Exhibit I

Site Assessment Report

Fleming Solar Project

Site Assessment Report

Fleming Solar, LLC

Fleming County, Kentucky

May 2021

CONTENTS

FIGURES

APPENDICES

1.0 Description of Proposed Site

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

1. *Surrounding land uses for residential, commercial, agricultural, and recreational purposes;*
2. *The legal boundaries of the proposed site;*
3. *Proposed access control to the site;*
4. *The location of facility buildings, transmission lines, and other structures;*
5. *Location and use of access ways, internal roads, and railways;*
6. *Existing or proposed utilities to service the facility;*
7. *Compliance with applicable setback requirements as provided under KRS 278.704(2), (3), (4), or (5); and*
8. *Evaluation of the noise levels expected to be produced by the facility.*

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

1.1 Surrounding Land Uses

Per KRS 278.708(3)(a)(1); *Surrounding land uses for residential, commercial, agricultural, and recreational purposes.*

The Site is bordered to north by agricultural fields and rural residential areas. The Site is bordered to the east by rural residential development, the New Creation Praise and Worship Center, and a privately owned golf course. The Site is bordered to the south by mixed rural development and agricultural fields. An apparent car repair shop or junk yard is adjacent to the southern Site boundary. The Site is bordered to the west by mixed rural development and agricultural fields.

A breakdown of land use on parcels adjoining the Project is provided in **Appendix A** and is provided below for convenience.

Table 1. Land Use Adjoining the Project

Land Use	Percent of Total Adjoining Acres	Percent of Total Adjoining Parcels
Residential	2.93	56.25
Agricultural	47.56	20.83
Agricultural/Residential	49.27	18.75
Religious	0.12	2.08
Warehouse	0.12	2.08
Total	**100**	**100**

Source: Kirkland Appraisals, LLC (2020)

1.2 Legal Boundaries

Per KRS 278.708(3)(a)(2); *The legal boundaries of the proposed site.*

The legal descriptions of the participating properties are provided in **Appendix B** and the parcels are depicted in **Figure 1.**

1.3 Access Control

Per KRS 278.708(3)(a)(3); *Proposed access control to the site.*

As described in the Application, Section 2, "Fleming Solar would secure the Project perimeter using six (6) to ten (10)-foot-high chain-link fencing topped by barbed or razor wire and meeting national electrical code requirements. The security fence will not have a permeable sight barrier. Project entrance gates are anticipated to be approximately eight (8) feet high and twelve (12) feet wide to allow for emergency and maintenance access. All fencing would be placed at or above grade to ensure drainage flows are unobstructed." The security fence is depicted in **Figure 1**.

Site access will be controlled during construction with dedicated guards or with electronic gating systems. During the operation phase the Main Entrance and Northern Entrance gates will have access control systems including cameras. Site managers for both construction and operations will have contact information for local law enforcement agencies in order to coordinate security. Construction and operations personnel will receive regular training to ensure their familiarity with emergency procedures and emergency contact numbers.

1.4 Site Plan

Per KRS 278.708(3)(a)(4); *The location of facility buildings, transmission lines, and other structures.*

The Project will interconnect to the electric transmission grid via the Flemingsburg to Spurlock 138-kilovolt (kV) line, which is located on the western portion of the Project running northwest to southeast. The Utility Substation, Project Substation, and the Operations and Maintenance (O&M) building are located where the transmission line meets Kentucky (KY) Hwy 559 (aka Old Convict Road). The panels and inverters are located across the Project area. The Preliminary Site Layout is provided in **Figures 2A** thru **2D.**

Because there will be variations to the layout over time as the Project enters later stages of development, Fleming Solar has identified a Potential Project Footprint within the Project Boundary (**Figure 3**). The Project Boundary is defined as the outer parcel boundaries for any parcel (or portion of a parcel) that is the subject to a lease, purchase, or easement through an existing option agreement, which allows for construction activities or the operation of Project components on that parcel. The Potential Project Footprint represents the furthest extent that generating equipment will be located in the Project's final design within the Project Boundary. Fleming Solar established the Potential Project Footprint using a setback of 300 feet from the Project Boundary if there is a nearby residence and 50 feet from the Project Boundary if there is no nearby residence. For the purpose of

establishing the Potential Project Footprint, residences are considered "nearby" if they are located within 300 feet of the Project Boundary. All impact assessments considered the Potential Project Footprint as being the maximum extent of generating equipment placement for the Project.

1.5 Access/ Internal Roads

Per KRS 278.708(3)(a)(5); *Location and use of access ways, internal roads, and railways.*

The Project will require two site entrance driveways and two additional temporary construction entrances. which are identified on **Figures 2A** thru **2D**.

- The Main Plant Entrance will be along KY Route 559 (Old Convict Road), and it will remain open once construction is completed. It will provide access to the Substation and the Operations and Maintenance (O&M) Building.
- The Construction Laydown Entrance will be along KY Route 559 (Old Convict Road) east of the Main Entrance. It will provide access to the construction laydown area and thus will be used for general construction deliveries. This driveway will be closed once construction has been completed.
- The Construction Access Easement will be along KY Route 11 (Maysville Road), consistent with an existing driveway. This driveway will only be used during construction of the northern portion of the Project.
- The Northern Site Entrance will be constructed along KY Route 11 (Maysville Road), and it will remain open once construction is completed. It will provide access to the northern portion of the Project. This driveway will only occasionally be used upon Project completion.

Internal roadways will be constructed with compacted gravel as needed in order to support construction and O&M activities for the Project. No railways are present within the proposed Project site, nor will any nearby railways be used for the construction or operation of the proposed Project.

1.6 Utilities to Serve Facility

Per KRS 278.708(3)(a)(6); *Existing or proposed utilities to service the facility.*

The Flemingsburg to Spurlock 138 kV line owned by East Kentucky Power Cooperative would be connected to the facility and carry power generated by the Project. The area is also serviced by Kentucky Utilities, and the Project may need to receive external utility services for the O&M building. Fleming Solar will evaluate whether water and sewer utilities are needed for the O&M building and will coordinate with the appropriate providers.

1.7 Compliance with Setback Requirements

Per KRS 278.708(3)(a)(7); *Compliance with applicable setback requirements as provided under KRS 278.704(2), (3), (4), or (5).*

Fleming County has not established setback requirements for the Project site. Additionally, the Project will not include exhaust stacks or wind turbines as part of the facility and, accordingly, there is no setback requirement from adjoining property boundaries. There are, however, residential neighborhoods within 2,000 feet of the Project Boundary as identified in the Application, Exhibit A: Surrounding Residential Neighborhoods. Fleming Solar will seek a deviation from the setback requirements pursuant to KRS 278.704(4).

1.8 Noise Impacts

Per KRS 278.708(3)(a)(8); *Evaluation of the noise levels expected to be produced by the facility.*

As outlined in Section 6 of this report, Fleming Solar is proposing a construction schedule and sufficient setbacks to mitigate noise impacts for the community. The Noise and Traffic Study provided in **Appendix C** identifies the noise levels expected to be produced by the facility. The conclusion of the report is as follows:

> "It is GAI's professional opinion that the Project's impacts to the existing sound level environment will be minimal. This conclusion is based on the existing ambient environment and the nature of the Project including the construction process, types of equipment to be installed, setback distances proposed in Section 2.4, and planned operation."

2.0 Compatibility with Scenic Surrounding

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

COMPLIANCE:

The Project is located within a rural/residential area, which is typical of utility-scale solar projects. A summary of solar project's appearance in general and compatibility with this a rural/residential landscape is provided on page 117 of the Property Value Impact Study (**Appendix A**)**,**

See **Appendix D** for a site-specific Visual Assessment report written by GAI Consultants studying potential visual impact to the community surrounding the proposed facility. The conclusion of the report, on pages 2 and 3, reads as follows:

> "To the best ability, through the completion of the Visual Assessment, GAI has reviewed all possible scenarios where visual impacts could have been made by the community from the adjacent residences and along the right-of-way surrounding the project site. The assessment provided Core Solar with a better understanding of where landscape screening would need to be considered, and thus they have made the proper alteration to their layout as seen in Attachment A (Preliminary Site Map). The facility is proposed to be well screened by existing and proposed vegetation, as well as structures associated with the development. It should be noted that all screening solutions benefit those who reside nearest the project, while areas such as roadways and rural residential development located outside of built communities could have possible elevated views towards the project site. This does present the opportunity of views that could vary from completely screened to partially and unobstructed screening with every attempt made towards screening the proposed development."

See **Appendix E** for the Solar Glare Hazard Report completed by Pure Power Engineering. No potential for glare was predicted for all observation points based on the Potential Project Footprint.

As outlined in Section 6B of this report, the Project is committed to mitigating visual impacts to the extent feasible.

3.0 Property Value Impact Study

REQUIREMENT: per KRS 278.708 (3)(c); The potential changes in property values and land use resulting from the siting, construction, and operation of the proposed facility for property owners adjacent to the facility

COMPLIANCE:

Please refer to the Property Value Impact Study provided as **Appendix A**. In his transmittal letter, Mr. Kirkland provides the following conclusions.

> "The adjoining properties are well set back from the proposed solar panels and most of the site has good existing landscaping for screening the proposed solar farm. Additional vegetation is proposed to supplement 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."

4.0 Noise Impact Study

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

COMPLIANCE:

The Noise and Traffic Study provided in **Appendix C** identifies the noise levels expected to be produced by the facility.

5.0 Traffic Impact Study

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

COMPLIANCE:

The report provided in **Appendix C** discusses the Project's impact on road and rail traffic, and the anticipated levels of fugitive dust created by the traffic and degradation of roads as a result of the Project. The following is a brief summary of Sections 4.2 and 3.6 of the report.

> The traffic assessment concludes that due to the low volume of construction and operation trips (anticipated at fewer than 100 construction vehicles per 10-hour workday along low-volume roads, an off-site shuttle for employee trips) and the utilization of appropriate safety measures such as work zone signage and flaggers, traffic impacts during construction will be minor. During Project operation, there will be four or fewer workers per shift, three shifts per day. Decommissioning will consist of six employees for 12 months. Therefore, additional traffic mitigation will not be required.
>
> Land disturbance from Project construction may create fugitive dust emissions. Impacts are anticipated to be minor in nature due to the large size of the site and the low-density of housing and rural character of the area, though reasonably available control measures will be used to mitigate fugitive dust emissions. Measures will include using compacted gravel at all site driveway entrances and at the laydown yard. Internal roadways will either have compacted gravel or be watered periodically for dust suppression using water trucks.

6.0 Mitigation Measures

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

COMPLIANCE:

Fleming Solar is committed to responsible development and community coordination. During the initial siting phase, densely populated areas, schools, hospitals, wetlands, floodplains, and other key environmental and community concerns were avoided. Additional studies have been conducted to minimize ecological impact. Fleming Solar has adjusted plans throughout the development process and has established a Potential Project Footprint to mitigate potential noise and visual concerns. All impact assessments considered the Potential Project Footprint as being the maximum extent of generating equipment placement. Fleming Solar's proposed mitigation measures are outlined below by category.

A. PROPOSED DEVELOPMENT PLAN

1. Fleming Solar will limit the placement of generating equipment, including panels and inverters to the Potential Project Footprint, which was established using a setback of 300 feet from the Project Boundary if there is a nearby residence and 50 feet from the Project Boundary if there is no nearby residence. For the purpose of establishing the Potential Project Footprint, residences are considered "nearby" if they are located within 300 feet of the Project Boundary. Any change in Potential Project Footprint from what was submitted in the permitting application will be submitted to the Siting Board for review.
2. Fleming Solar will submit the site layout plan that goes to project financing to the Siting Board. Deviations from the preliminary site layout plan submitted during the permitting process, will be indicated on the revised site plan. Those changes would include, but are not limited to, location of solar panels, inverters, transformer, substation, operations and maintenance building, or other project facilities or infrastructure.
3. Fleming Solar and its EPC contractor will follow best safety practices during the project construction and operation. Per National Electrical Safety Code regulations, Fleming Solar or its EPC contractor will install a security fence prior to any electrical installation work. This will control access to the site and ensure community safety. All construction entrances will be gated and locked when not in use. The substation will have its own separate security fences installed. Appropriate signage will be installed at all site entrances to warn potential trespassers.

B. COMPATIBILITY WITH SCENIC SURROUNDINGS

1. Existing vegetation between perimeter of the solar arrays and the residences will be left in place, to the extent practicable, to help screen the Project and reduce visual impacts from the adjacent homes.

2. Existing field vegetation will be left in place to the extent possible, so no extensive disturbances occur for the development of the proposed facility. Where construction clears the site, the vegetative cover will be restored following construction in that area to allow vegetation to take root prior to operating the facility.

3. To the extent practicable, a solar pollinator seed mix will be used in areas where vegetative disturbance takes place during site construction. A minimum of six (6) acres will be maintained as pollinator habitat.

4. Landscape screening will extend and connect to existing site vegetation, to help create a more natural transition between existing vegetation and developed.

5. The proposed vegetative screen will be planted with evergreen shrubs and small trees (such as cedar or arborvitae) to limit the view of the solar PV facility from the roadway or adjacent properties.

6. Evergreen trees planted as part of the vegetative screen will be a minimum of 8 feet tall within four (4) years of planting. Vegetation will be maintained or replaced as needed.
7. The landscape screen placement will be adapted in consultation with GAI (or another consultant with similar experience), if panel placement varies in final design.

8. Fleming Solar will continue to work with homeowners and business owners to address concerns related to the visual impact of the Project on its neighbors.

9. Fleming Solar or its EPC Contractor will utilize anti-reflective coated panels to minimize glare.

C. POTENTIAL CHANGES IN PROPERTY VALUES

Kirkland Appraisals conducted a Property Value Impact Study and found no impact on property values of homes as close as 105 feet. In the case of the Fleming Solar Project, all neighboring homes will be located in excess of 300 feet from the Project Potential Footprint.

D. ANTICIPATED NOISE LEVELS

1. Construction activities are anticipated to be transient in nature and of a limited duration, ending once construction has been completed, and taking place daily between 7:30 AM to 7:00 PM, with two exceptions: (1) pile driving activities within 1,000 feet of a non-participating landowners will

be restricted to the hours of 9:00 AM - 5:00 PM, and (2) no heavy construction activities (including pile driving) will take place prior to noon on Sundays. Fleming Solar or its EPC contractor will provide the opportunity to meet with a church representative on a quarterly basis during construction to accommodate any additional special events (holidays, weddings, baptisms, etc.).

2. Fleming Solar will notify residents and businesses within 2,400 feet of the Project boundary about the construction plan, noise potential, and mitigation plans at least one month prior to the start of construction.

3. Fleming Solar will establish a dedicated voicemail and email prior to construction of the Project. This information will be provided to city and county officials, emergency responders, schools, and public libraries, and neighboring residents within the Project Area. This information will also be posted on the Project website. To register a complaint or concern, individuals may either call the voicemail, send an email, or submit a form on the website.

4. All complaints and concerns will be responded to within five business days.

5. Fleming Solar will comply with the following minimum setbacks for Project equipment:
    a. Substation GSU transformer/HVAC:
        i. 300 feet from the Project Boundary
    b. Inverters:
        i. 300 feet from the Project Boundary adjacent to non-participating parcels with nearby residences
        ii. 150 feet from the Project Boundary adjacent to non-participating parcels without nearby residences.
    c. All other equipment:
        i. 300 feet from the Project Boundary adjacent to non-participating parcels with nearby residences
        ii. 50 feet from the Project Boundary adjacent to non-participating parcels without nearby residences
        iii. 50 feet from adjacent roads

E. EFFECT ON ROAD TRAFFIC

Due to the low traffic volumes of existing roadways near the proposed Fleming Solar Project and the nature of temporary anticipated traffic impacts during construction and operation of the Project, overall level of service degradations are not anticipated. Some short-term traffic impacts to the nearby state highways in vicinity of site driveways are anticipated during deliveries, especially with occasional oversized vehicle use; however, appropriate traffic control such as warning signs and flaggers will be provided during construction to minimize traffic impacts. Roadway conditions will be maintained through the permitting process. Once completed, the Project will have two to four employees per shift, three shifts per day, so long-term traffic impacts will not be created due to the low number of trips. Fleming Solar will restore

roadways impacted by construction as required through the permitting process. Dust impacts are anticipated to be minor, and the contractor will develop and implement a plan to minimize dust impacts.

1. The EPC contractor will provide adequate traffic control signs and devices that are compliant with Manual on Uniform Traffic Control Devices. These will include work zone signage and KYTC-certified flaggers to facilitate safe construction deliveries. Due to its narrow width, the contractor will need to conduct traffic stoppages on KY Route 559 (Old Convict Road) during construction to accommodate larger trucks. With an AADT of 147 vehicles per day and a peak hour traffic volume of approximately 18 vehicles per hour, traffic impacts will be temporary in nature and will be minor. There may also be temporary stoppages along KY Route 559 (Old Convict Road), KY Route 1200 (Helena Road), and KY Route 11 (Maysville Road) to facilitate deliveries in and out of site driveways. Disruptions to local property owners will be coordinated during construction.

2. The construction contractor will document roadway conditions in accordance with all applicable transportation permits obtained from State and local road authorities before construction commences and will be responsible for restoring impacted roadway to pre-construction conditions as required through the permitting process. Consideration will be given to coordinating delivery schedules to minimize the need for trucks to pass each other on KY Route 559 (Old Convict Road). No improvements are anticipated to be required to existing roadways for Project construction.

3. Fleming Solar will properly maintain construction equipment and follow BMPs related to fugitive dust throughout the construction process. This should keep dust impacts off-site to a minimal level.

F. ECONOMIC IMPACTS AND DECOMMISSIONING

1. Fleming Solar will attempt to hire local workers and contractors to the extent they are qualified to perform the construction and operations work.

