsor-provided construction program that estimates the maximum number of construction truck haul trips and worker trips. Trip distribution was based on Project Sponsor-anticipated commute origins of Project contractors and construction truck haul trips.

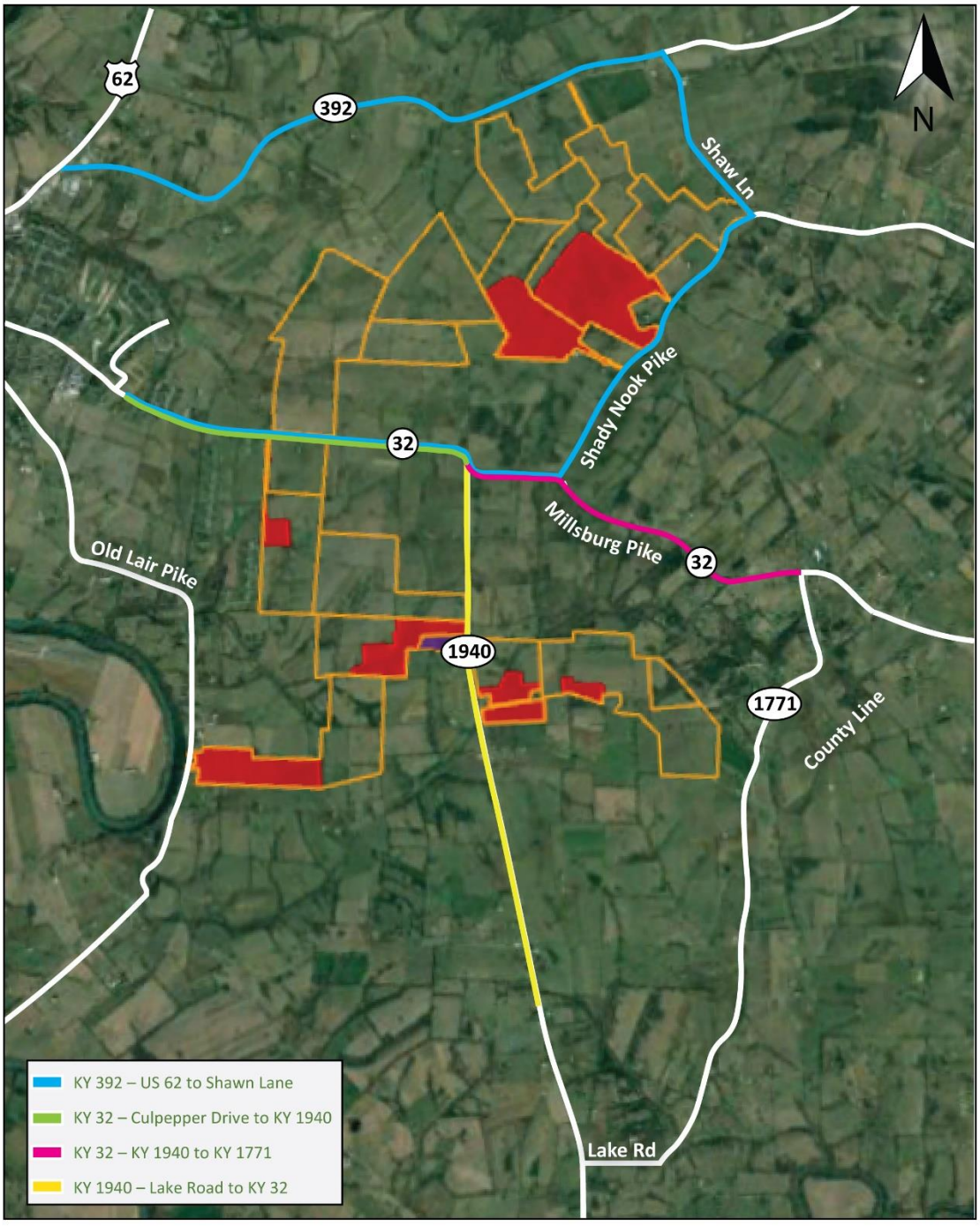
The following roadway segments were analyzed for this study based on their proximity to the Project site:

1. KY 392 – US 62 to Shaw Lane
2. KY 32 – Cynthiana City Limits to KY 1940
3. KY 32 – KY 1940 to Shady Nook Pike
4. KY 1940 – County Line to KY 32

There are additional roadway segments adjacent to the Project site that may carry Project related trips, including Old Lair Pike, Shady Nook Pike, and Shaw Lane. However, there is no existing traffic data available for these roadways. They are local roads that likely have lower volumes than the study segments and will carry fewer Project related trips compared to the study segments. Based on the analysis methodology, if it is determined that higher volume study segments carrying more Project related trips operate with acceptable conditions than it can be concluded that the other smaller volume roadways will operate with acceptable conditions.

Figure 2 shows the study roadway segments.

Figure 2: Study Roadway Segments



Blue Moon Energy Project
Traffic Impact Study
Study Roadway Segments

2.0 Existing Conditions

This section describes the existing transportation network included in this traffic study, presented in **Figure 1** and **Figure 2**. The existing setting includes descriptions of the roadways and documentation of existing vehicular traffic, local and regional transit service, pedestrian, and bicycle access conditions.

2.1 Roadway Network

The following describes the existing roadways in the vicinity of the Project. The functional designation and Annual Average Daily Traffic (AADT) for the study roadways was obtained from the Kentucky Transportation Cabinet's (KYTC) online Interactive Statewide Traffic Counts Map.

The Kentucky roadway system is comprised of interstate, arterial, collector and local streets. Interstates are limited access, high speed, high-capacity, divided highways that facilitate regional/national travel; Principal Arterials provide a high level of traffic mobility for substantial statewide travel and/or serve major activity centers and the longest trip demands within urban areas; Minor Arterials are roadways that serve trips of moderate length to smaller geographic areas and at a slightly lower level of traffic mobility than Principal Arterials; Major Collectors are roadways that distribute and channel trips between the lower classifications and the arterial systems; Minor Collectors are roadways that distribute and channel trips between Local Roads and the higher classifications at a lower level of traffic mobility than Major Collectors; Local Roads are roadways that primarily provide direct access to adjacent land and are not intended for use in long distance travel.

2.1.1 Regional Access

Interstate 75 (I-75) is a north-south six lane highway located west of the Project area that regionally runs from Lexington, Kentucky to Cincinnati, Ohio. Access to I-75 from the Project area is provided via US-62 (approximately 21 miles west of the Project site) and KY-32 (approximately 19 miles west of the Project site).