2. Fleming Solar will develop an explicit decommissioning plan.

3. As applicable to individual lease agreements, the Applicant, its successors, or assigns will abide by the specific land restoration commitments agreed to by individual property owners as described in each signed lease agreement.

FIGURES

1221 South MoPac Expressway, Suite 225
Austin, Texas 78746 | 512-222-1125
www.energyrenewalpartners.com

ENERGY RENEWAL PARTNERS, LLC

LEGEND

Project Area (~830 acres)

Parcel

Fleming Solar LLC

Fleming Solar Project

Parcel Map

Project Location: Fleming County, Kentucky

N

0 500 1,000 Feet

FIGURE 1

Prepared by: L. Kauffman

Date: 2021-05-28

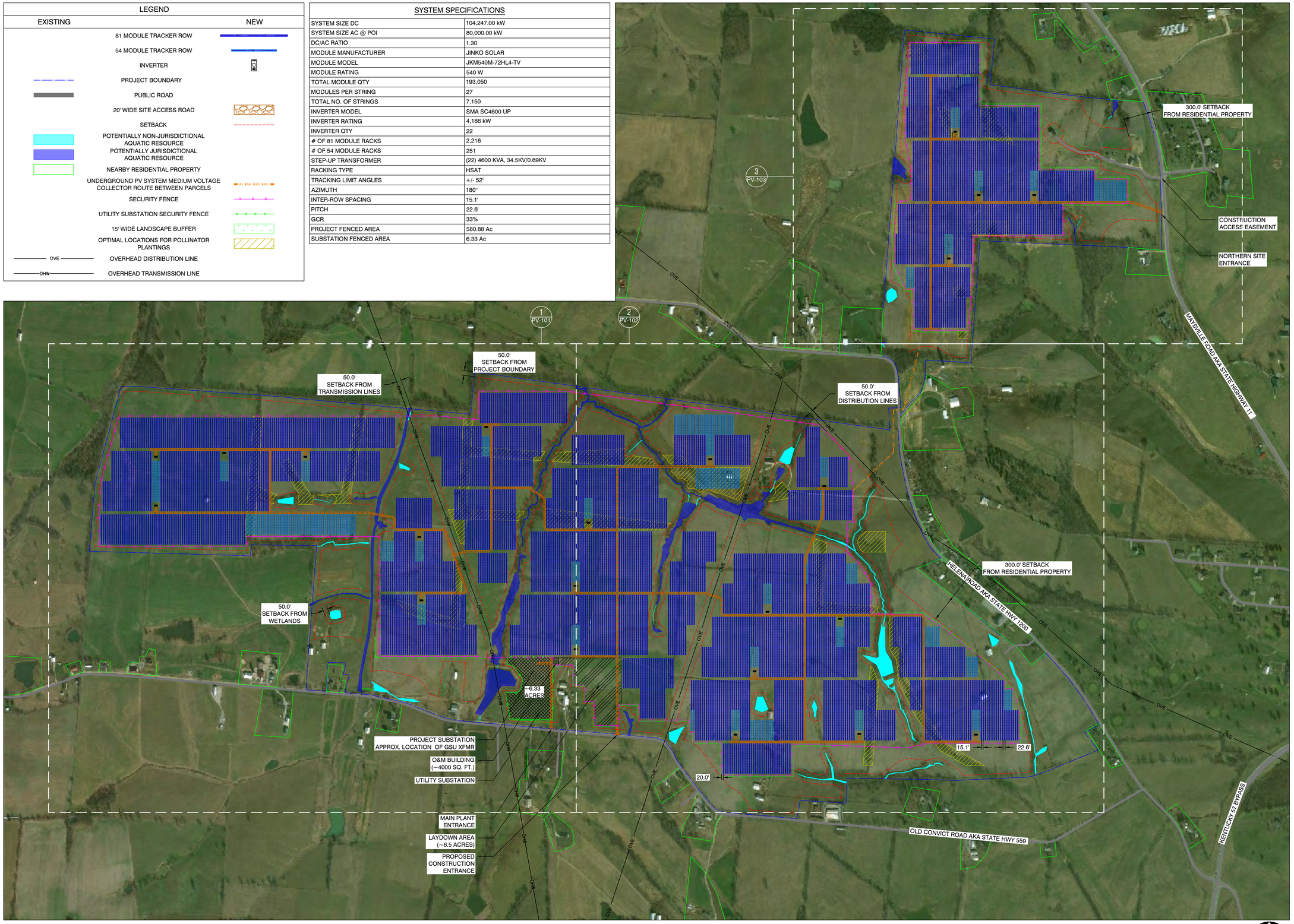
FIGURES 2A-2D

LEGEND

EXISTING		NEW
	81 MODULE TRACKER ROW	
	54 MODULE TRACKER ROW	
	INVERTER	INV
	PROJECT BOUNDARY	
	PUBLIC ROAD	
	20' WIDE SITE ACCESS ROAD	
	SETBACK	
	POTENTIALLY NON-JURISDICTIONAL AQUATIC RESOURCE	
	POTENTIALLY JURISDICTIONAL AQUATIC RESOURCE	
	NEARBY RESIDENTIAL PROPERTY	
	UNDERGROUND PV SYSTEM MEDIUM VOLTAGE COLLECTOR ROUTE BETWEEN PARCELS	MV MV MV MV
	SECURITY FENCE	
	UTILITY SUBSTATION SECURITY FENCE	
	15' WIDE LANDSCAPE BUFFER	
	OPTIMAL LOCATIONS FOR POLLINATOR PLANTINGS	
OVE	OVERHEAD DISTRIBUTION LINE	
OHW	OVERHEAD TRANSMISSION LINE	

SYSTEM SPECIFICATIONS

SYSTEM SIZE DC	104,247.00 kW
SYSTEM SIZE AC @ POI	80,000.00 kW
DC/AC RATIO	1.30
MODULE MANUFACTURER	JINKO SOLAR
MODULE MODEL	JKM540M-72HL4-TV
MODULE RATING	540 W
TOTAL MODULE QTY	193,050
MODULES PER STRING	27
TOTAL NO. OF STRINGS	7,150
INVERTER MODEL	SMA SC4600 UP
INVERTER RATING	4,186 kW
INVERTER QTY	22
# OF 81 MODULE RACKS	2,216
# OF 54 MODULE RACKS	251
STEP-UP TRANSFORMER	(22) 4600 KVA, 34.5KV/0.69KV
RACKING TYPE	HSAT
TRACKING LIMIT ANGLES	+/- 52°
AZIMUTH	180°
INTER-ROW SPACING	15.1'
PITCH	22.6'
GCR	33%
PROJECT FENCED AREA	580.88 Ac
SUBSTATION FENCED AREA	6.33 Ac



1 PV-100 SITE PLAN

Scale: 1"=450'

N

CORE SOLAR

Soleil Solutions Pte Ltd

NOT FOR CONSTRUCTION

PROJECT OWNER:
FLEMING SOLAR, LLC
1221 S. MOPAC EXPY
AUSTIN, TX 78746

PROJECT:
FLEMING SOLAR

PROJECT LOCATION:
1258 OLD CONVICT RD,
FLEMINGSBURG, KY 41041

LAT: 38.443844°
LON: -83.764725°

REV. NO	DESCRIPTION	DATE
0	PRELIMINARY LAYOUT	05/03/21

SHEET TITLE:

PRELIMINARY SITE LAYOUT

DRAWING NO.:

PV-100
Figure 2A

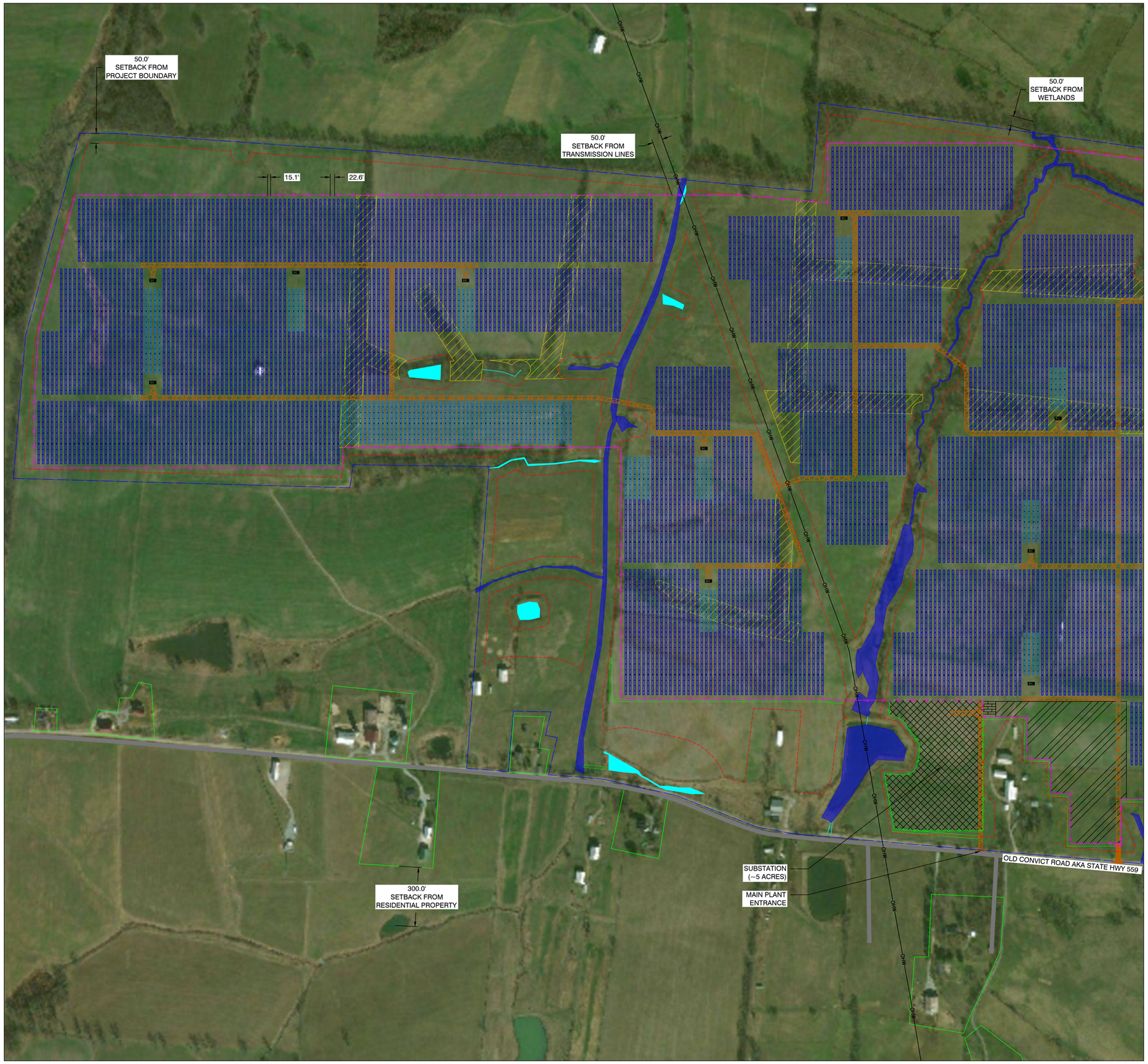
DRAWN BY: LR

REVIEWED BY:

DATE: 05/03/21

SCALE: AS SHOWN

PROJECT NO.:



LEGEND

EXISTING		NEW
	81 MODULE TRACKER ROW	
	54 MODULE TRACKER ROW	
	INVERTER	
	PROJECT BOUNDARY	
	PUBLIC ROAD	
	20' WIDE SITE ACCESS ROAD	
	SETBACK	
	POTENTIALLY NON-JURISDICTIONAL AQUATIC RESOURCE	
	POTENTIALLY JURISDICTIONAL AQUATIC RESOURCE	
	NEARBY RESIDENTIAL PROPERTY	
	UNDERGROUND PV SYSTEM MEDIUM VOLTAGE COLLECTOR ROUTE BETWEEN PARCELS	
	SECURITY FENCE	
	UTILITY SUBSTATION SECURITY FENCE	
	15' WIDE LANDSCAPE BUFFER	
	OPTIMAL LOCATIONS FOR POLLINATOR PLANTINGS	
OVE	OVERHEAD DISTRIBUTION LINE	
OHW	OVERHEAD TRANSMISSION LINE	

1 PV-101 SITE PLAN

Scale: 1"=250'

N

CORE SOLAR

Soleil Solutions Pte Ltd

NOT FOR CONSTRUCTION

PROJECT OWNER:
FLEMING SOLAR, LLC
1221 S. MOPAC EXPY
AUSTIN, TX 78746

PROJECT:
FLEMING SOLAR

PROJECT LOCATION:
1258 OLD CONVICT RD,
FLEMINGSBURG, KY 41041

LAT: 38.443844°
LON: -83.764725°

REV. NO	DESCRIPTION	DATE
0	PRELIMINARY LAYOUT	05/03/21

SHEET TITLE:

PRELIMINARY SITE LAYOUT
SOUTHERN ARRAY

DRAWING NO.:

PV-101
Figure 2B

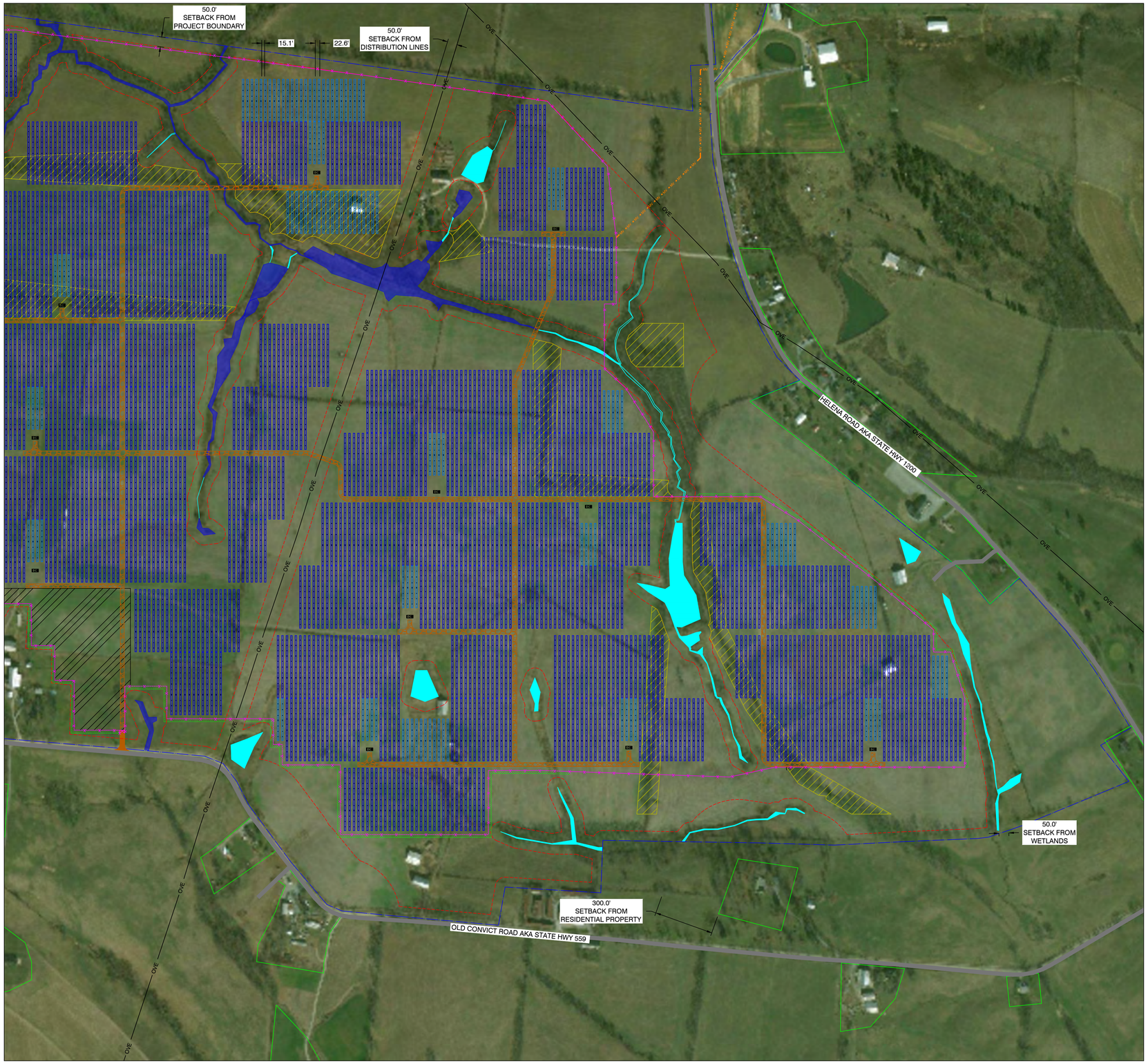
DRAWN BY: LR

REVIEWED BY:

DATE: 05/03/21

SCALE: AS SHOWN

PROJECT NO.:



1 PV-102 SITE PLAN

Scale: 1"=250'

N

LEGEND

EXISTING		NEW
	81 MODULE TRACKER ROW	
	54 MODULE TRACKER ROW	
	INVERTER	
	PROJECT BOUNDARY	
	PUBLIC ROAD	
	20' WIDE SITE ACCESS ROAD	
	SETBACK	
	POTENTIALLY NON-JURISDICTIONAL AQUATIC RESOURCE	
	POTENTIALLY JURISDICTIONAL AQUATIC RESOURCE	
	NEARBY RESIDENTIAL PROPERTY	
	UNDERGROUND PV SYSTEM MEDIUM VOLTAGE COLLECTOR ROUTE BETWEEN PARCELS	
	SECURITY FENCE	
	UTILITY SUBSTATION SECURITY FENCE	
	15' WIDE LANDSCAPE BUFFER	
	OPTIMAL LOCATIONS FOR POLLINATOR PLANTINGS	
OVE	OVERHEAD DISTRIBUTION LINE	
OHW	OVERHEAD TRANSMISSION LINE	