2.1.1 Local Access

Local access to the Project area is provided by the roadways described below:

KY-392 (Republican Pike) – KY 392 is an east-west travel route that is designated a rural minor collector roadway. In the vicinity of the Project area, the roadway has one travel lane, approximately 9' wide with a 2' shoulder, in each direction. The roadway's Annual Average Daily Traffic (AADT) is approximately 1,256 vehicles. The posted speed limit is 55 mph within the study limits.

KY-32 (Millersburg Pike) – KY-32 is an east-west travel route that is designated a rural major collector roadway. The roadway has one travel lane, approximately 10' wide with a 1' shoulder, in each direction in the vicinity of the Project area. KY-32, from the City of Cynthiana to KY-1940, has an AADT of approximately 2,734 vehicles and KY-32, from KY-1940 to Shady Nook Pike, has an AADT of approximately 2,240 vehicles. The posted speed limit within the study limits is 55 mph.

KY-1940 (Ruddles Mill Road) – KY-1940 is a north-south travel route designated a rural minor collector roadway. In the vicinity of the Project area, the roadway has one travel lane, approximately 9' wide with no shoulder in each direction. KY-1940 has an Annual Average Daily Traffic (AADT) of approximately 583 vehicles. The roadway's posted speed limit is 55 mph within the study limits.

Old Lair Pike – Old Lair Pike is a local roadway that travels primarily north-south. The roadway has one travel lane approximately 9' wide in each direction with no shoulders in the vicinity of the Project area. Current AADT data for Old Lair Road was unavailable on the KYTC online Interactive Statewide Traffic Counts Map. The assumed speed limit on Old Lair Road is 55 mph.

Shady Nook Pike – Shady Nook Pike is a north-south travel route that is designated a local roadway. The roadway has one travel lane approximately 9' wide in each direction and no shoulders in the vicinity of the Project area. Current AADT data for Shady Nook Pike was unavailable on the KYTC online Interactive Statewide Traffic Counts Map. The assumed speed limit on the roadway is 55 mph.

Shaw Lane – Shawn Lane is a northeast-southwest travel route that is designated a local roadway. The roadway has one travel lane approximately 9' wide in each direction and no shoulders in the vicinity of the Project area. Current AADT data for Shawn Lane was unavailable on the KYTC online Interactive Statewide Traffic Counts Map. The assumed speed limit on the roadway is 55 mph.

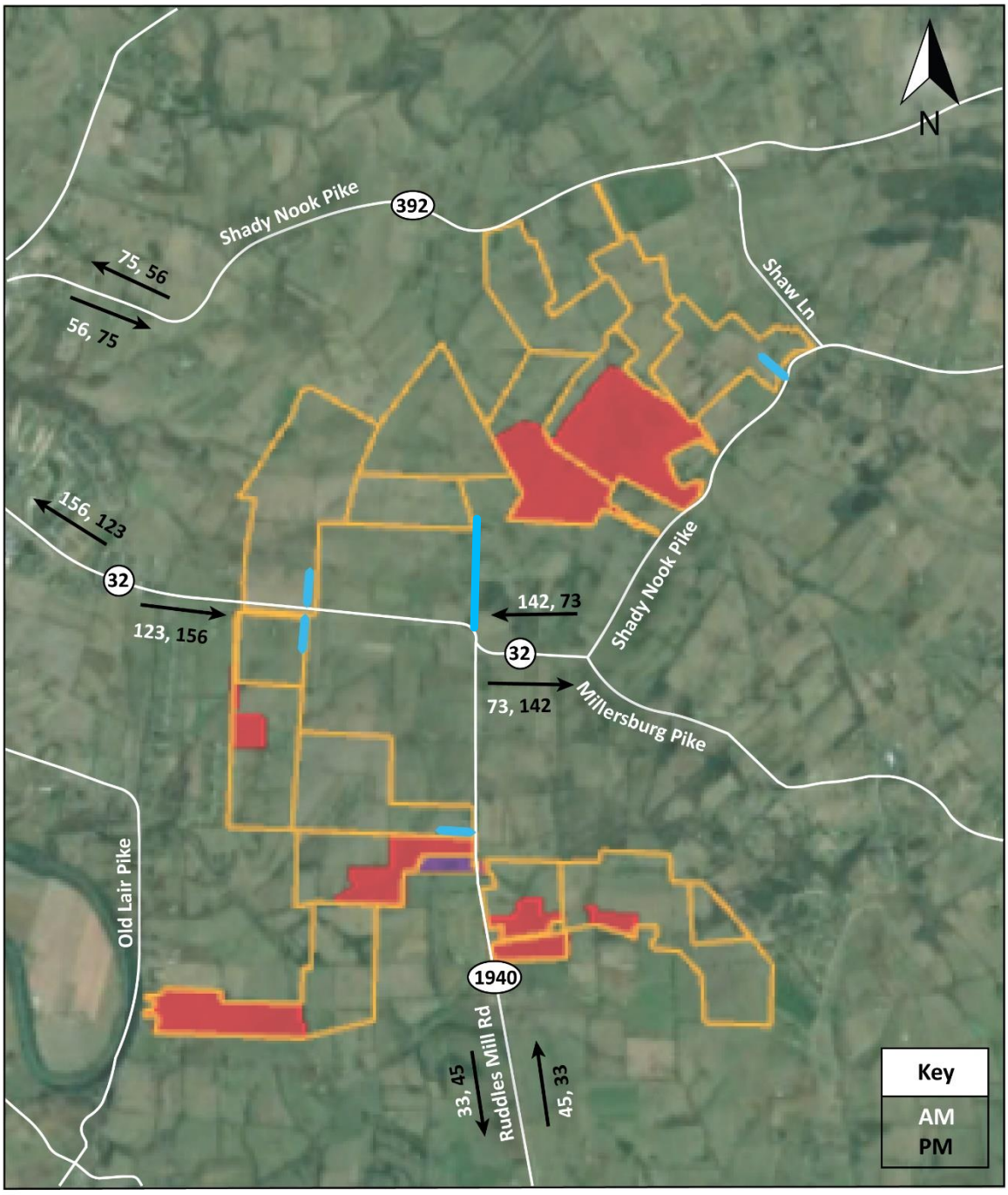
There are no pedestrian or bicycle facilities on any of the above roadways.

2.2 Roadway Traffic Volumes

Traffic volumes for the study roadway segments were developed using AADT data obtained from the Kentucky Transportation Cabinet's (KYTC) online Interactive Statewide Traffic Counts Map. Hourly volumes were developed using the "K factors" and "D factors" included in this data. The "K factor" is the percentage of the AADT that represents the Design Hour Volume (DHV) which is the highest hourly roadway volume of the day. The "D factor" is the factor reflecting the proportion of peak-hour traffic traveling in the peak direction. To be conservative, it was assumed that the DHV would be used for both the AM and PM peak hours with counter flowing directional traffic volumes. The "D factor"/peak direction was assumed to travel toward Cynthiana during the AM peak and away from Cynthiana during the PM peak.

Figure 3 presents weekday morning peak and evening peak hour roadway traffic volumes for the for the study segments.

Figure 3: Existing Peak Hour Segment Volumes



Blue Moon Energy Project
Traffic Impact Study
Existing Peak Hour Traffic Volumes

2.3 Level of Service Methodology – Segments

Vehicular traffic operational levels of service (LOS) were evaluated for the study segments. Segment capacity analysis was conducted using HCS7[2] software, which is based on methods presented in the Highway Capacity Manual 6th Edition describing the levels of operation for Two-Lane and Multilane highways. Using this analytical approach, a Level of Service is determined for traffic travelling along a highway segment.

For analysis purposes two-lane highways are divided into three classes.

Class I two-lane highways are highways where motorists expect to travel at relatively high speeds. Two-lane highways that are major intercity routes, primary connectors of major traffic generators, daily commuter routes, or major links in state or national highway networks. These facilities serve mostly long-distance trips or provide the connections between facilities that serve long-distance trips.

Class II two-lane highways are highways where motorists do not necessarily expect to travel at high speeds. Two-lane highways functioning as access routes to Class I facilities, serving as scenic or recreational routes (and not as primary arterials), or passing through rugged terrain (where high-speed operation would be impossible) are assigned to Class II. Class II facilities most often serve relatively short trips, the beginning or ending portions of longer trips, or trips for which sightseeing plays a significant role.

Class III two-lane highways are highways serving moderately developed areas. They may be portions of a Class I or Class II highway that pass through small towns or developed recreational areas. On such segments, local traffic often mixes with through traffic, and the density of unsignalized roadside access points is noticeably higher than in a purely rural area. Class III highways may also be longer segments passing through more spread-out recreational areas, also with increased roadside densities. Such segments are often accompanied by reduced speed limits that reflect the higher activity level.

Three service measures are used to describe vehicular LOS on a two-lane highway, depending on the highway class. These are:

- Average Travel Speed (ATS)
- Percent Time Spent Following (PTSF)
- Percent of Free-flow Speed (PFFS)

For a Class I Two-Lane Highway the Level of Service is defined or quantified in terms of ATS and PTSF. LOS is determined by the worse of ATS-based LOS and PTSF-based LOS. For a Class II Two-Lane Highway, the Level of Service is defined or quantified in terms of PTSF. For a Class III Two-Lane Highway, the Level of Service is defined or quantified in terms of PFFS.

These operational measures are equated to the letters 'A' to 'F'. A LOS 'D' generally represents the threshold of acceptable operations for a two-lane highway segment.

The following provides descriptions for each level of service for a Class I two-lane highway:

	ATS (mph)
A	Greater than 55 mph
B	50.1 mph to 55 mph
C	45.1 mph to 50 mph
D	40.1 mph to 45 mph
E	Less than 40 mph
F	Demand exceeds the segment capacity

PTSF (%)

A 35% or less
B 35.1% to 50%
C 50.1% to 65%
D 65.1% to 80%
E Greater than 80%
F Demand exceeds the segment capacity

The following provides descriptions for each level of service for a Class II two-lane highway:

PTSF (%)

A 40% or less
B 40.1% to 55%
C 55.1% to 70%
D 70.1% to 85%
E Greater than 85%
F Demand exceeds the segment capacity

The following provides descriptions for each level of service for a Class III two-lane highway:

PFFS (%)

A Greater than 91.7%
B 83.3% to 91.7%
C 75.0% to 83.3%
D 66.7% to 75.0%
E Less than 66.7%
F Demand exceeds the segment capacity

2.4 Operational Analysis – Existing Conditions

All roadway segments are Class II except for the Route 32 segments of which characteristics fall between Class I and Class II. Therefore, for conservative (worst-case) analysis purposes, Class I was used for the Route 32 segments. Table 1 presents the results of the operational analysis for the study segments under Existing Conditions. Existing Conditions segment LOS calculations are provided in Appendix A. As shown in Table 1, all the study segments are currently operating at LOS C or better under Existing Conditions.

Table 1: Existing Conditions Peak Hour Segment LOS Results

Roadway Segment	Class	Direction	Morning Peak Hour			Evening Peak Hour		
			LOS	ATS (mph)	PTSF (%)	LOS	ATS (mph)	PTSF (%)
KY 392 – US 62 to Shaw Lane	II	EB	A	-	30.1	B	-	40.3
		WB	B	-	40.3	A	-	30.1
KY 32 – Cynthiana City Limits to KY 1940	I	EB	C	45.8	41.2	C	46.4	51.5
		WB	C	46.4	51.5	C	45.8	41.2
KY 32 – KY 1940 to Shady Nook Pike	I	EB	C	47.6	27.1	C	48.6	51.6
		WB	C	48.6	51.6	C	47.6	27.1
KY 1940 – County Line to KY 32	II	NB	A	-	36.7	A	-	27.5
		SB	A	-	27.5	A	-	36.7

Note: Shady Nook and Shaw Lane were not analyzed because there were no traffic volumes for these roadways.

2.6 Vehicle Miles Traveled (VMT) Existing Conditions

Vehicle miles traveled (VMT) is a measurement of miles traveled by vehicles within a specified region for a specified time period. The Project site is located in a rural setting and the site itself is currently used for agricultural cultivation and grazing. The design hour VMT were calculated based on count data obtained from the KYDOT traffic database. Table 2 shows a breakdown of the VMT on the study roadway segments.

Table 2: Existing Vehicle Miles Traveled

SEGMENT	DISTANCE (Miles) & DIRECTION		AM (veh/hr)	PM (veh/hr)	PEAK HOUR	VMT
KY 392 KY 62 to Shaw Lane	6.0	EB	56	75	131	786
		WB	75	56		
KY 32 Cynthiana City Limits to KY 1940	1.5	EB	123	156	279	419
		WB	156	123		
KY 32 KY 1940 to Shady Nook Pike	0.5	EB	73	142	215	108
		WB	142	73		
KY 1940 County Line to KY 32	2.5	NB	45	33	78	195
		SB	33	45		

2.7 Transit Conditions

The Project site is not currently served by local public transit service, nor is any such service anticipated to be established in the area in the foreseeable future. The Federated Transportation Services of the Bluegrass, Inc. operates an on demand "BHN (Bourbon, Harrison and Nicholas Counties) InterCity" service to Lexington using the following route: Carlisle to Cynthiana to Paris to Lexington and back.