CORE SOLAR

Soleil Solutions Pte Ltd

NOT FOR CONSTRUCTION

PROJECT OWNER:
FLEMING SOLAR, LLC
1221 S. MOPAC EXPY
AUSTIN, TX 78746

PROJECT:

FLEMING SOLAR

PROJECT LOCATION:
1258 OLD CONVICT RD,
FLEMINGSBURG, KY 41041

LAT: 38.443844°
LON: -83.764725°

REV. NO	DESCRIPTION	DATE
0	PRELIMINARY LAYOUT	05/03/21

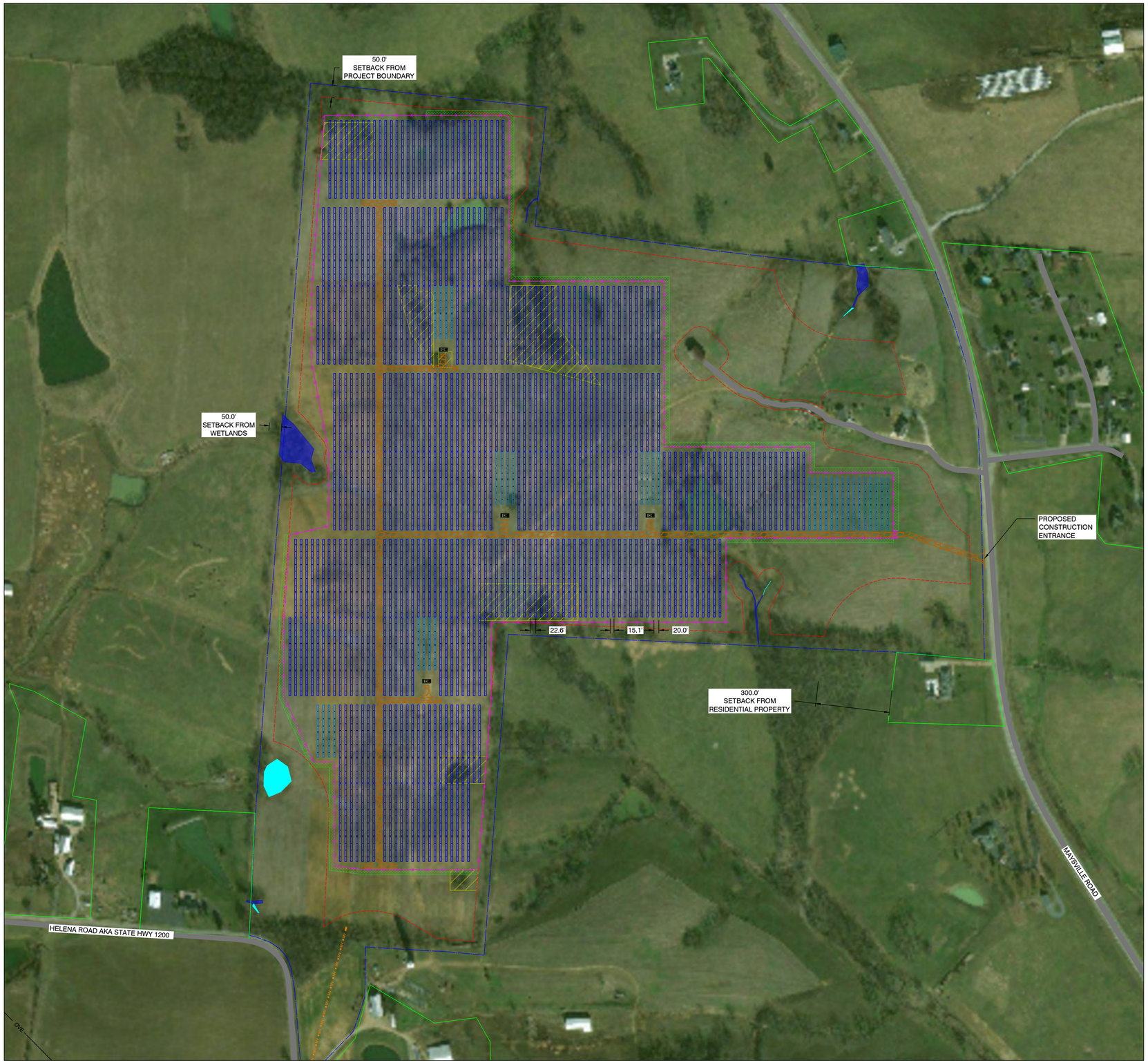
SHEET TITLE:

PRELIMINARY SITE LAYOUT SOUTHERN ARRAY

DRAWING NO.:

PV-102
Figure 2C

DRAWN BY:	LR
REVIEWED BY:	
DATE:	05/03/21
SCALE:	AS SHOWN
PROJECT NO.:	



1 PV-103 SITE PLAN

Scale: 1"=200'

N

LEGEND

EXISTING		NEW
	81 MODULE TRACKER ROW	
	54 MODULE TRACKER ROW	
	INVERTER	
	PROJECT BOUNDARY	
	PUBLIC ROAD	
	20' WIDE SITE ACCESS ROAD	
	SETBACK	
	POTENTIALLY NON-JURISDICTIONAL AQUATIC RESOURCE	
	POTENTIALLY JURISDICTIONAL AQUATIC RESOURCE	
	NEARBY RESIDENTIAL PROPERTY	
	UNDERGROUND PV SYSTEM MEDIUM VOLTAGE COLLECTOR ROUTE BETWEEN PARCELS	
	SECURITY FENCE	
	UTILITY SUBSTATION SECURITY FENCE	
	15' WIDE LANDSCAPE BUFFER	
	OPTIMAL LOCATIONS FOR POLLINATOR PLANTINGS	
OVE	OVERHEAD DISTRIBUTION LINE	
OHW	OVERHEAD TRANSMISSION LINE	

CORE SOLAR

Soleil Solutions Pte Ltd

NOT FOR CONSTRUCTION

PROJECT OWNER:
FLEMING SOLAR, LLC
1221 S. MOPAC EXPY
AUSTIN, TX 78746

PROJECT:
FLEMING SOLAR

PROJECT LOCATION:
1258 OLD CONVICT RD,
FLEMINGSBURG, KY 41041

LAT: 38.443844°
LON: -83.764725°

REV. NO	DESCRIPTION	DATE
0	PRELIMINARY LAYOUT	05/03/21

SHEET TITLE:

PRELIMINARY SITE LAYOUT NORTHERN ARRAY

DRAWING NO.:

PV-103
Figure 2D

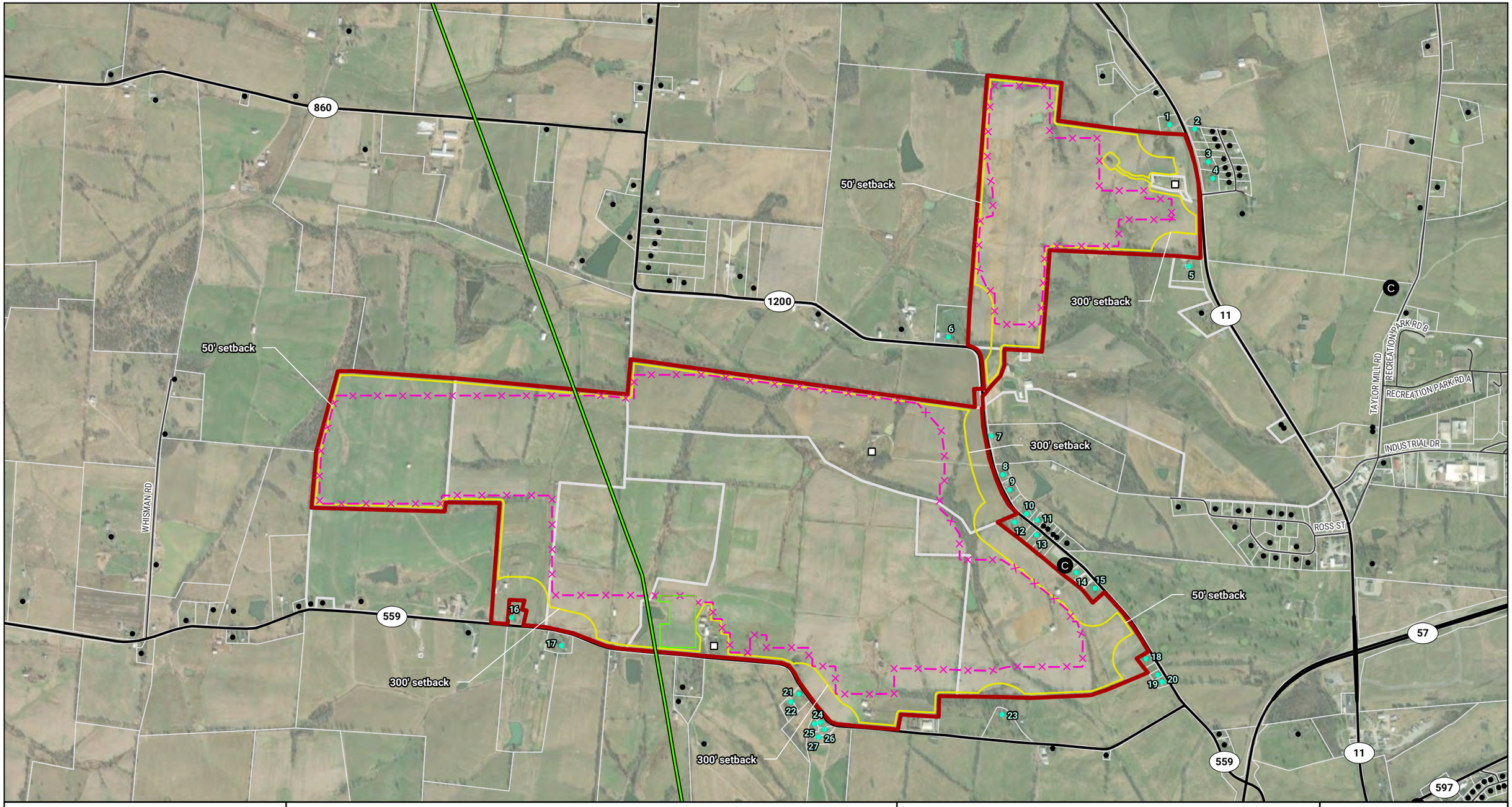
DRAWN BY: LR

REVIEWED BY:

DATE: 05/03/21

SCALE: AS SHOWN

PROJECT NO.:



LEGEND

- Project Boundary (encloses ~830 acres)
- Security Fence (from Prelim. Site Layout dated 5/3/2021)
- Utility Substation Security Fence
- Potential Project Footprint (~725 acres, total)
- Nearest Residential Sturcture (within 300 ft of Project Boundary)
- Residential Structure
- Residential Structure (participating)
- Electric Transmission
- Church
- Land Parcel
- Land Parcel (participating)

Fleming Solar, LLC

Fleming Solar Project

Potential Project Footprint and Nearest Residences

Project Location: Fleming County, Kentucky

N

0 600 1,200 Feet

FIGURE 3

Prepared by: J. Hobbs

Date: 2021-05-12

Appendix A

Property Value Impact Study

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

May 21, 2021

Mr. Dominic Salinas
Core Solar, LLC
1221 South Mopac Expressway, Suite 225
Austin, Texas 78746

RE: Fleming Solar Project – Property Value Impact Study

Mr. Salinas

At your request, I have considered the impact of a solar farm proposed to be constructed on approximately 830-acre assemblage of land located at 1258 Old Convict Road, Flemingsburg, Fleming County, Kentucky. Core Solar LLC (Core Solar), through its subsidiary, Fleming Solar, LLC (Fleming Solar), is developing the Fleming Solar Project (Project). Core Solar has commissioned this report on behalf of Fleming Solar for the purpose seeking my professional opinion on whether the proposed solar farm will have any impact on "potential changes in property values resulting from the siting, construction, and operation of the proposed facility for property owners adjacent to the facility" (KRS 278.708(3)(c)) as well as provide an "evaluation of the compatibility of the facility with scenic surroundings" (KRS 278.708(3)(b))."

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 Core Solar, LLC, represented to me by Mr. Salinas. My findings support the Kentucky Siting Board Application. The effective date of this consultation is May 21, 2021.

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

Summary of Findings

The adjoining properties are well set back from the proposed solar panels and most of the site has good existing landscaping for screening the proposed solar farm. Additional supplemental vegetation is proposed to supplement 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.

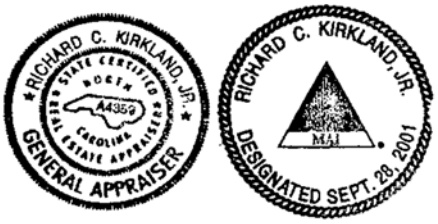
Data from the university studies, broker commentary, and other appraisal studies support a finding of no impact on property value adjoining a solar farm with proper setbacks and landscaped buffers.

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

The solar farm is proposed to be constructed on up to an approximate 725-acre portion of an approximate 830-acre assemblage of land located at 1258 Old Convict Road, Flemingsburg, Fleming County, Kentucky. The Project's Preliminary Site Layout is provided in Figure 1. Because there will be variations to the layout over time as the Project enters later stages of development, Fleming Solar has identified a Potential Project Footprint within the Project Boundary. The Project Boundary is defined as the outer parcel boundaries for any parcel that is the subject to a lease, purchase, or easement through an existing option agreement, which allows for construction activities or the operation of Project components on that parcel. The Potential Project Footprint represents the furthest extent that generating equipment will be located in the Project's final design within the Project Boundary. This area will be enclosed with a security fence. Fleming Solar established the Potential Project Footprint using a setback of 300 feet from the Project Boundary if there is a nearby residence and 50 feet from the Project Boundary if there is no nearby residence. For the purpose of establishing the Potential Project Footprint, residences are considered "nearby" if they are located within 300 feet of the Project Boundary. The area bounded by the "Potential Project Footprint" is approximately 725 acres (Figure 2). As a result, all neighboring homes will be located in excess of 300 feet from the Project's generating equipment.

Adjoining Properties

Below is a breakdown of the adjoining uses based on the tax cards and aerial imagery.

Adjoining Use Breakdown

	Acreage	Parcels
Residential	2.93%	56.25%
Agricultural	47.56%	20.83%
Agri/Res	49.27%	18.75%
Religious	0.12%	2.08%
Warehouse	0.12%	2.08%
Total	**100.00%**	**100.00%**

I have included a map to identify nearest residences and each parcel's location (Figure 2). The table below lists the distances from nearest residences to the Potential Project Footprint.

The closest adjoining home will be a minimum of 326 feet from the closest panel and the average distance to adjoining homes will be a minimum of 421 feet. Matched pair data presented later in this report shows no impact on home values as close as 105 feet when reasonable visual buffers are provided. As depicted in the Preliminary Site Layout, the Project will include a 15-foot wide landscape buffer in areas where existing trees are not available or areas that are otherwise insufficiently screened from a nearby residence or key viewsheds.

Adjoining land is primarily a mix of residential and agricultural uses, which is very typical of solar farm sites. As depicted in Figure 2, there is an adjoining parcel that is improved with a religious facility. Religious facilities are commonly located next to solar farms with no disruption. In fact, one of the sets of matched pairs indicated later in this report is on land leased from a church in Gaston County, North Carolina.