2.8 Walking/Accessibility

The Project site is located in a rural setting in unincorporated Harrison County. Generally, there are no pedestrian facilities surrounding the Project site or at any of the study intersections in the Project vicinity. Such facilities may include pedestrian crosswalks, curb-ramps, and pedestrian signal heads.

2.9 Bicycle Conditions

There are no bicycle facilities present adjacent to or within the Project site. No future bicycle facilities are planned with in the Project area.

3.0 Existing Plus Project Conditions

This section presents analysis results for Existing plus Project Conditions, which is identical to Existing Conditions but with added traffic from Project construction activities.

3.1 Project Trip Generation

Trip generation estimates for the proposed construction site were produced using data provided by the Project Sponsor. For conservative (worst-case) analysis purposes, it was assumed that construction would occur in one phase. Specific data used include the anticipated number of workers onsite during construction and truck haul trips

required to complete construction. Worker vehicle trips and truck haul trips are estimated separately as they represent distinct trip types.

Construction workers are expected to commute to/from the construction site during the AM peak hour (inbound) and PM peak hour (outbound). A total of 184 workers are anticipated to work on-site each day. For conservative (worst-case) calculation purposes, it was assumed that all workers would drive alone.

An estimated 10 to 12 delivery trucks per day are anticipated at the Project site. For conservative (worst-case) calculation purposes, it was assumed that all trucks would be travelling to or from the construction site during both the AM and PM peak hours.

To estimate the maximum number of total Project trips, the worker and truck haul trips were combined to estimate the maximum number of total trips for use in the subsequent traffic analysis. Table 3 summarizes the number of trips to/from the Project site.

Table 3: Trip Generation Summary

Trip Type	Morning Peak Hour			Evening Peak Hour		
	Inbound	Outbound	Total	Inbound	Outbound	Total
Worker Trips	184	0	184	0	184	184
Truck Haul Trips	12	0	12	0	12	12
Total Project Trips	196	0	196	0	196	196

3.2 Project Trip Distribution and Assignment

The Project is anticipated to utilize local work force from primarily from Harrison County and the surrounding areas. Additional workers from elsewhere may also be needed. Based on this information, it is assumed that the majority of the worker trips (70%) will generate from Cynthiana and larger population centers to the west and the remaining trips will generate from the south (15%) and east (15%) from locations such as Paris and Millersburg.

It is also assumed that truck haul trips will generate from the interstates/major roadways to the west.

Proposed access to the construction site is unknown at this moment. Therefore, the site plan and aerial photography were reviewed to identify potential access points. Multiple access points were identified on the Project roadway network.

The estimated trip generation was distributed onto the adjacent roadway network utilizing the identified access points. The Project's trip distribution for both workers and truck hauls were based on the following:

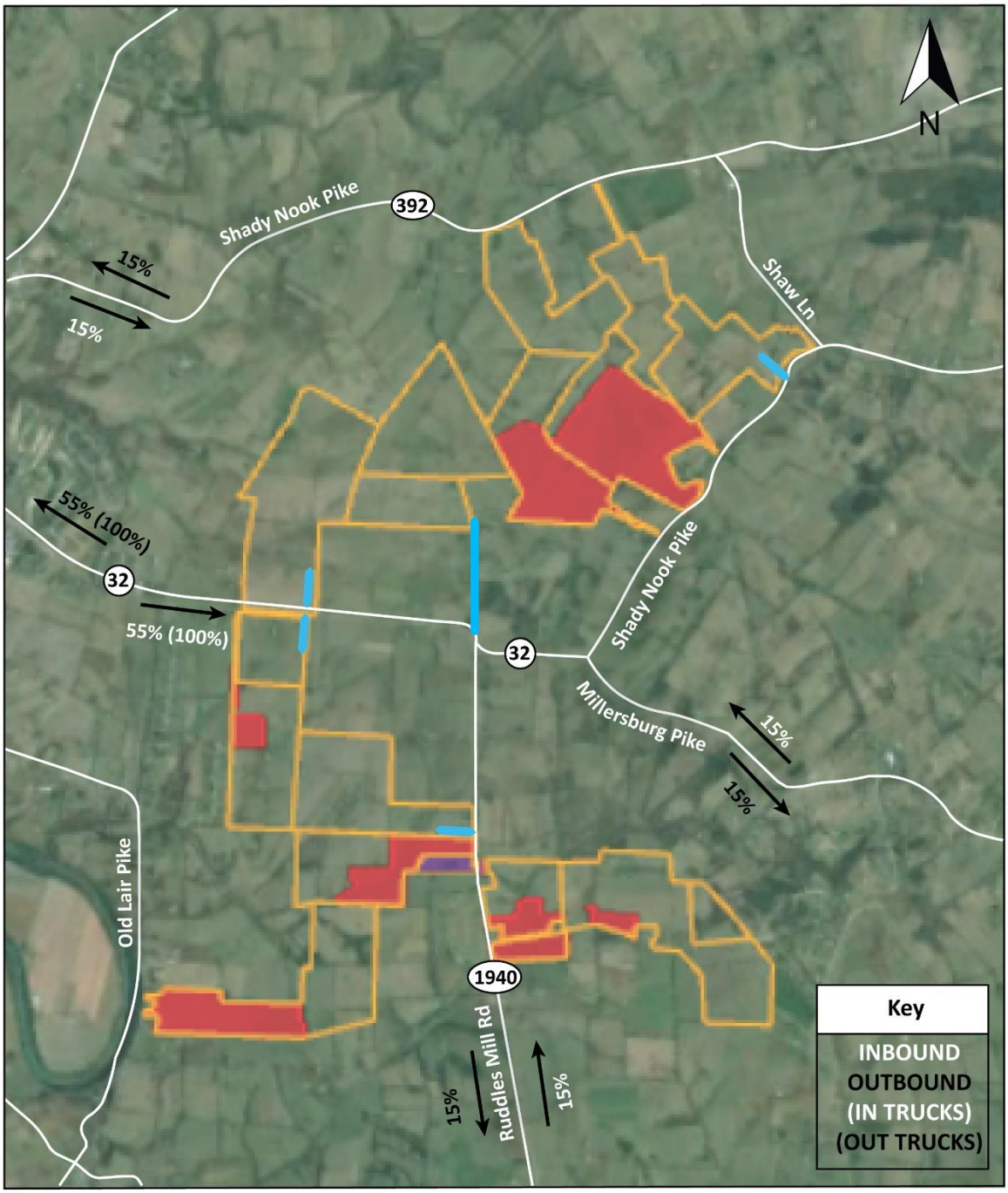
- Population centers
- Proximity to expressways and other main roadways
- Proposed site layout

Trip distributions in the form of inbound and outbound percentages for Project trips are summarized in **Figure 4**.