Map Label	Parcel ID	Parcel Size (Acres)	Distance from Residence to Nearest Potential Project Footprint (ft)
7	030-00-00-014.00	19.67	326
Church	038-20-00-046.00	2.01	350
9	038-00-00-022.00	0.89	353
8	038-00-00-021.00	0.73	355
21	030-00-00-039.01	0.95	362
18	038-20-00-047.00	0.60	367
24	030-00-00-041.00	0.39	375
23	**038-00-00-023.00**	**0.94**	**388**
26	030-00-00-042.01	0.53	402
15	038-20-00-051.00	0.96	414
1	038-40-00-001.02	1.48	415
5	038-40-00-023.00	2.71	416
3	038-40-00-006.00	0.84	421
14	038-20-00-052.00	0.70	426
12	030-00-00-015.01	1.52	434
25	030-00-00-041.01	0.66	436
19	**038-20-00-049.00**	**0.32**	**452**
17	030-00-00-034.00	1.87	453
2	038-40-00-002.00	0.80	455
4	038-40-00-007.00	1.38	460
13	038-20-00-044.00	0.56	474
22	**030-00-00-039.02**	**0.94**	**486**
20	**038-20-00-050.00**	**0.43**	**507**
16	030-00-00-020.00	1.46	509
27	**030-00-00-042.02**	**0.76**	**529**
6	030-00-00-010.00	4.72	547
10	038-20-00-029.00	1.21	553
11	**030-00-00-015.00**	**0.39**	**620**

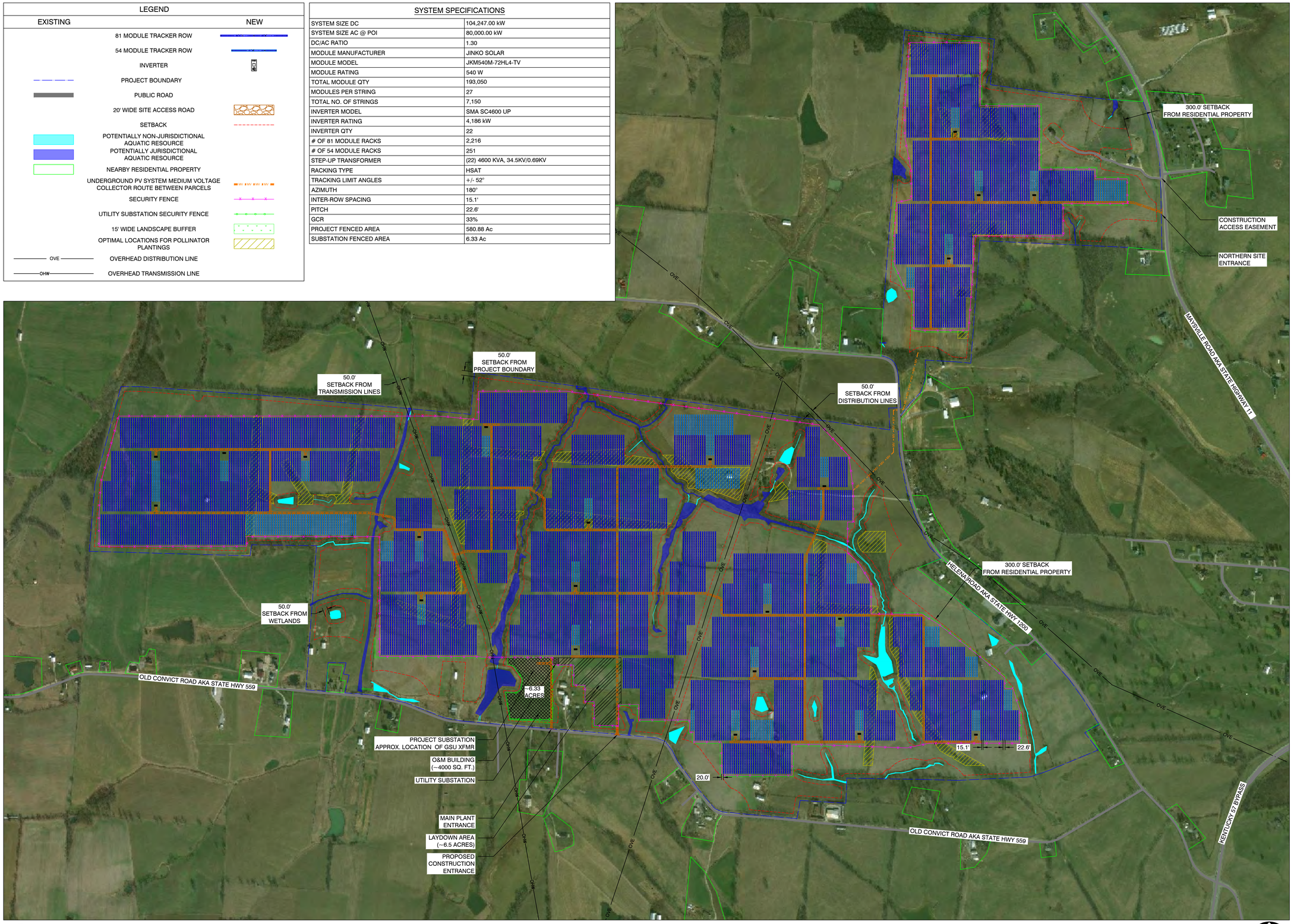
Note: Rows are bolded if the parcel does not adjoin the Project Boundary.

LEGEND

EXISTING		NEW
	81 MODULE TRACKER ROW	
	54 MODULE TRACKER ROW	
	INVERTER	
	PROJECT BOUNDARY	
	PUBLIC ROAD	
	20' WIDE SITE ACCESS ROAD	
	SETBACK	
	POTENTIALLY NON-JURISDICTIONAL AQUATIC RESOURCE	
	POTENTIALLY JURISDICTIONAL AQUATIC RESOURCE	
	NEARBY RESIDENTIAL PROPERTY	
	UNDERGROUND PV SYSTEM MEDIUM VOLTAGE COLLECTOR ROUTE BETWEEN PARCELS	
	SECURITY FENCE	
	UTILITY SUBSTATION SECURITY FENCE	
	15' WIDE LANDSCAPE BUFFER	
	OPTIMAL LOCATIONS FOR POLLINATOR PLANTINGS	
OVE	OVERHEAD DISTRIBUTION LINE	
OHW	OVERHEAD TRANSMISSION LINE	

SYSTEM SPECIFICATIONS

SYSTEM SIZE DC	104,247.00 kW
SYSTEM SIZE AC @ POI	80,000.00 kW
DC/AC RATIO	1.30
MODULE MANUFACTURER	JINKO SOLAR
MODULE MODEL	JKM540M-72HL4-TV
MODULE RATING	540 W
TOTAL MODULE QTY	193,050
MODULES PER STRING	27
TOTAL NO. OF STRINGS	7,150
INVERTER MODEL	SMA SC4600 UP
INVERTER RATING	4,186 kW
INVERTER QTY	22
# OF 81 MODULE RACKS	2,216
# OF 54 MODULE RACKS	251
STEP-UP TRANSFORMER	(22) 4600 KVA, 34.5KV/0.69KV
RACKING TYPE	HSAT
TRACKING LIMIT ANGLES	+/- 52°
AZIMUTH	180°
INTER-ROW SPACING	15.1'
PITCH	22.6'
GCR	33%
PROJECT FENCED AREA	580.88 Ac
SUBSTATION FENCED AREA	6.33 Ac



1 PV-100 SITE PLAN

Scale: 1"=450'

N

CORE SOLAR

Soleil Solutions Pte Ltd

NOT FOR CONSTRUCTION

PROJECT OWNER:
FLEMING SOLAR, LLC
1221 S. MOPAC EXPY
AUSTIN, TX 78746

PROJECT:

FLEMING SOLAR

PROJECT LOCATION:
1258 OLD CONVICT RD,
FLEMINGSBURG, KY 41041

LAT: 38.443844°
LON: -83.764725°

REV. NO	DESCRIPTION	DATE
0	PRELIMINARY LAYOUT	05/03/21

SHEET TITLE:

PRELIMINARY SITE LAYOUT

DRAWING NO.:

PV-100
FIGURE 1

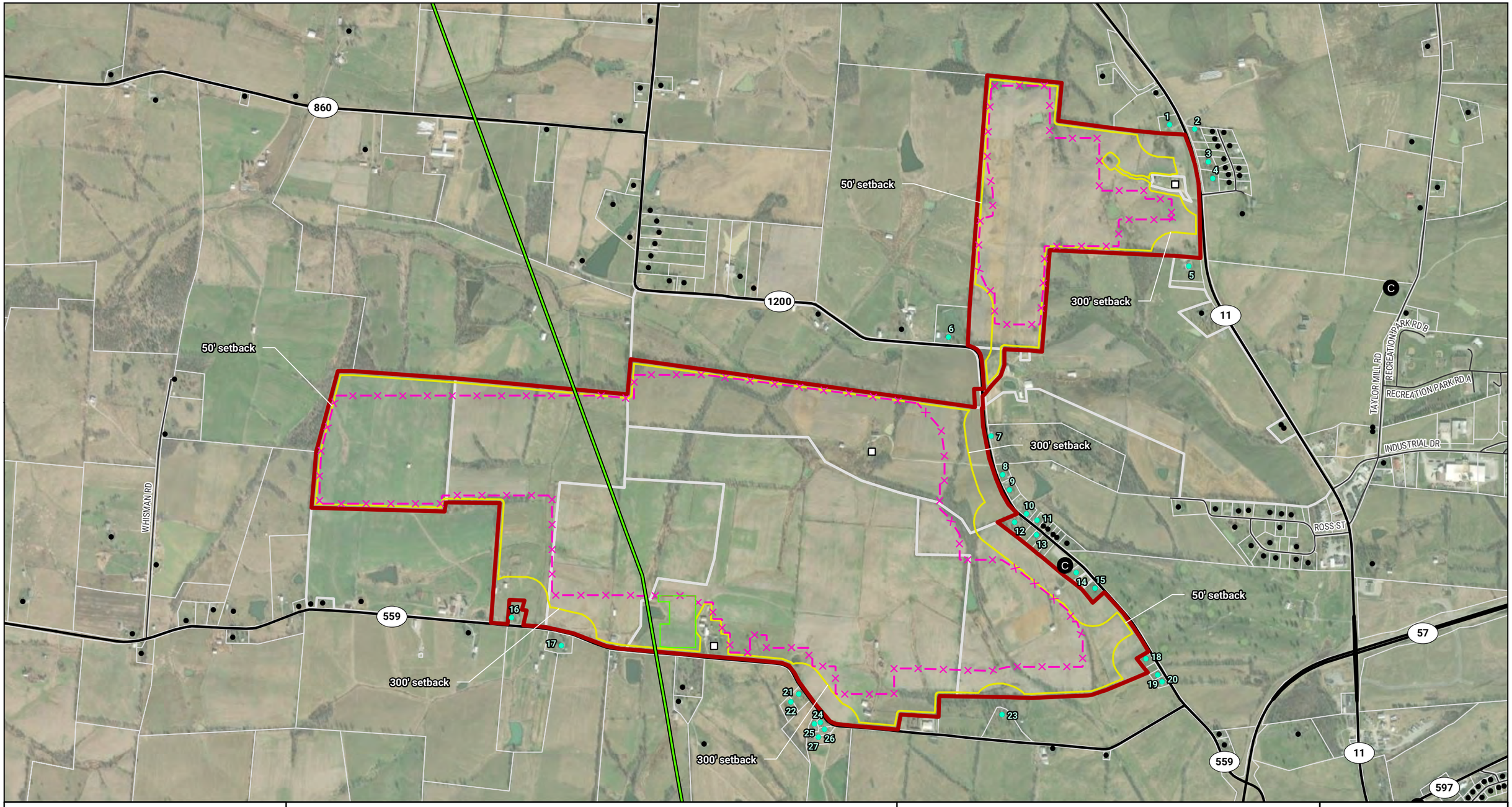
DRAWN BY: LR

REVIEWED BY:

DATE: 05/03/21

SCALE: AS SHOWN

PROJECT NO.:



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- Land Parcel (participating)

Fleming Solar, LLC

Fleming Solar Project

Potential Project Footprint and Nearest Residences

Project Location: Fleming County, Kentucky

N

0 600 1,200 Feet

FIGURE 2

Date: 2021-05-12

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 adjoin 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.

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 form 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 Electromagnetic Fields (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.

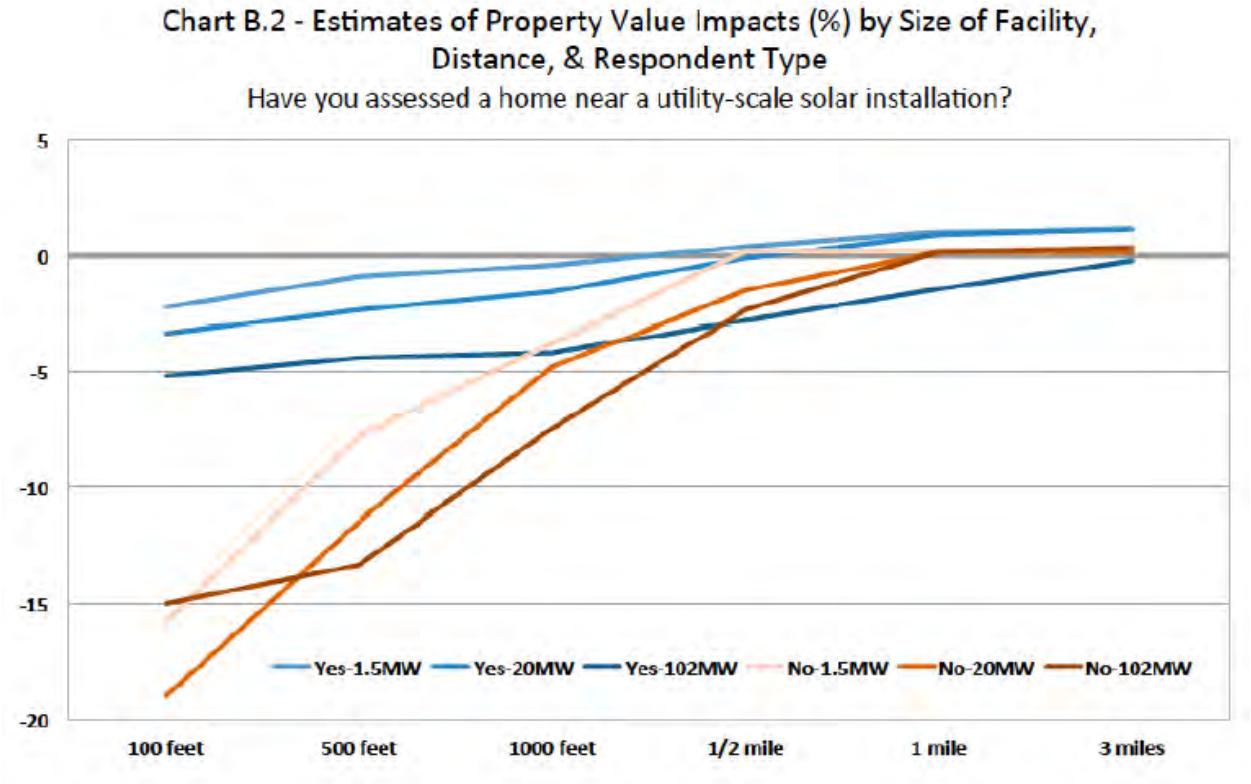
A. University of Texas at Austin, May 2018

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 dataset.

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 Saloma CCD of Taylor County, which has a population of 3,228 population for 2020 based on SiteToDoBusiness by ESRI and a total area of 88.8 square miles. This indicates a population density of 36 people per square mile which puts this well below the threshold indicated by the Rhode Island Study.

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.

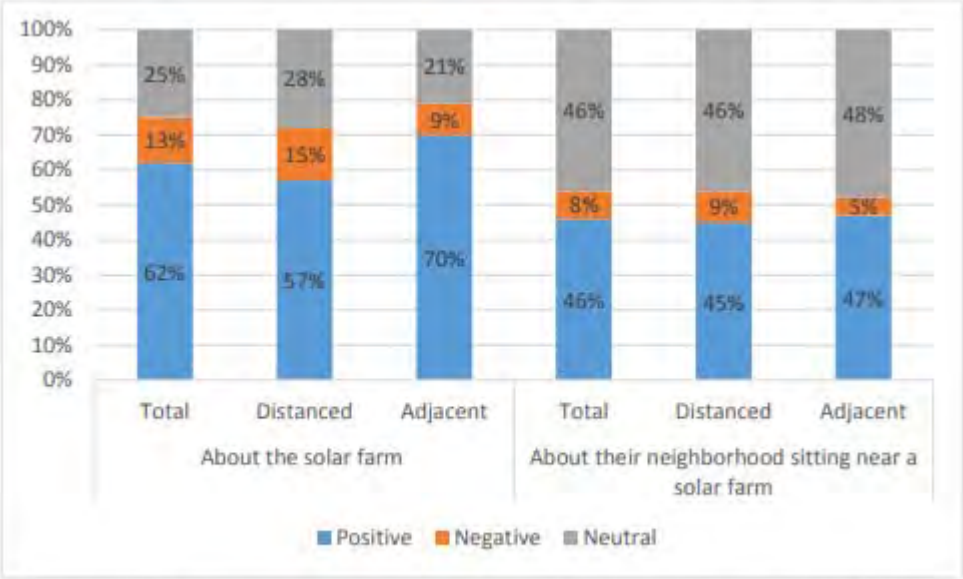


Figure 11: Residents' positive/negative word choices by geographic setting for both questions

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

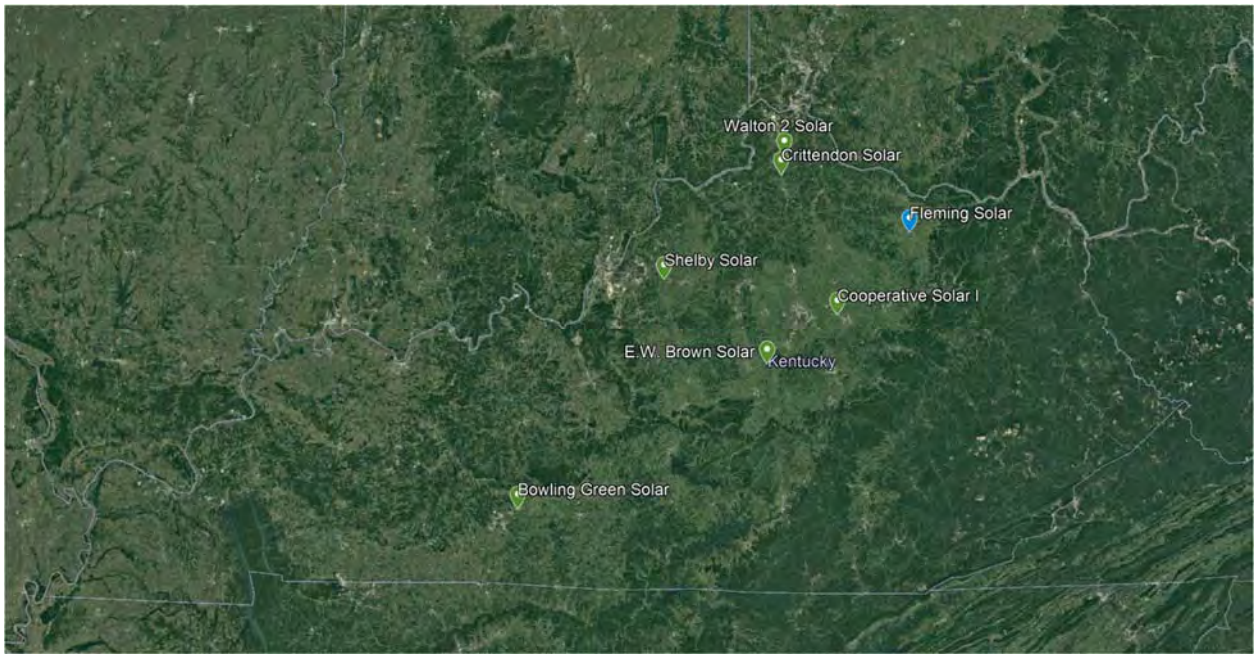
This study addresses wind farms and not solar farms but it is a reasonable consideration. The activity on a wind farm is significantly different in terms of the mechanics and more particularly on the appearance or viewshed as wind farms cannot be screened from adjoining property owners. This study was 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 that are currently operating. 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 as shown in the map below.



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.

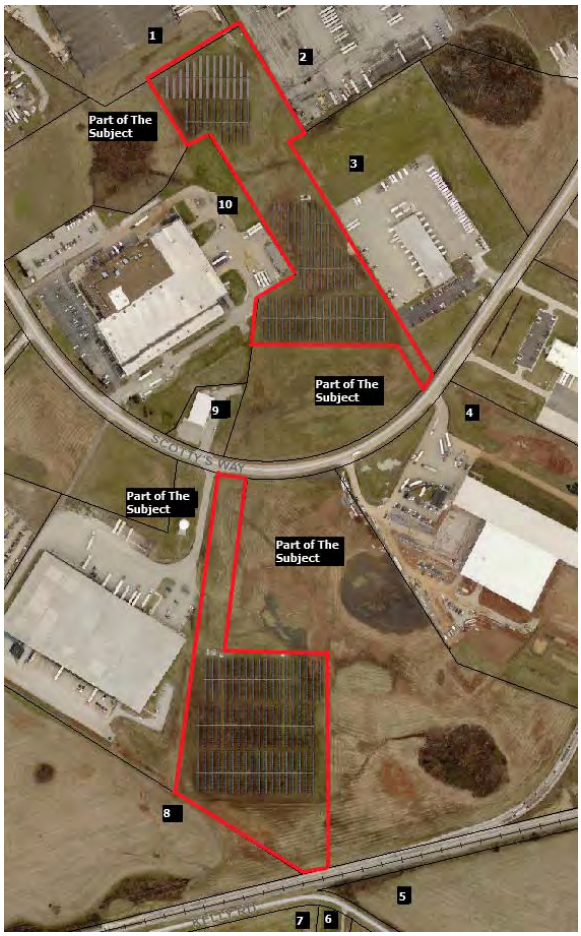
I have provided a summary of projects below and additional detailed information on the projects on the following pages. I specifically note the similarity in most of the sites in Kentucky in terms of mix of adjoining uses, topography, and distances to adjoining homes.

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		Reside	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%	

A: (SF610) 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%**

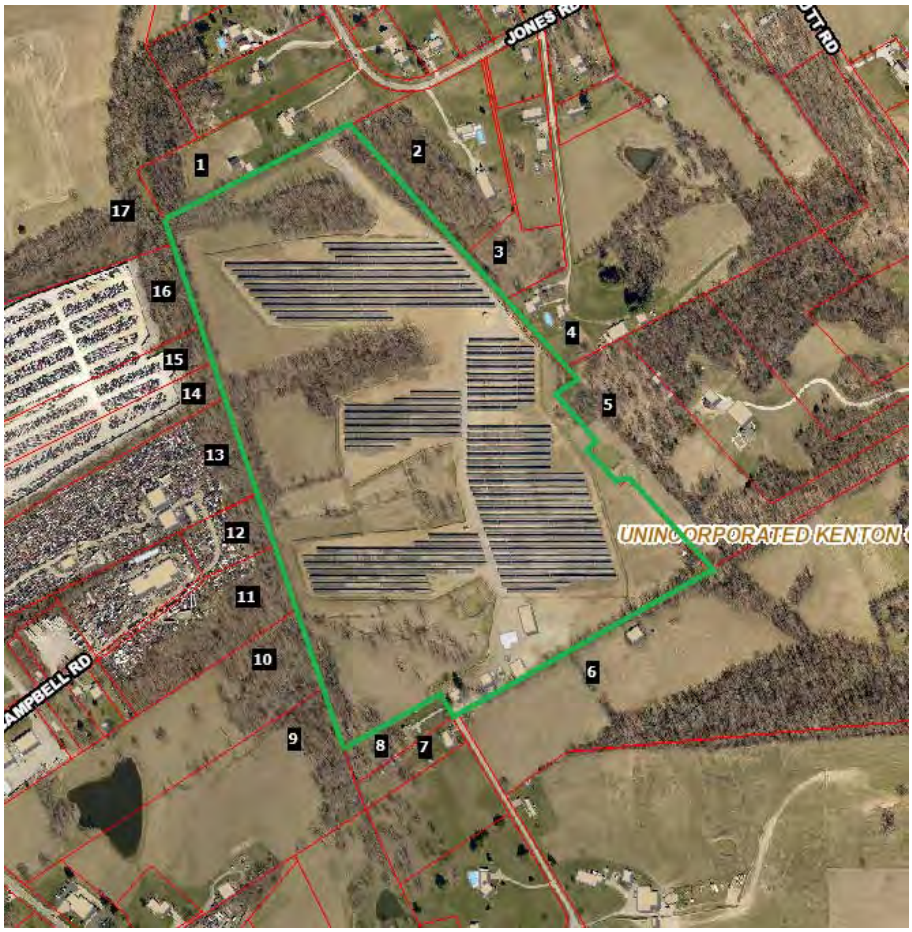
B: (SF611) Cooperative Solar I, Winchester, KY

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%**

C: (SF612) 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%**

D: (SF613) 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%**

E: (SF659) 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%**

F: (SF660) 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 Section X: Scope of Research.

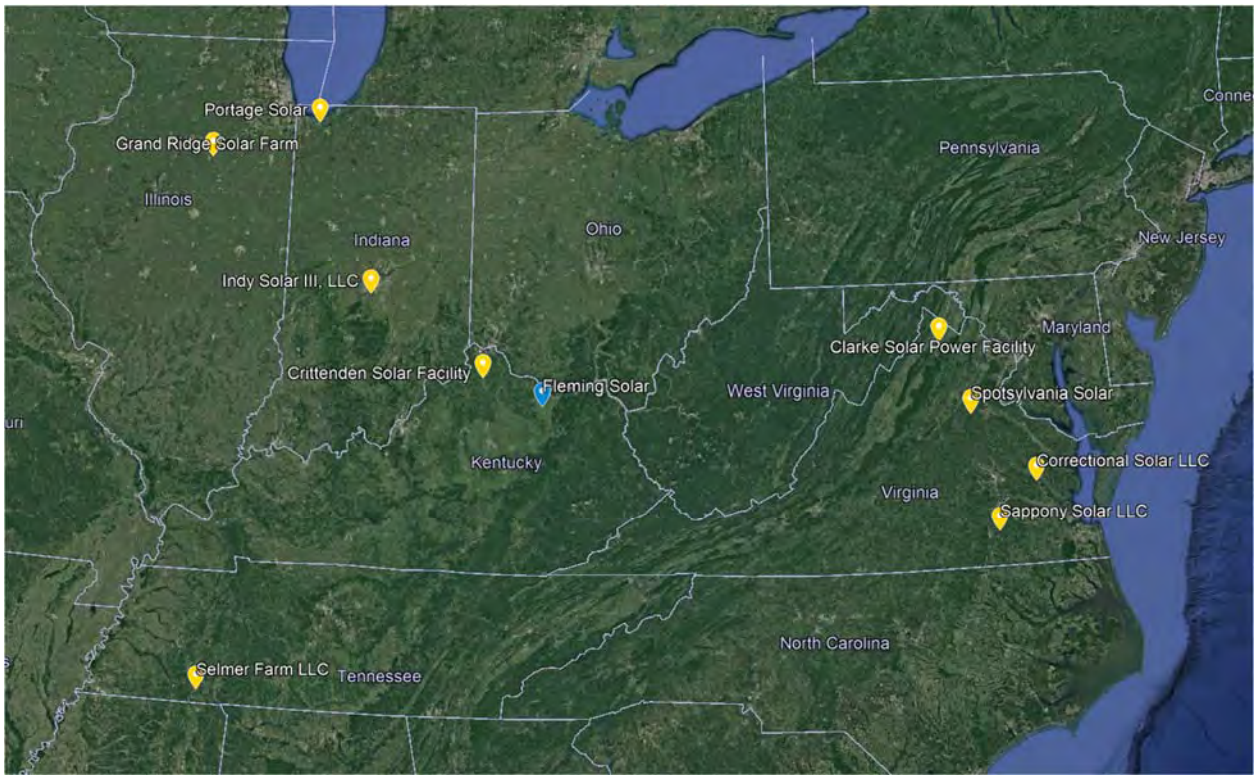
I also consider whether the properties adjoining a solar farm in one location have characteristics similar to the properties abutting or adjoining the proposed site so that I can make an assessment of market impact on each proposed site. Notably, in most cases solar farms are placed in areas very similar 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



The solar farms identified in this section are noted above by the yellow location markers.

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%. This indication suggests a positive relationship due to proximity to the solar farm.

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

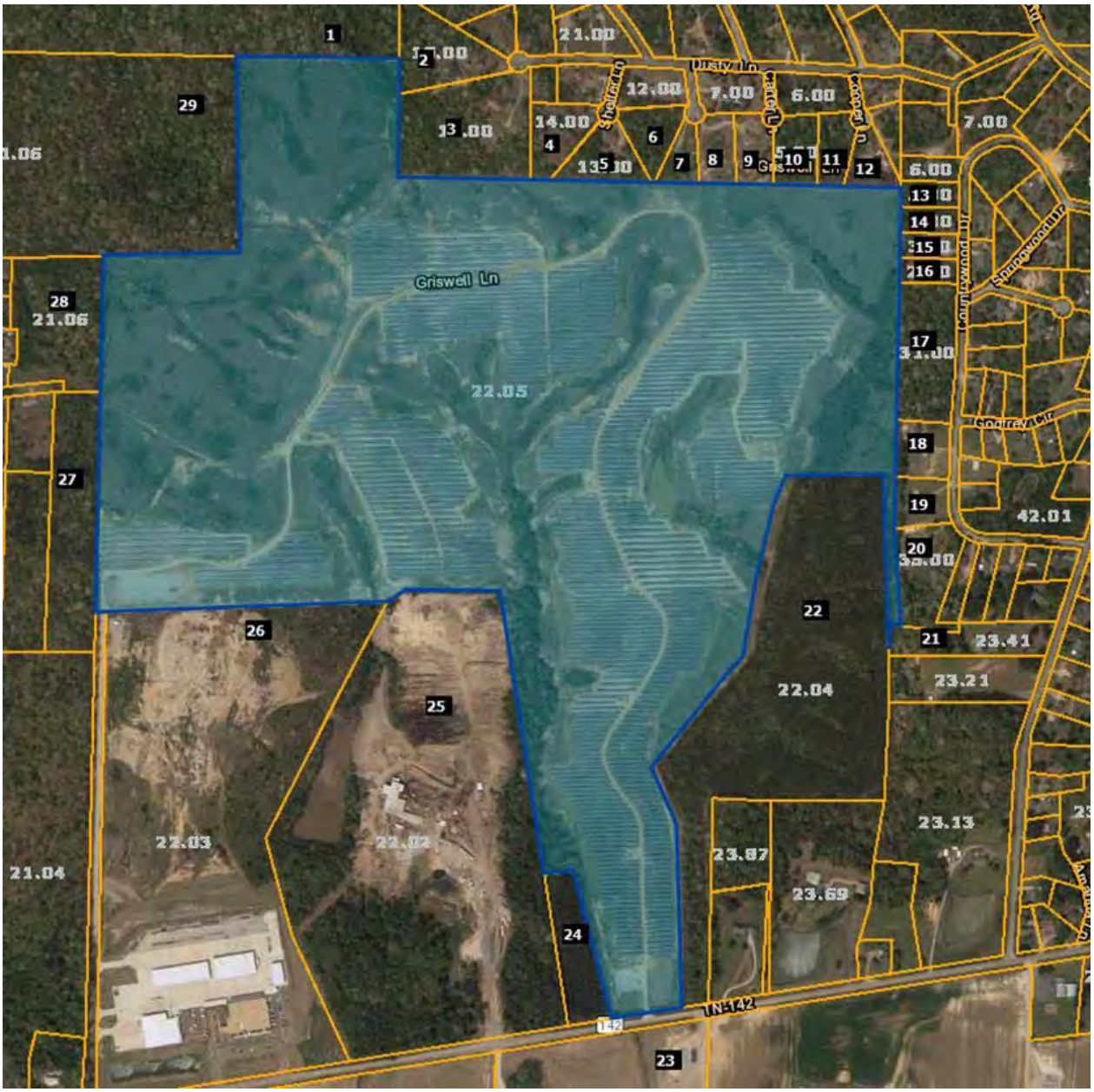
Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	330 Claiborne								$282,500			665
Not	895 Osborne	$1,790		$1,250	$7,387	$5,000		$0	$265,327	6%		
Not	2160 Sherman	$4,288		-$2,650	$4,032			$20,000	$290,670	-3%		
Not	215 Lexington	$9,761		$3,468	$20,706	-$5,000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

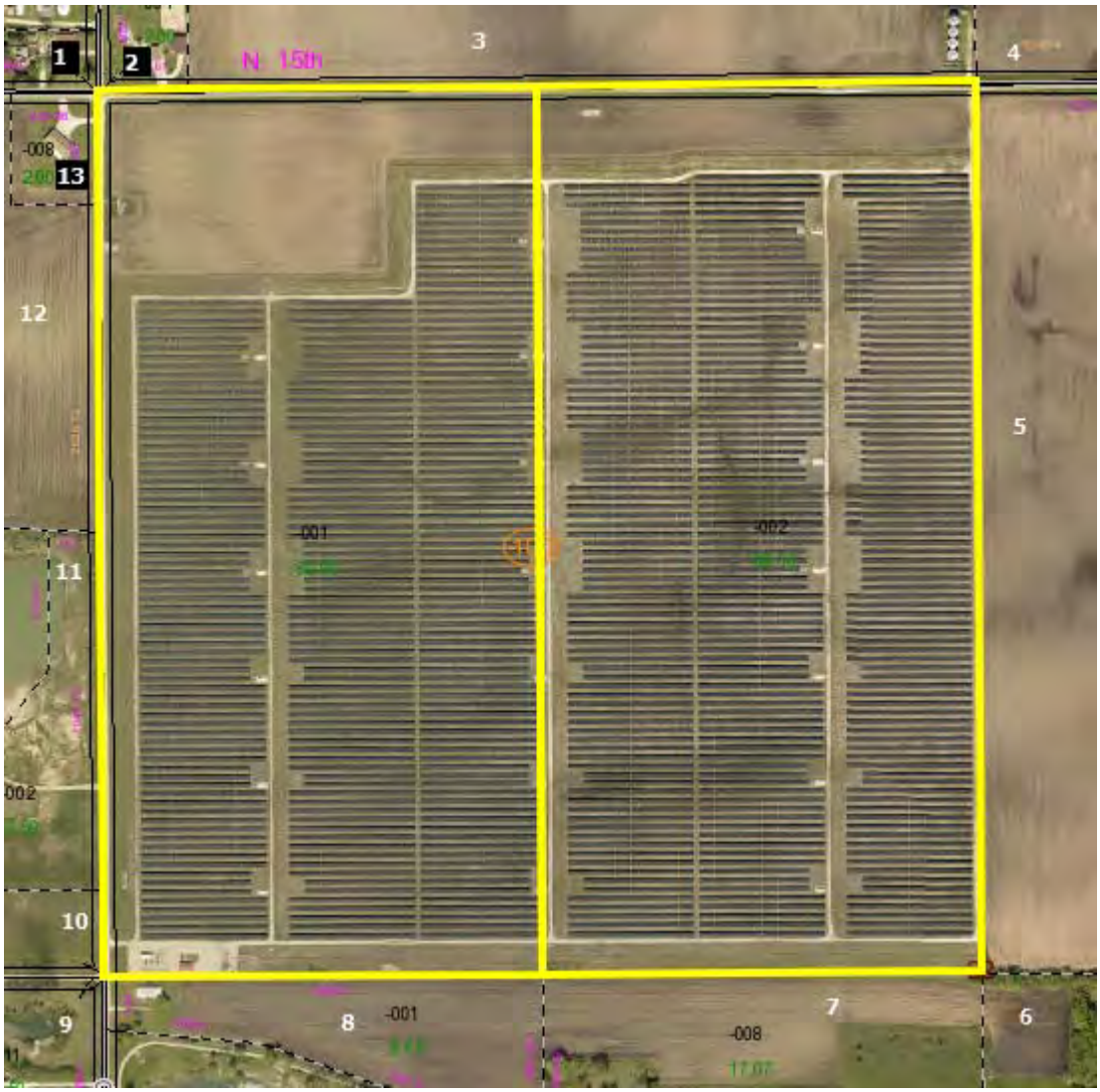
I have also looked at several lot sales in this subdivision as shown below.