Figure 5 summarizes the Project trips for the morning and evening peak hours.

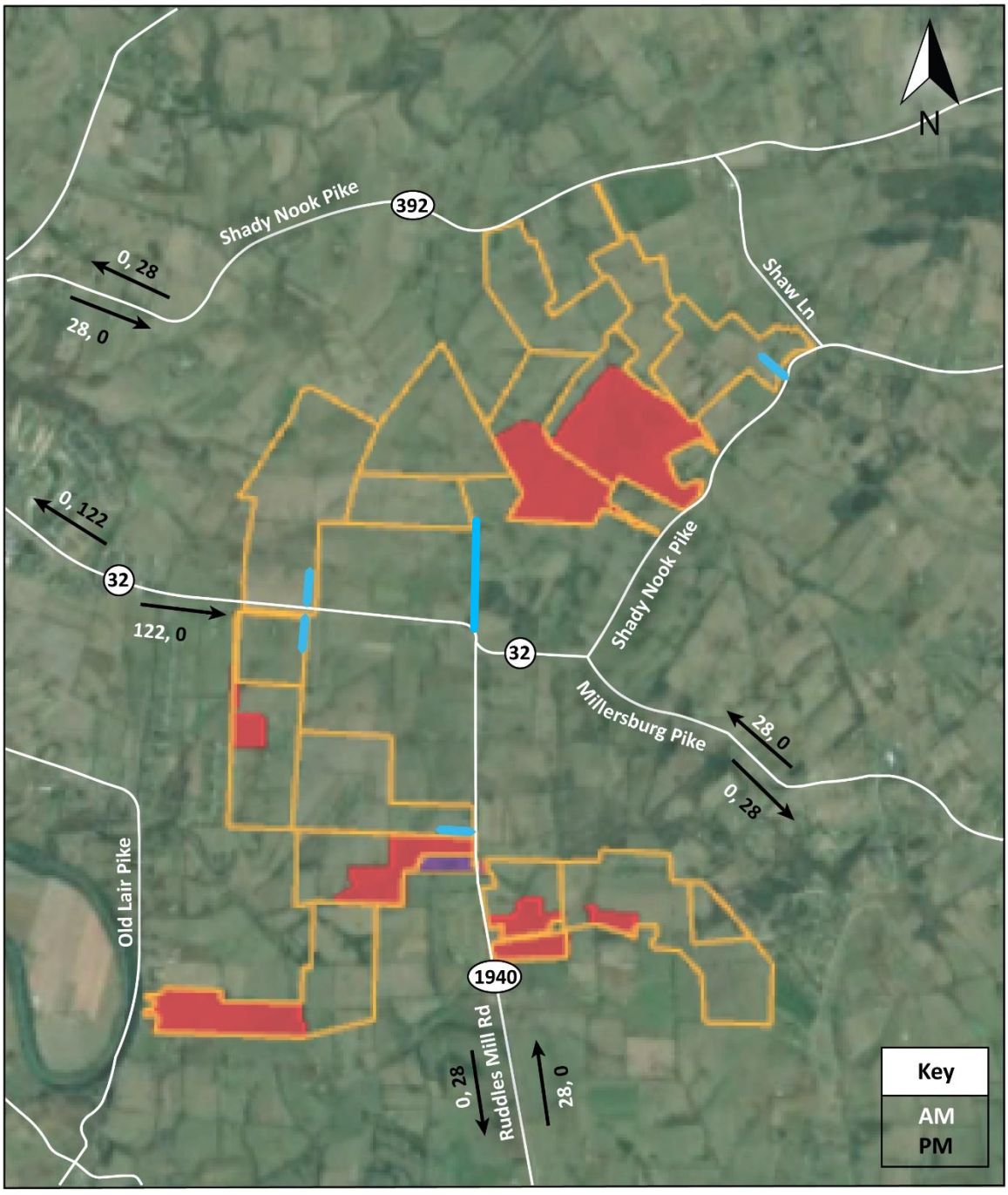
The highest volume of total Project trips on each study segment was added to the Existing Conditions traffic volumes to produce Existing plus Project Conditions segment traffic volumes which are summarized in **Figure 6**.

Figure 4: Project Trips Distribution



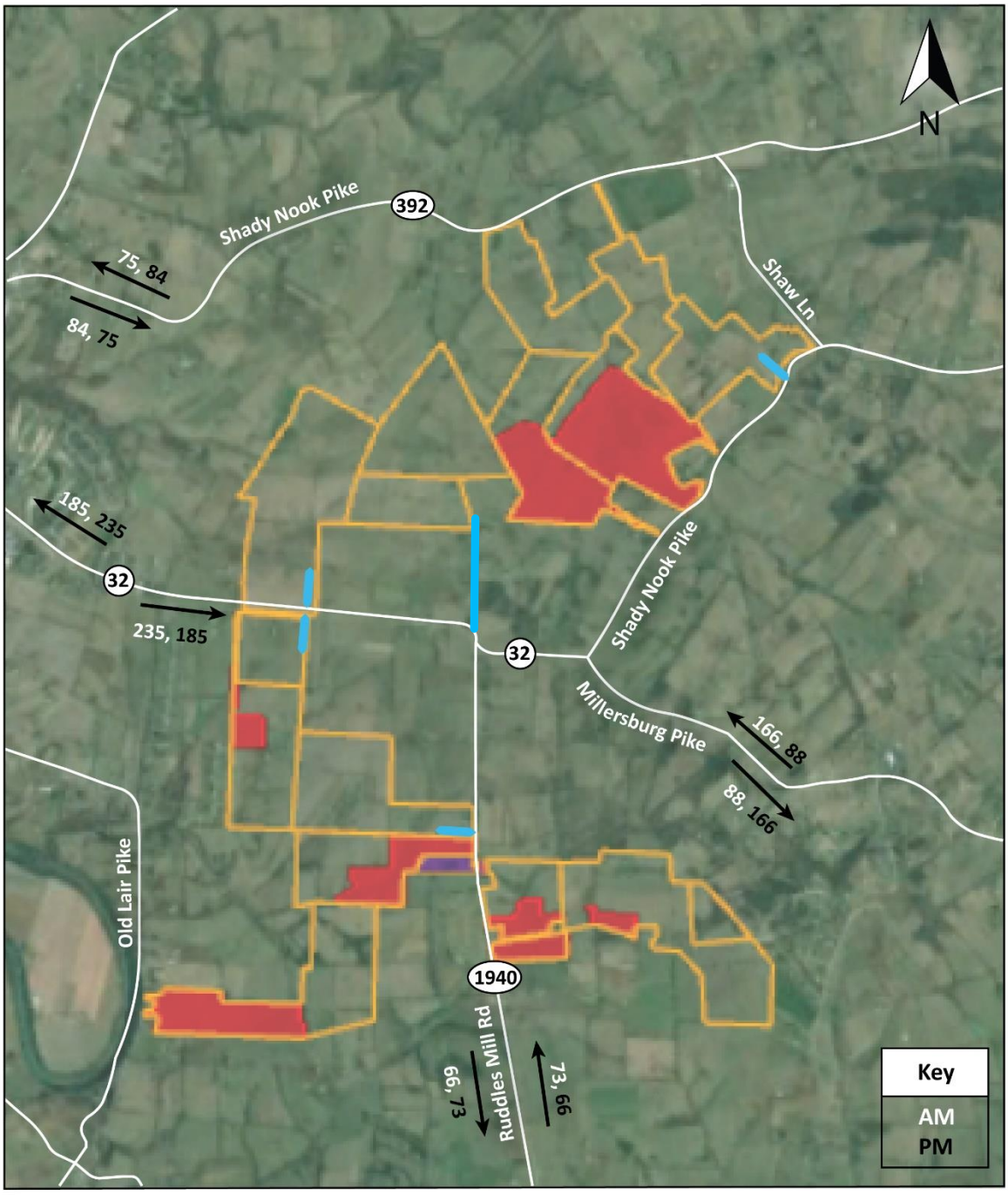
Blue Moon Energy Project
Traffic Impact Study
Trip Distribution

Figure 5: Project Trips



Blue Moon Energy Project
Traffic Impact Study
Project Trips

Figure 6: Existing plus Project Conditions Traffic Volumes



Blue Moon Energy Project
Traffic Impact Study
Existing Plus Project Conditions Traffic Volumes

3.3 Level of Service Analysis – Existing Plus Project Conditions

Table 1 presents the results of the operational analysis for the study segments under Existing plus Project Conditions. Existing plus Project Conditions segment LOS calculations are provided in Appendix B.

Table 4: Existing plus Project Conditions
Peak Hour Segment LOS Results

Roadway Segment	Class	Direction	Existing Conditions						Existing plus Project Conditions					
			Morning Peak Hour			Evening Peak Hour			Morning Peak Hour			Evening Peak Hour		
			LOS	ATS (mph)	PTSF (%)	LOS	ATS (mph)	PTSF (%)	LOS	ATS (mph)	PTSF (%)	LOS	ATS (mph)	PTSF (%)
KY 392 – US 62 to Shaw Lane	II	EB	A	-	30.1	B	-	40.3	A	-	38.7	A	-	34.7
		WB	B	-	40.3	A	-	30.1	A	-	34.7	A	-	38.7
KY 32 – Cynthiana City Limits to KY 1940	I	EB	C	45.8	41.2	C	46.4	51.5	D	44.5	60.0	D	44.8	50.3
		WB	C	46.4	51.5	C	45.8	41.2	D	44.8	50.3	D	44.5	60.0
KY 32 – KY 1940 to Shady Nook Pike	I	EB	C	47.6	27.1	C	48.6	51.6	C	46.9	29.6	C	48.2	54.3
		WB	C	48.6	51.6	C	47.6	27.1	C	48.2	54.3	C	46.9	29.6
KY 1940 – County Line to KY 32	II	NB	A	-	36.7	A	-	27.5	A	-	37.5	A	-	34.0
		SB	A	-	27.5	A	-	36.7	A	-	34.0	A	-	37.5

As shown in Table 7, with the addition of Project construction traffic, all study segments are projected to operate acceptably at LOS D or better with only slight degradations in operations. The change from existing LOS C to a borderline LOS D is minimal with the driving factor being a decrease in ATS of only 1.3-1.6 mph, which is not noticeable to the average driver. Therefore, the Project is not expected to cause a significant impact with respect to traffic. It should be noted that this analysis assumes a worst-case-scenario in which all workers drive to/from the Project site alone and thus the Project could generate less impact if workers were encouraged to carpool.

Additionally, the KY 32 segments assumed a worst-case Class I designation. If these segments were to assume a Class II designation, which could be argued, operations would be even better.

It can also be concluded that any other roadway segments that Project related traffic may travel on will have acceptable operations since the highest volume roadways carrying the highest amounts of Project related traffic operate at acceptable levels.

3.4 Existing Plus Project Conditions Vehicle Miles Traveled

Design hour vehicle miles traveled (VMT) on the study roadway segments for Existing Plus Project Conditions were calculated using the Existing plus Project Conditions segment traffic volumes. Table 5 shows a breakdown of the VMT on the study roadway segments.

Table 5: Existing plus Project Conditions Vehicle Miles Traveled

SEGMENT	DISTANCE (Miles) & DIRECTION		AM (veh/hr)	PM (veh/hr)	PEAK HOUR	VMT
KY 392 KY 62 to Shaw Lane	6.0	EB	84	75	159	954
		WB	75	84		
KY 32 Cynthiana City Limits to KY 1940	1.5	EB	235	185	420	630
		WB	185	235		
KY 32 KY 1940 to Shady Nook Pike	0.5	EB	88	166	254	127
		WB	166	88		
KY 1940 County Line to KY 32	2.5	NB	73	66	139	348
		SB	66	73		

Table 5 shows that the total design hour VMT on the study segments is projected to increase by approximately 551 miles which is an approximately 36.5% increase. This percent increase is primarily due to the low volume of existing traffic on the study segments. This increase is expected to be only temporary while construction is on-going.

4.0 Conclusions

This section presents the conclusions for the Blue Moon Solar Generation and Storage Project Transportation Impact Study in Harrison County, Kentucky. Implementation of the Project would result in less than significant transportation impacts, and therefore, no mitigation measures are required.