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

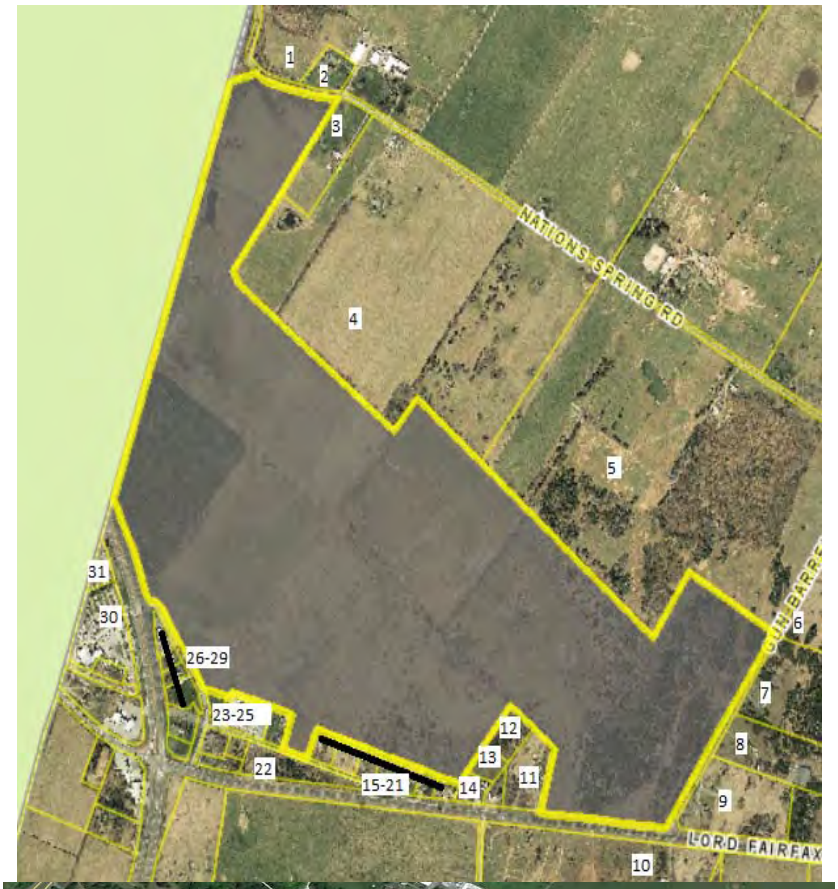
2% adjustment/year
Adjusted to 2017

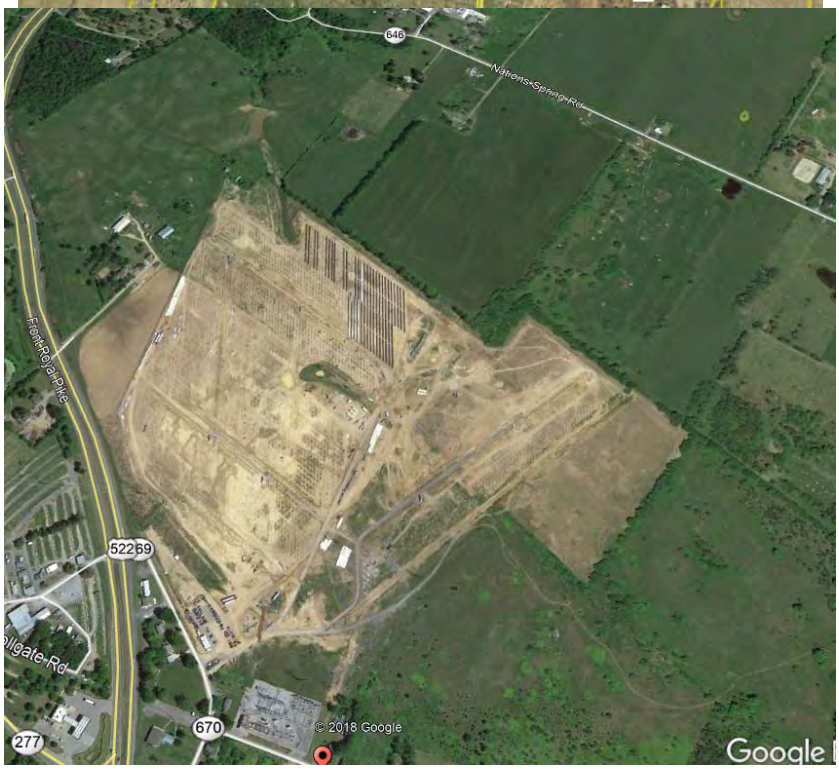
	Adjoins Solar Farm		Not Adjoin Solar Farm	
	Average	Median	Average	Median
Sales Price/SF	$64.13	$63.03	$61.69	$63.08
GBA	2,210	2,163	2,333	2,280

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.

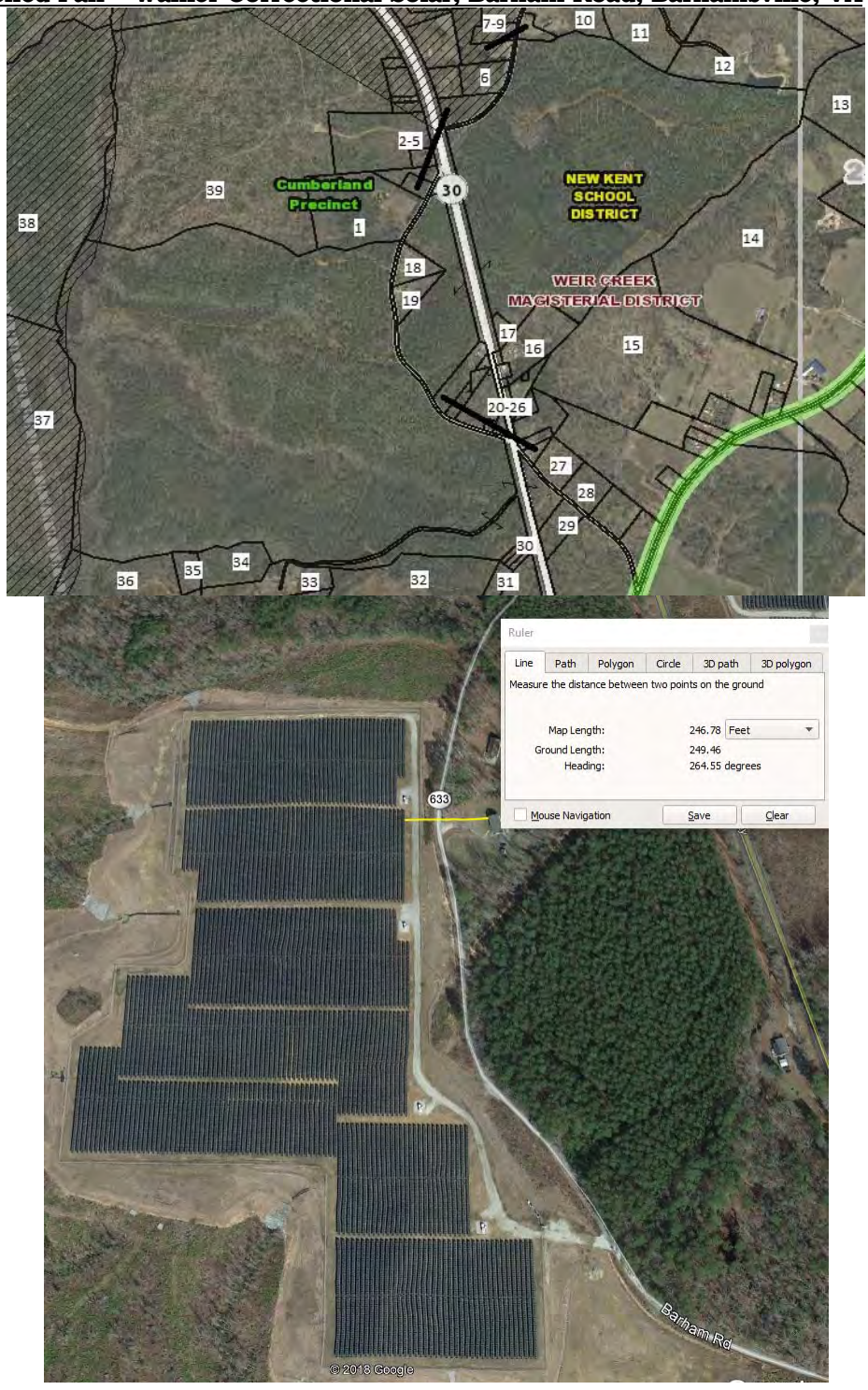
Adjoining Residential Sales After Solar Farm Approved

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.

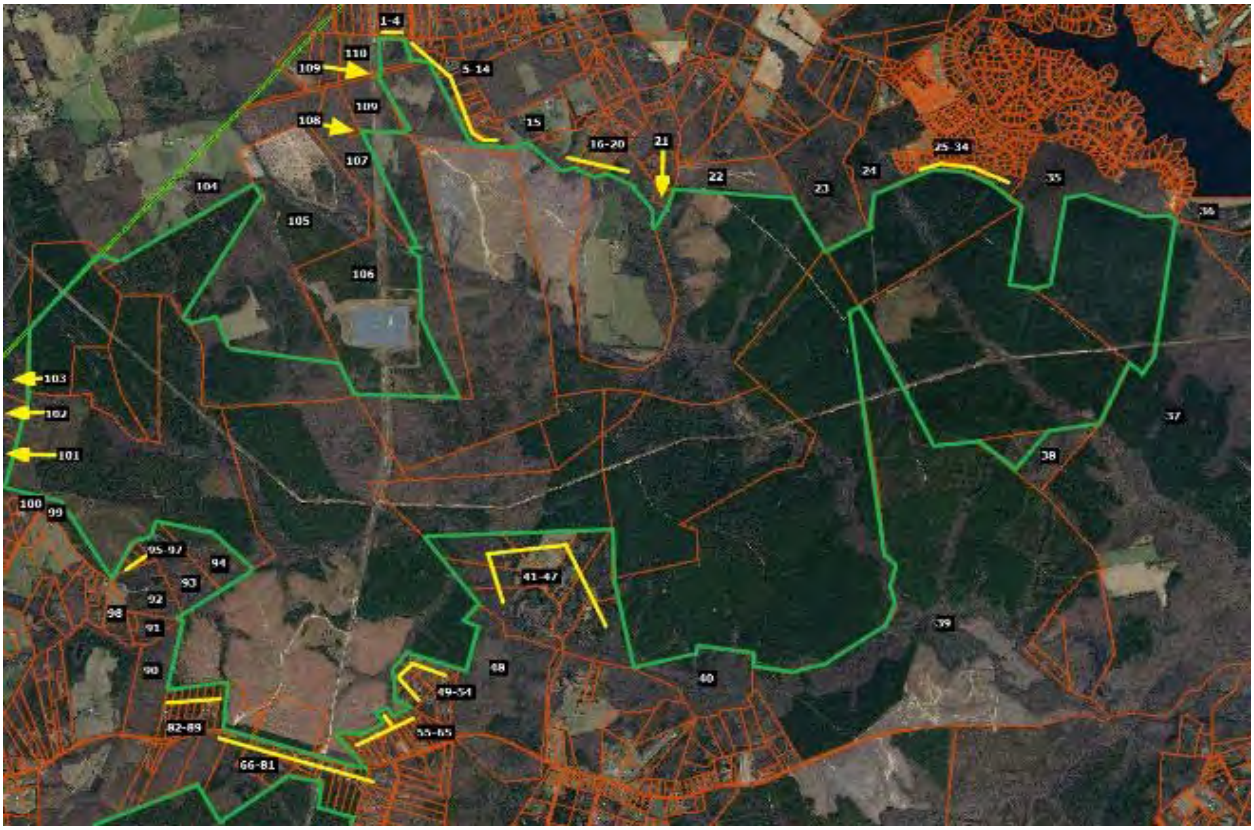
I have considered the 2018 sale of Parcel 17 as shown below. From Parcel 17 the retained trees and setbacks are a light to medium landscaped buffer.

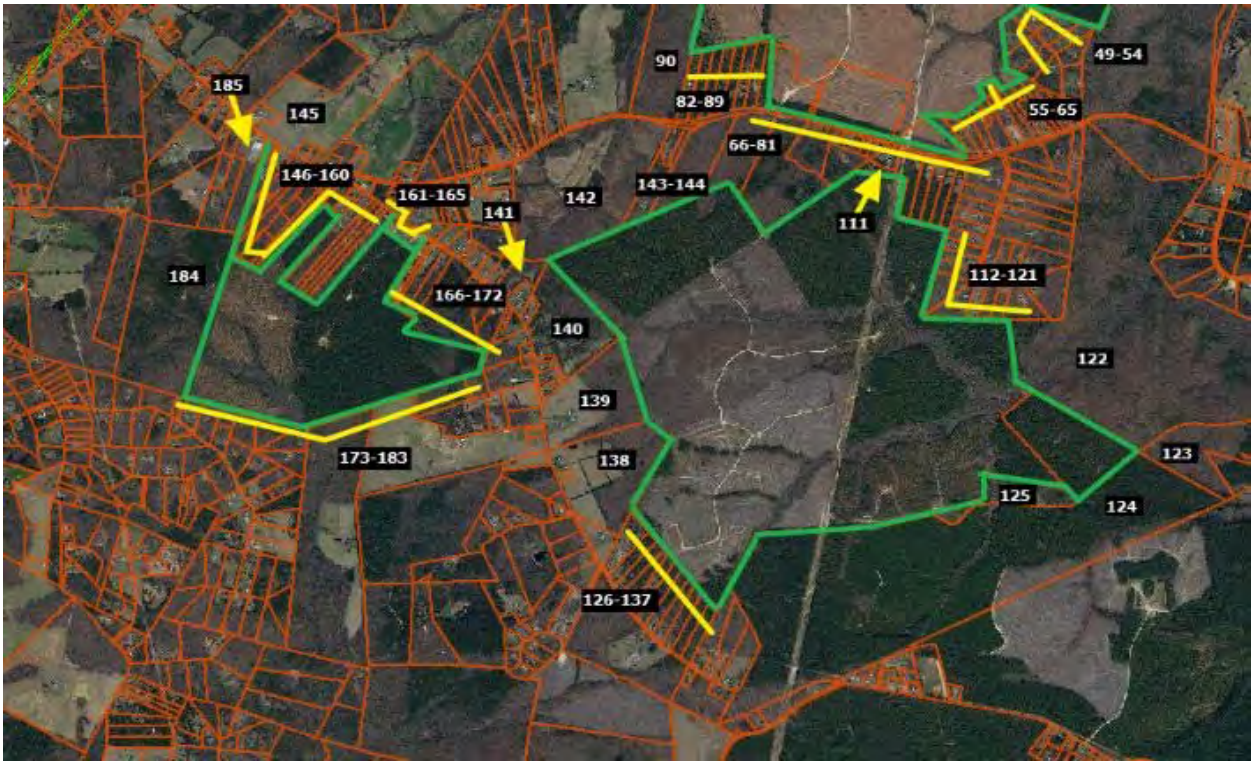
Adjoining Residential Sales After Solar Farm Approved

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.

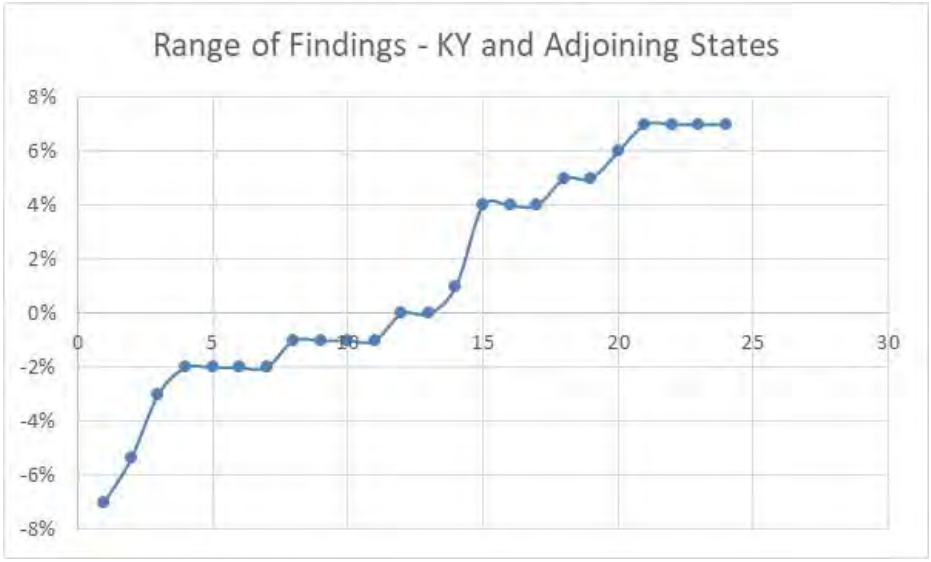
Summary

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 one 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	

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.