- Under Existing Conditions, all study segments operate at LOS C or better.
- It should be noted that any transportation impacts will be temporary in nature as they will occur only during the construction phase of the project.
- The peak of Project construction activities is expected to generate up to 392 daily trips, including 368 worker vehicle trips and 24 truck haul trips. This includes up to 196 AM and 196 PM peak hour trips, with 184 peak hour worker vehicle trips and 12 truck haul trips each peak hour.
- Under Existing plus Project Conditions, all study segments are projected to operate acceptably at LOS D or better with only slight degradations in operations. Therefore, the Project is not expected to cause a significant impact with respect to traffic.
- Under Existing plus Project Conditions, it can also be concluded that any other roadway segments that Project related traffic may travel on will have acceptable operations since the highest volume roadways carrying the highest amounts of Project related traffic are projected to operate at acceptable levels.
- Under Existing plus Project Conditions, the total design hour VMT on the study segments is projected to increase by approximately 551 miles which is an approximately 36.5% increase. This percent increase is primarily due to the low volume of existing traffic on the study segments and will only be temporary during the construction phase.
- The Project would not substantially increase hazards due to a geometric design feature or incompatible uses and thus, the Project would result in less-than-significant transportation impacts.
- The Project would not permanently alter any roadways nor create any traffic conditions that would impede emergency access and thus, the Project would result in less-than-significant impacts related to emergency access.
- Although no traffic impacts have been identified, it is recommended that the contractor encourage carpooling/vanpooling during construction to reduce the vehicular footprint at the site.

References:

1. Transportation Research Board. Highway Capacity Manual 6th Edition, Washington, DC, 2016.
2. McTrans, HCS7 Software.

SAR EXHIBIT F

Article 23.

Solar Energy System

1. Definitions:

Solar Energy System (SES): the components and subsystems required to convert solar energy into electric or thermal energy suitable for use. The area of the system includes all the land inside the perimeter of the system, which extends to any fencing.

Level 1 Solar Energy System- Level 1 SESs include the following:

i. Roof-mounted on any code-compliant structure
ii. Ground –mounted on an area of up to 50% of the footprint of the primary structure on the parcel but no more than 1 acre
iii. Covering permanent parking lot and other hardscape areas.
iv. Building integrated solar (i.e., shingle, hanging solar, canopy, etc.)

Level 2 Solar Energy System- Level 2 SESs are ground-mounted systems not included in Level 1 that meet the area restriction listed below:

v. Agricultural: SES *up to* ≤½ acre
vi. Residential: SES *up to* ≤ ½ acre
vii. Commercial: SES *up to* ≤ 10 acres
viii. Industrial: SES of any size

Level 3 Solar Energy System- Level 3 SESs are systems that do not satisfy the parameters for a Level 1 or Level 2 Solar Energy System.

2. Applicability
   a. This Ordinance applies to the construction of any new SES within the County/City.
   b. An SES established prior to the effective date of this Ordinance shall remain exempt
      i. Exception: Modifications to an existing SES that increases the SES area by more than 5% of the original footprint or changes the solar panel type (e.g. photovoltaic to solar thermal) shall be subjected to this Ordinance.
   c. Maintenance and repair are not subject to this Ordinance.
   d. The ordinance does not supersede regulations from local, state, or federal agencies.

3. Permits Required- Table 1

Table 1: Permit Requirements

Types of Permits Required: P=Permitted Use; CUP=Conditional Use Permit				
Zoning District	Agricultural	Residential	Commercial/ Business	Industrial
Solar Energy Facilities				
Roof-mounted, parking lot cover, or building integrated (Level 1)	P	P	P	P
Ground-mounted:				
up to 50% of the footprint of the primary structure (Level 1)	CUP	CUP	P	P
Up to ≤ 1/2 acre (Level 2)	CUP	CUP	CUP	CUP
Up to 10 acres ≤(Level 2 or 3)	CUP	CUP	CUP	CUP
In excess of ≥10 acres (Level 2 or 3)	CUP	CUP	CUP	CUP

4. A. Parcel Line Setbacks from nonparticipating properties and roadways- Table 2

Table 2: Parcel Line Setbacks

A. Zoning District	Level 1	Level 2	Level 3		
			Front	Side	Rear
Agricultural	Per Zoning District	Per Zoning District	100'*	50'*	50'*
Residential			50'*	50'*	50'*
Commercial/Business			30'*	15'*	25'*
Industrial			30'*	15'*	25'*
Ground mounted SES must comply with district front yard limitation and setbacks, or the setbacks of this section, whichever is greater,or otherwise not impair sight distance for safe access to or from the property or other properties in vicinity. AND					
b. SES equipment shall be located no closer than 200’ from any residential structure/dwelling unit.					
c. Fencing and vegetative buffer shall be installed on all sides of the facility.					
d.Level 1 SESs are not subject to screening requirements typically applied to accessory utility systems (HVAC, dumpsters, etc.)					

d. Height Limitations- Table 3

Table 3: Height Limitations*

Zoning Districts	Level 1	Level 2	Level 3
Agricultural	Roof-mounted: Per zoning district Ground-mounted 20'	20'	20'
Residential		20'	20'
Commercial/Business		20'	20'
Industrial		20'	20'
*This excludes utility poles and any antennas constructed for the project. Also excludes substation equipment needed for interconnection with the utility.			

e. Level 1 Solar Energy Systems are a permitted use provided they meet the applicable height, setback and related district standards.

f. Levels 2 & 3 Solar Energy Requirements- these requirements are in addition to height, setback, and applicable district standards.

A. Site Plan

i. A site plan shall be submitted demonstrating compliance with:

1. Setback and height limitations established in Tables 2 and 3,
2. Applicable zoning district requirements,
3. Applicable requirements per this Ordinance.

B. Visibility

i. SESs shall be constructed with buffering that includes:

1. Associated outside storage shall be completely screened with a vegetative buffer from view from all streets and adjacent residential uses.

2. Any existing tree or group of trees which stands within or near a require planting area and meets or exceeds the standards of this Ordinance may be used to satisfy the tree requirements of the planting area. The protection of tree stands, rather than individual trees, is strongly encouraged.

3. Double row of plant material 6 feet of height at planting. Evergreen trees will be placed no more than 20 feet apart, with the second row centered between the first rows, to be a layered look. A chain link fence coated in green or black coating no less than 6 feet in height and no more than 8 feet in height shall be placed along the perimeter of the property. The vegetation shall be placed on the outside of the fence. The health of the landscaping shall be maintained, with trees replaced within 6 months upon death.

4. Public signage as permitted by the local ordinance, including appropriate or required security and safety signage.

5. If lighting is provided at the site, lighting shall be shielded and downcast such that the light does not spill onto adjacent parcel or the night sky. Motion sensor control is preferred.

C. Decommissioning / Security - 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.

1. The Decommissioning Plan shall include:

1. Defined conditions upon which the decommissioning will be initiated. In this case, if there has been no power production for 12 months, or the land lease has ended, or cessation of use of abandoned facility unless an extension is granted.
2. Description of any agreement with Landowner regarding decommissioning.
3. Provide details for the removal and disposal of all non-utility owned above ground equipment, transformers, inverters, conduit stub outs, or other above ground structures including, foundations. The roads and fencing may be left in place if they are in good working condition and with approval by the land owner.
4. The Decommissioning Plan shall ensure the property be returned to a condition as it was prior to development of the SES or that is suitable to the use that is granted by the Zoning Ordinance at the time of decommissioning.
5. Provide a timeframe for completion of decommissioning activities.
6. Identify the party currently responsible for decommissioning.
7. Prior to beginning actual decommissioning work, provide a decommissioning plan to be approved by the Planning Commission.

2. The Cost Estimate will provide a detailed estimate of the cost of implementing the Decommissioning Plan.
3. The developer or Landowner as appropriate, 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 (Security, which shall be both to ensure repair of defective materials and/or abandonment of the site. Defective materials are described as any part of the project that is not properly functioning and is shown to be in obvious disrepair for a period of time greater than six months. Abandonment shall be when the SES ceases to produce energy on a continuous basis for 12 months. An extension of this date shall be granted by the Planning Director upon proof of need provided by the plant owner within 90 days of decommissioning date. Security, if provided in form other than cash, must be issued from a surety company licensed to operate in Kentucky and having an A.M. Best rating of B++ or better, or an equivalent rating by Standard & Poor, Fitch Or Moody's.
4. 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.
5. The Decommissioning Plan, cost estimate, and form of security shall be provided for review and approval by the Planning Commission before a Building Permit is approved.
6. 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.
7. 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.

SAR
EXHIBIT G

Planning and Community Development
Cynthiana - Harrison County - Berry Planning Commission

Cynthiana-Harrison Co-Berry Joint Planning Commission
111 South Main Street, Suite 202
Cynthiana, KY 41031
Ph (859) 234-7165
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www.harrisonplanning.com

October 26, 2021

From: Bonnie Skinner
Director

To: Blue Moon Energy LLC,

Cynthiana, Ky. 41031

Re: Conditional Use approval and conditions.

Dear Blue Moon Energy LLC,

The Harrison County Board of Adjustment approved at its meeting on 10/26/2021 your request of a conditional use for Blue Moon Energy LLC ("Applicant"), a wholly-owned subsidiary of Recurrent Energy, LLC (RE), proposes the following conditions in connection to their Conditional Use Permit application to develop and construct the Blue Moon Solar Project (the "Project"), an approximately 70 MW (AC) photovoltaic (PV") solar energy conversion facility ("Facility") in Harrison County (the "County"), Kentucky.

1. **Site Development Plan; Location.** All solar panels and other above-ground equipment will be located within the "Buildable Area" as shown on the Conceptual Site Plan included with the CUP application.
2. **Height.** Permanently installed solar equipment, excluding MET stations, utility poles, antennas, and substation equipment, shall not exceed twenty (20) feet in height.
3. **Setbacks.** Except for fencing and any pole mounted electric lines, consistent with the County ordinance, all above-ground equipment will have a minimum front setback of at least one hundred (100) feet to frontage boundary lines and fifty (50) feet to side and rear boundary lines of any non-participating properties and roadways. No setbacks are required between the boundary lines of parcels that are part of a single project. Above-ground equipment shall be located no closer than 150' from any participating residential structures and no closer than 200' feet from any non-participating landowner.
4. **Landscaping.** Along the perimeter locations shown on the Conceptual Site Plan, the setback will include a vegetative buffer area comprised of existing vegetation and supplemental landscaping consisting of a double row of evergreen trees and shrubs, as needed. Applicant will confer with the agricultural department and communicate with adjoining property owners regarding appropriate landscaping. Trees will size 6 feet in height at planting. Supplemental landscaping will be replaced within six (6) months of death. 100% of all project boundaries shall be buffered.
5. **Permanent Storage.** Associated outside storage shall be completely screened with a vegetative buffer from view from all streets and adjacent residential structures.
6. **Construction.** 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

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deadlines. Construction workers may arrive on site prior to 7 a.m., but construction activities shall not commence until 7 a.m.

7. **Stormwater Management.** 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.
8. **Permits.** The Applicant shall obtain all required regulatory permits including, but not limited to, 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.
9. **Security.** Following construction of the Project, the Facility shall be fenced and secured with a locked gate. The Project Site shall also be secured during construction. The Facility Owner will install and maintain a permanent perimeter fence that meets the requirements of the National Electrical Safety Code. The perimeter fence will consist of a chain link fence coated in green or black coating.
10. **Lighting.** Fixed lighting will be shielded and downward facing to minimize light spillage and shall be motion-activated.
11. **Decommissioning.** A Decommissioning Plan shall be prepared by the applicant that includes a commitment to remove above ground solar facility equipment and restore the land to a quality suitable for its previous use upon the end of the project's life. Equipment located below ground may be left in place in accordance with landowner agreements. A Cost Estimate shall be prepared by a an individual or firm with experience or expertise in the costs for removal or decommissioning of electric generating facilities. 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. The Decommissioning Plan and associated Cost Estimate will be updated every five (5) years, and the security revised as appropriate. Decommissioning will occur in accordance with Article 23 of the Harrison County Zoning Ordinance within a timeframe of twelve (12) months.
12. **Survival.** So long as the Project is operated in conformance with these conditions, the CUP shall continue for the life of the Project.
13. **Debris Maintenance.** Ground shall remain free of debris at all times after construction has been completed.
14. **Emergency Response.** Prior to construction, the Applicant shall provide a finalized Emergency Response Plan to the local fire district and the County Emergency Management Agency. Applicant will provide training for local emergency responders at their request.
15. **Road Repairs.** Damage to public roads caused by construction within 150 feet of the designated access points will be promptly repaired. Ninety days prior to commencement of construction, Applicant shall conduct a pre-construction road survey to document the condition of the pavement and shoulders along roads adjacent to the Project boundary. Applicant will repair damage directly attributable to Facility construction within such area.
16. **Sound.** Applicant shall not generate noise in excess of 125 db at the outer boundary of the setbacks required by condition 3. Compliance with this condition shall be sufficient to negate the need for any sound mitigation techniques or equipment during construction. Additionally, compliance with this condition shall provide the Applicant flexibility to place central inverters, panels, and substations, in any project location so long as the 125db limit is maintained during construction and operation.
17. **Construction Dust.** Applicant shall produce a plan to control fugitive dust during construction and make said plan available to the County upon request.

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18. **Comment Response.** Applicant shall create a plan to track and address comments or concerns from adjoining landowners during construction. The plan and tracked information shall be available to the County upon request.