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

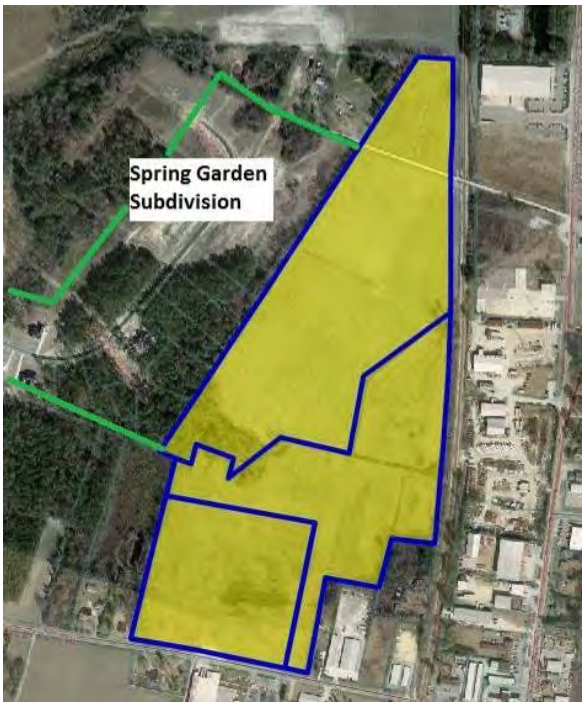
30.1 to 75									
Landscaping	**Light**	**Light**	**Light**	**Medium**	**Medium**	**Medium**	**Heavy**	**Heavy**	**Heavy**
Distance	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**
#	0	0	0	0	0	0	0	0	0
Average	N/A	1%	0%	N/A	N/A	0%	N/A	N/A	N/A
Median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

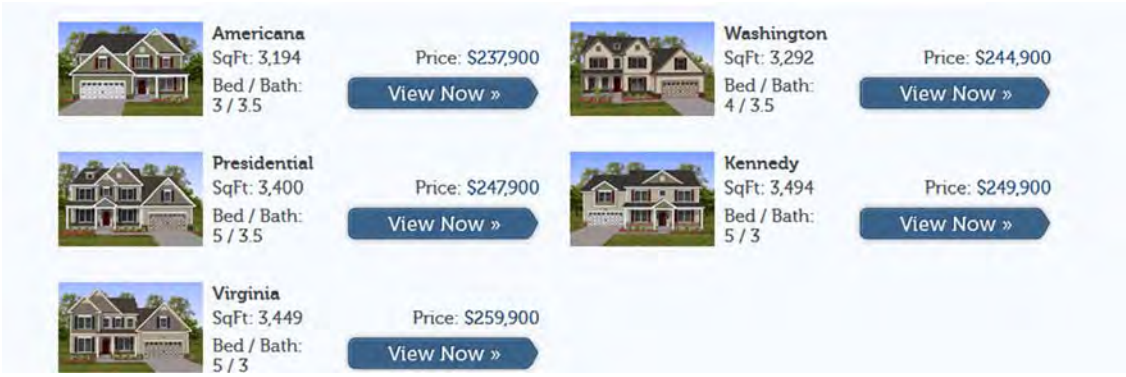


Homes backing up to the solar farm are selling at the same price for the same floor plan as the homes that do not back up to the solar farm in this subdivision. According to the builder, the solar farm has been a complete non-factor. Not only do the sales show no difference in the price paid for the 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

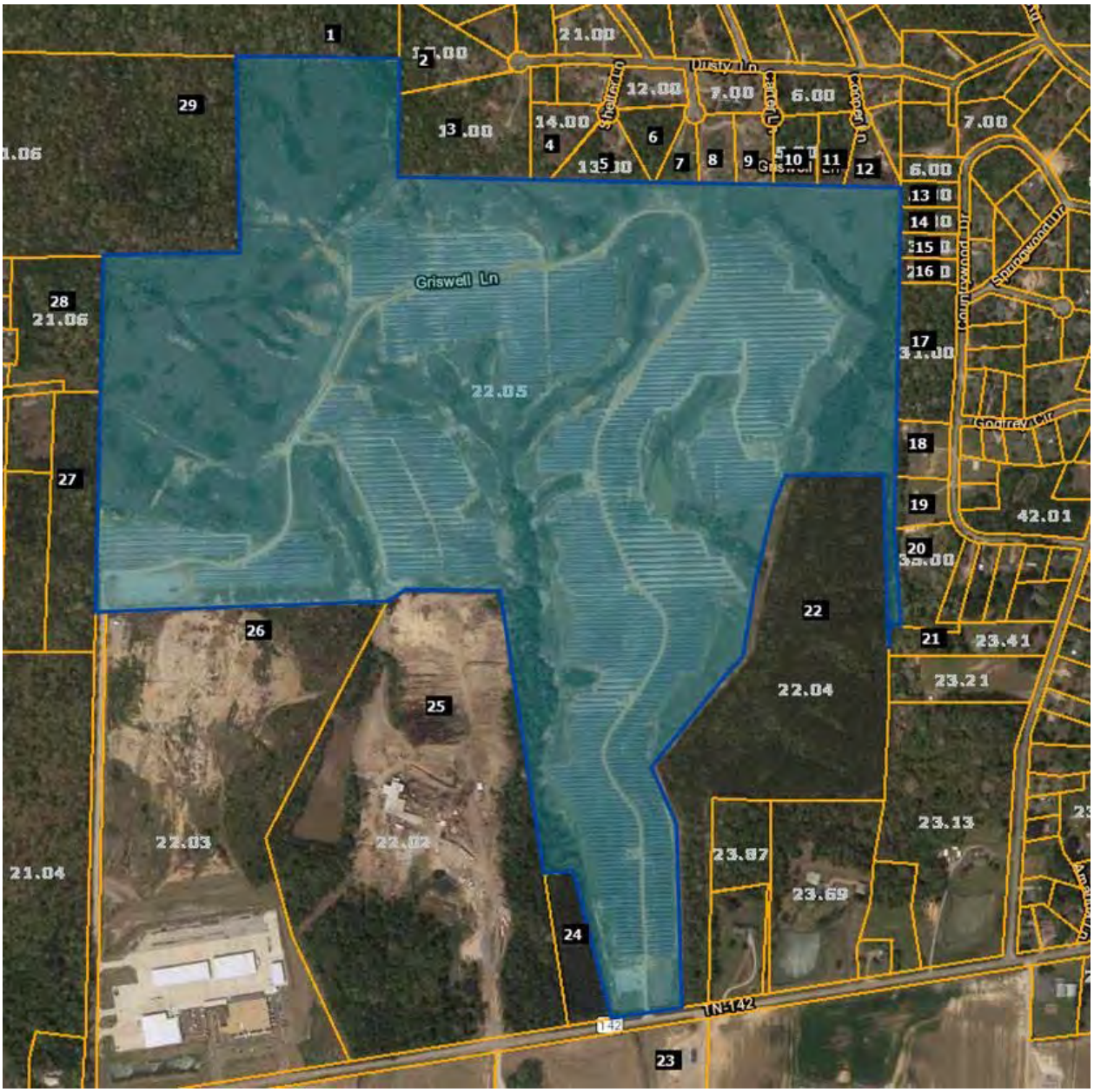
Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	2310 Granville	0.76	5/14/2019	$280,000	2013	3,292	$85.05	5/3.5	2-Car	2-Story		400
	Not	2219 Granville	1.15	1/8/2018	$260,000	2012	3,292	$78.98	4/3.5	2-Car	2-Story		
	Not	634 Friendly	0.96	7/31/2019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

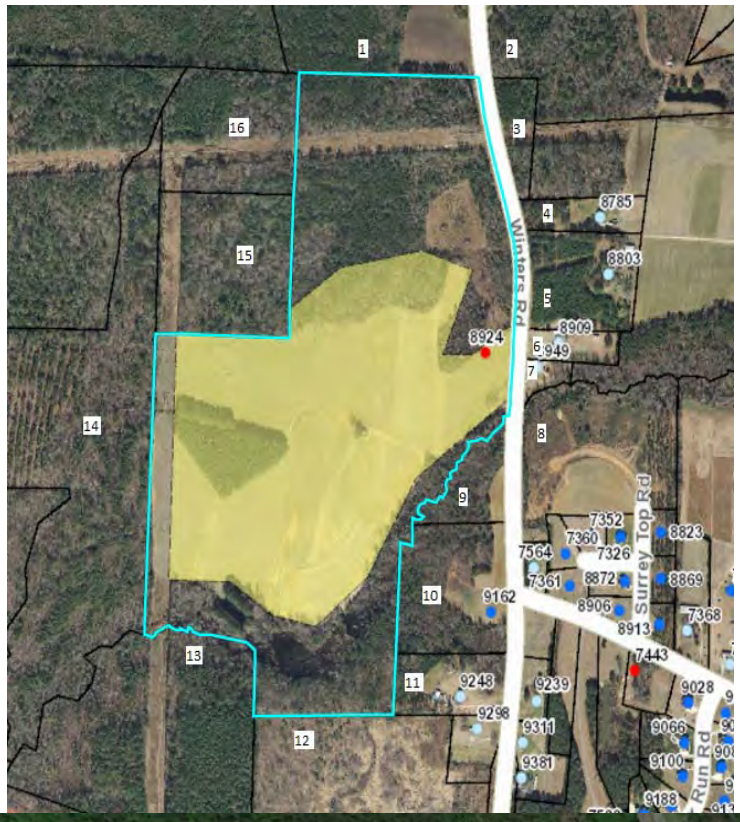
Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	358 Oxford								$478,000		5%
Not	276 Summit	$18,996		$3,550	$106,017	$10,000			$493,564	-3%	
Not	176 Providence	$4,763		$38,250	$23,609		-$10,000	-$25,000	$456,623	4%	
Not	1601 B Caratoke	-$371	$50,000	-$17,600	-$42,467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

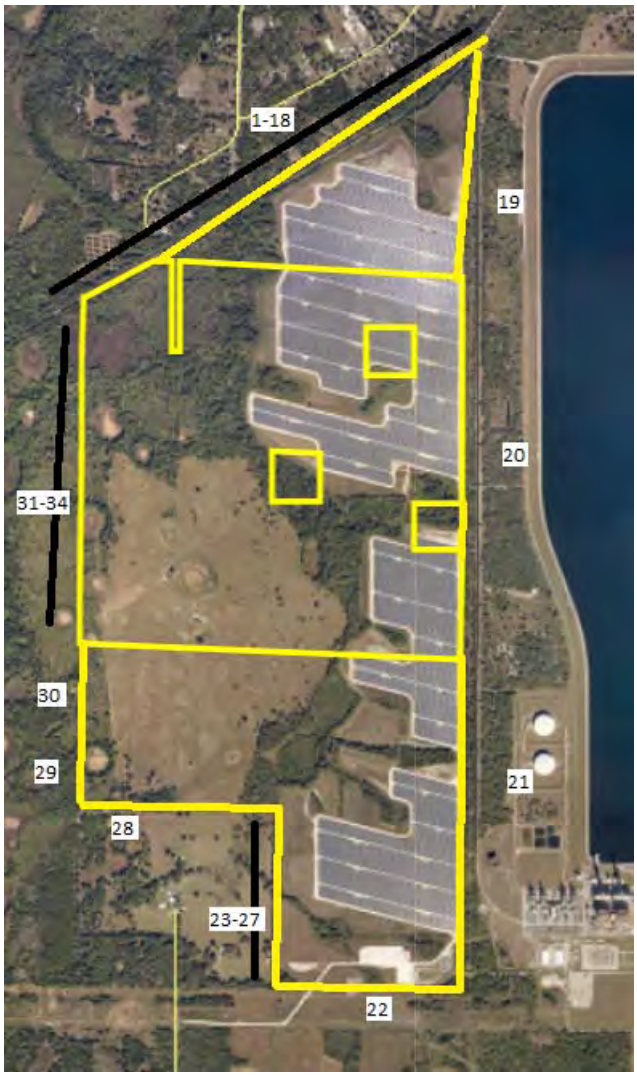
The comparables for the land show either a significant positive relationship or a mild negative relationship to having and adjoining solar farm, but when averaged together they show no negative impact. The wild divergence is due to the difficulty in comping out this tract of land and the wide variety 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.

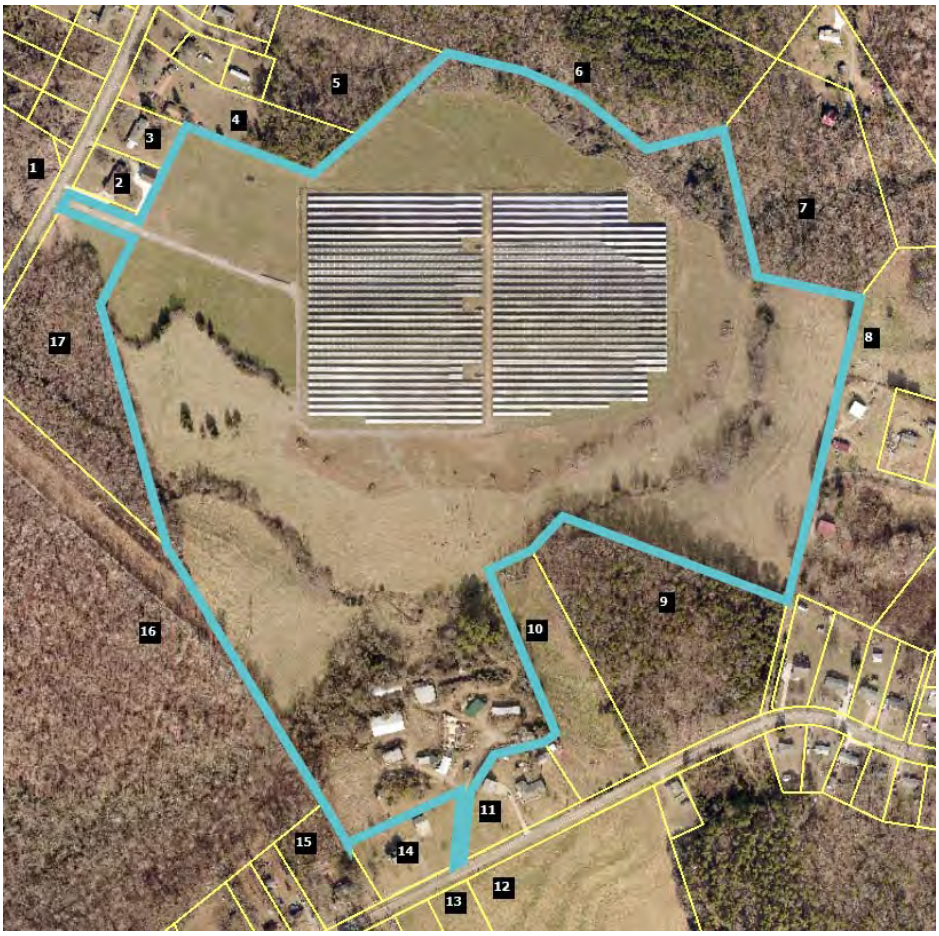
I also looked at the recent sale of 4599 Chanel Court. This home is within 310 feet of solar panels but notably does not have a good landscaping screen in place as shown in the photo below. The plantings appear to be less than 3-feet in height and only a narrow, limited screen of existing hardwoods were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

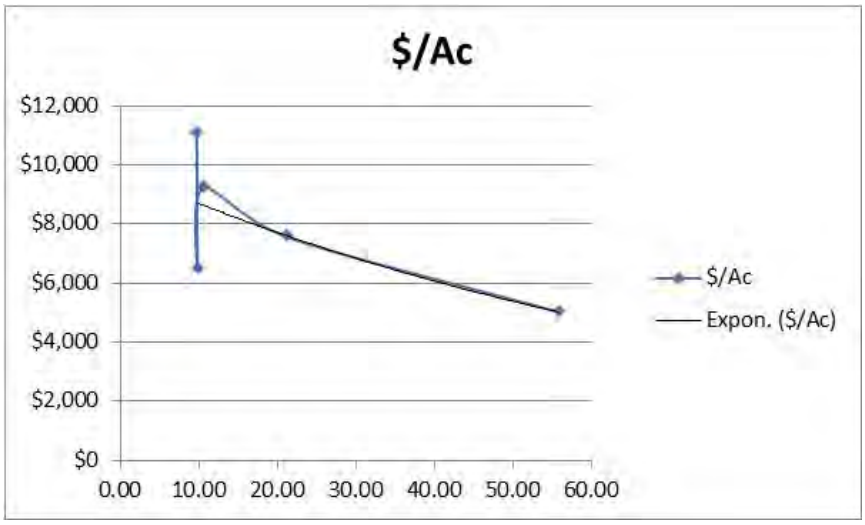
Solar	Address	Acres	Date Sold	Sales Price	Time	YB	Acres	GLA	BR/BA	Park	Other	Total	% Diff
Adjoins	242 Mariposa	2.91	9/21/2015	$180,000								$180,000	
Not	249 Mariposa	0.48	3/1/2019	$153,000	-$15,807	-$12,852	$18,468	$7,513		-$3,000	$25,000	$172,322	4%
Not	110 Airport	0.83	5/10/2016	$166,000	-$3,165	$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.

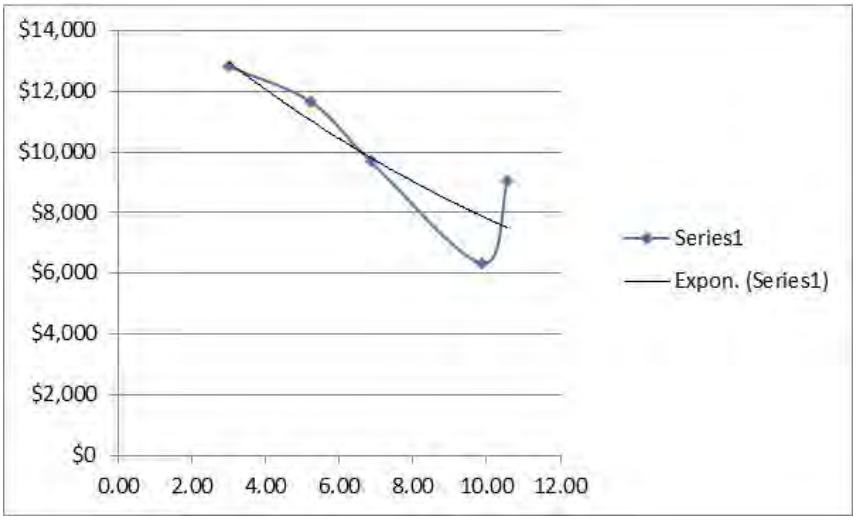
Adjoining Residential Land Sales After Solar Farm Approved **Adjoining Sales Adjusted**

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

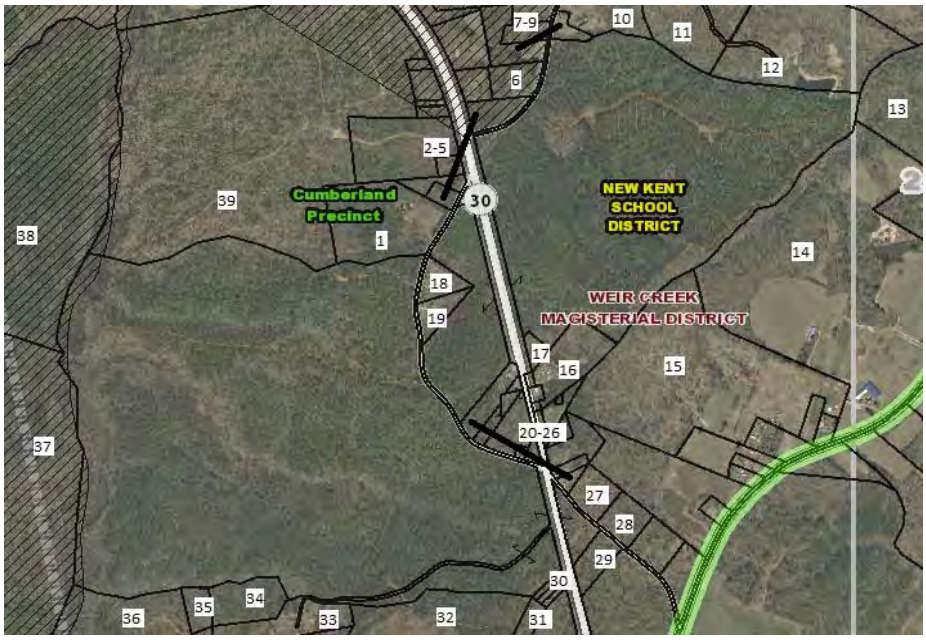
Parcel	**Solar**	**Address**	**Acres**	**Date Sold**	**Sales Price**	**Built**	**GBA**	**$/GBA**	**BR/BA**	**Park**	**Style**	**Other**
16	Adjoins	499 Herring	2.03	9/27/2017	$215,000	2017	2,356	$91.26	4/3	Drive	Modular	
	Not	678 WC	6.32	3/8/2019	$226,000	1995	1,848	$122.29	3/2.5	Det Gar	Mobile	Ag bldgs
	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.

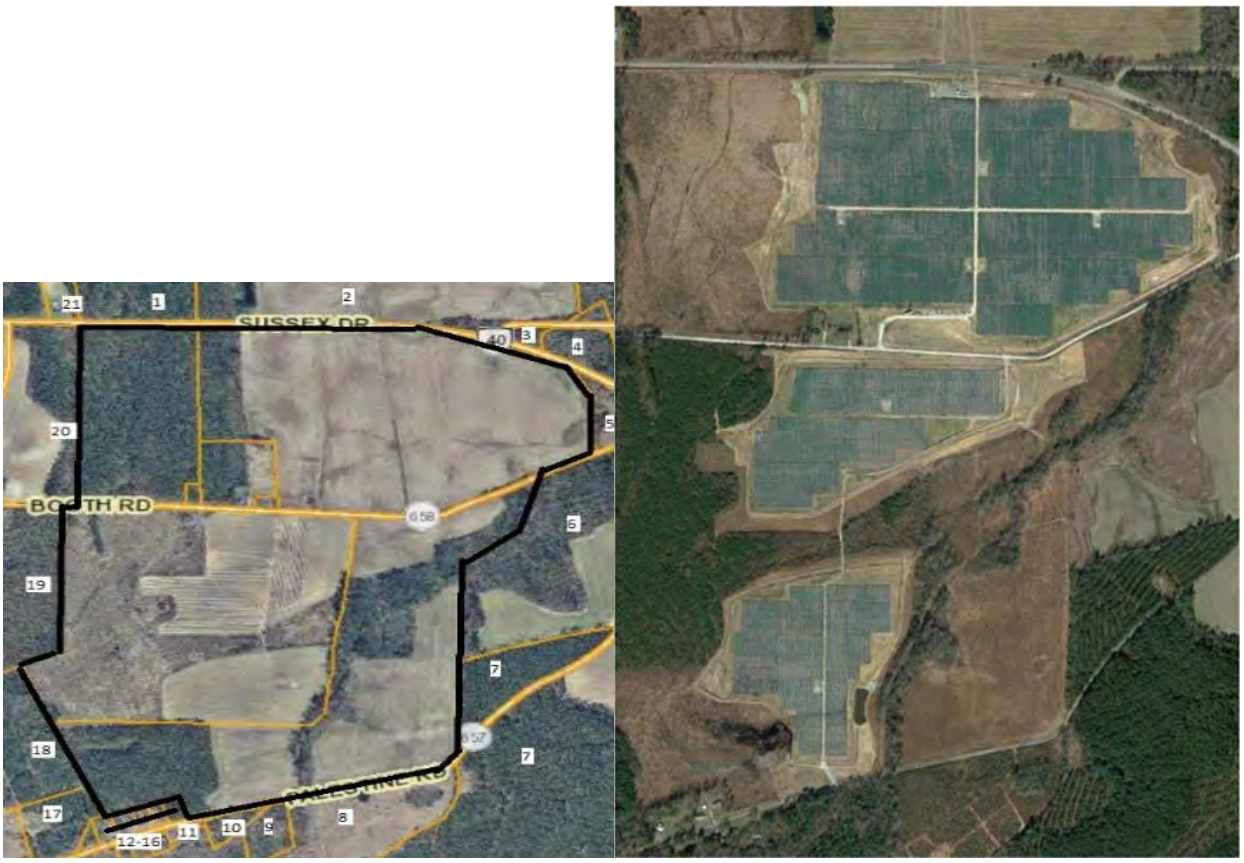
I considered the 2017 sale identified on the map above, which is 205 feet away from the closest panel. The matched pairs for each of these are shown below followed by a more recent map showing the panels at this site. The average difference in the three comparables and the subject property is +3% after 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.

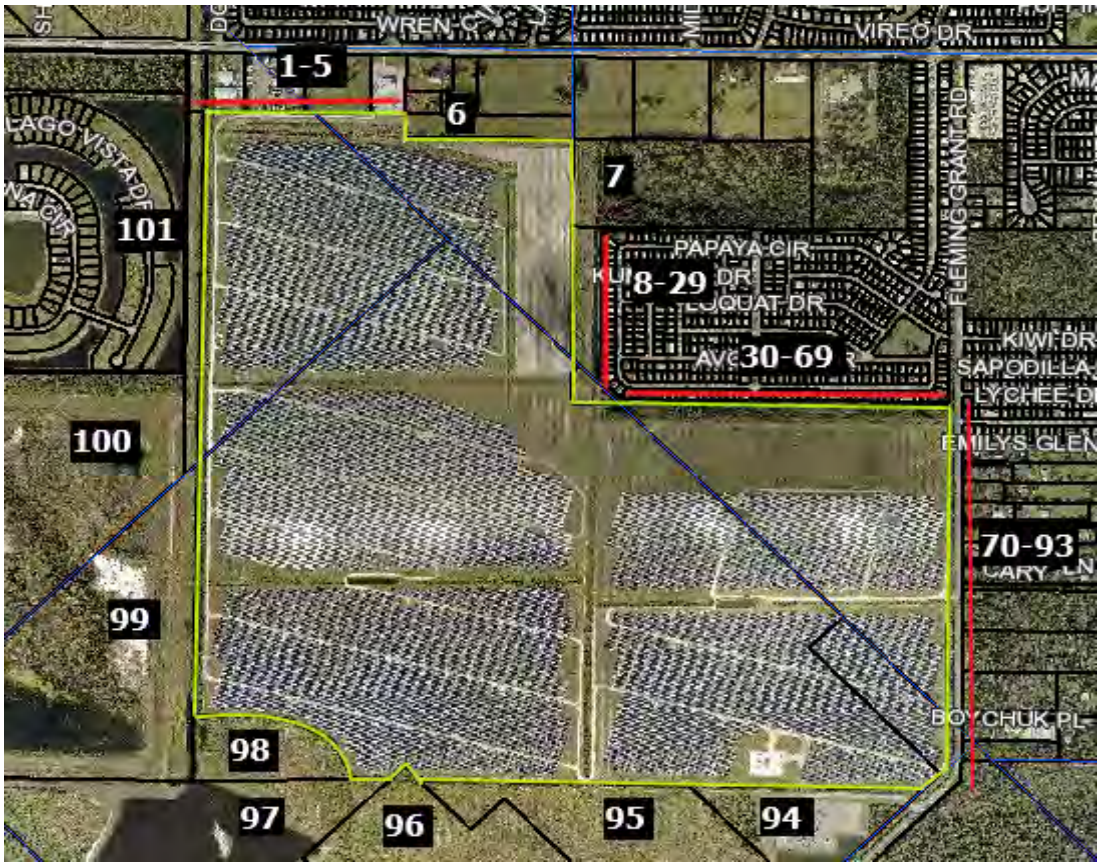
Adjoining Residential Sales After Solar Farm Approved

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.

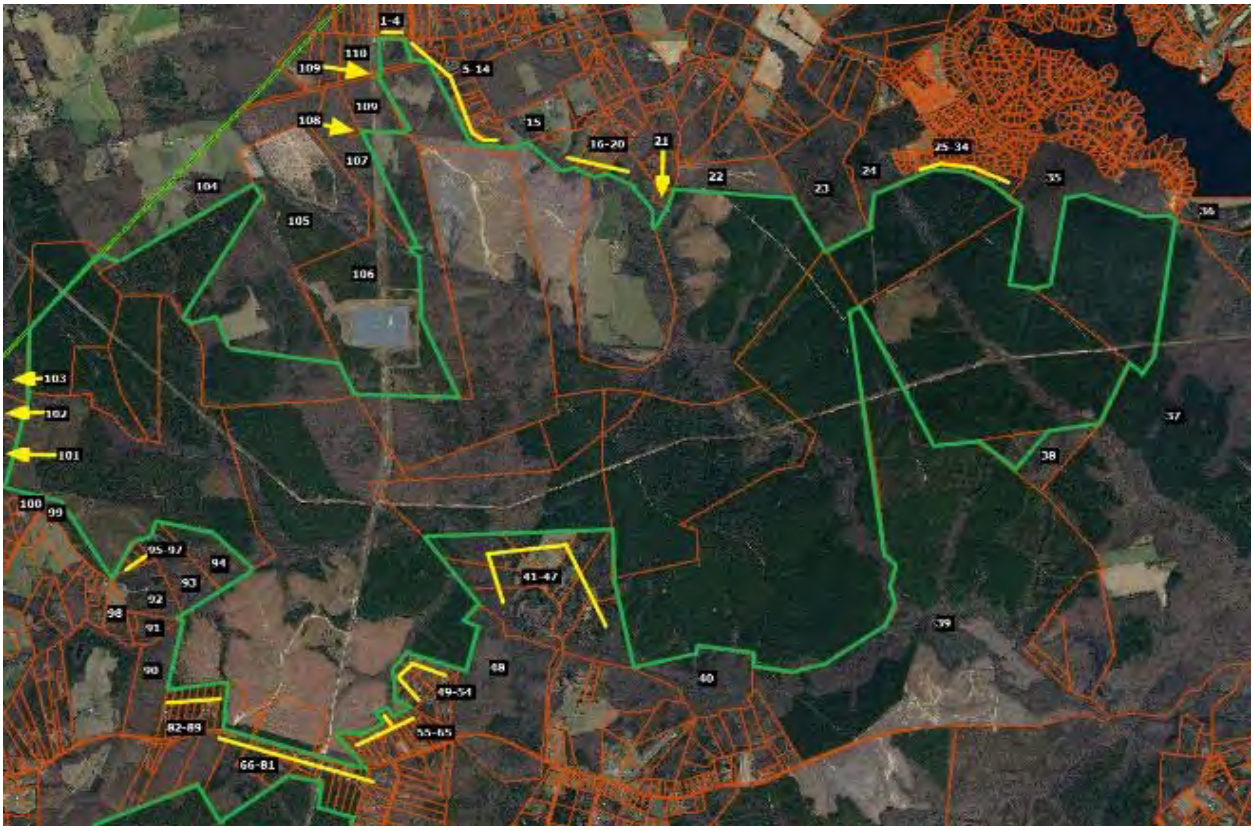
Adjoining Residential Sales After Solar Farm Approved

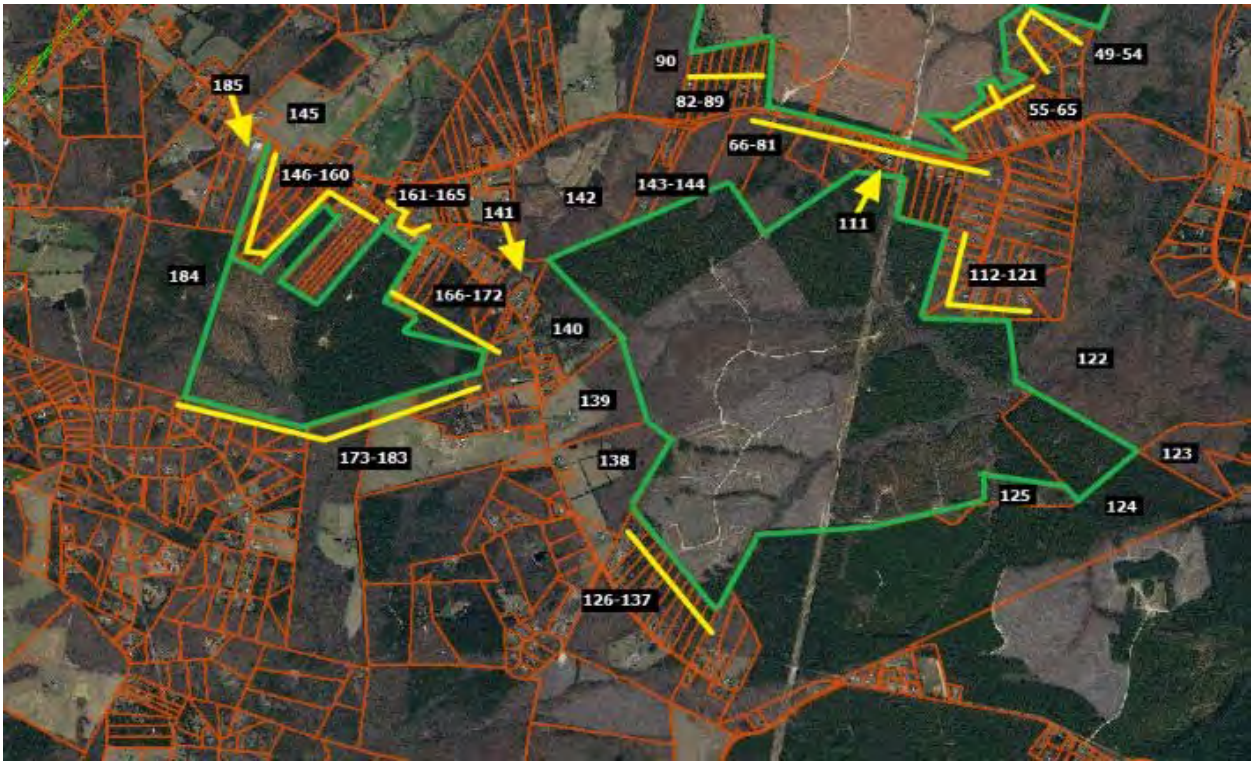
Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
26	Adjoins	13600 SW 182nd	4.20	11/5/2020	$1,684,000	2008	6,427	$262.02	5/5.5	3 Gar	CBS Rnch	Pl/Guest
	Not	18090 SW 158th	5.73	10/8/2020	$1,050,000	1997	3,792	$276.90	5/4	3 Gar	CBS Rnch	
	Not	14311 SW 187th	4.70	10/22/2020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

							Adj. Uses By Acreage				1 mile Radius (2010-2020 Data)			
	Name	City	State	Acres	MW	Topo 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	

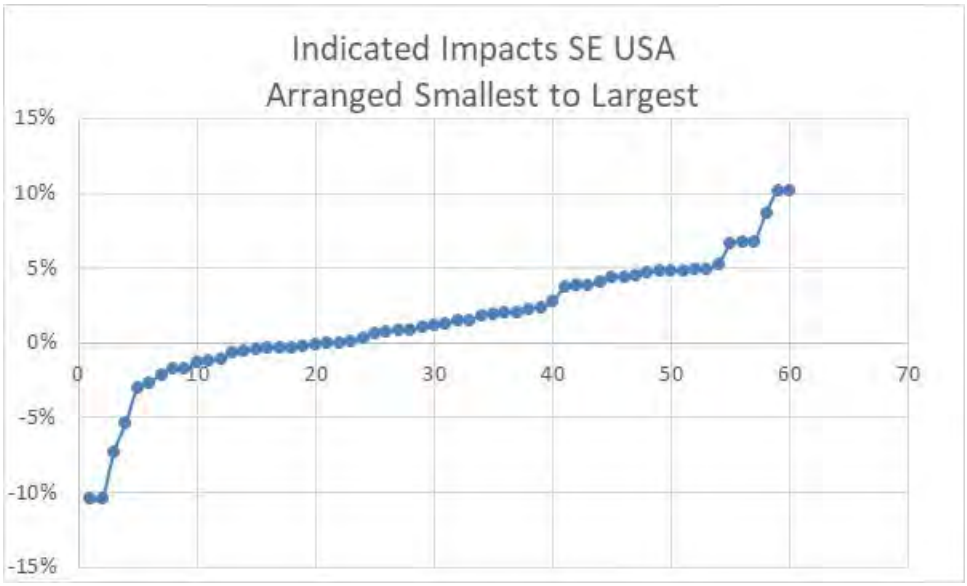
The solar farm matched pairs shown above have similar characteristics to each other in terms of population, but with several outliers showing solar farms in farm more urban areas. The median income for the population within 1 mile of a solar farm is $60,037 with a median housing unit value of $231,408. 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.

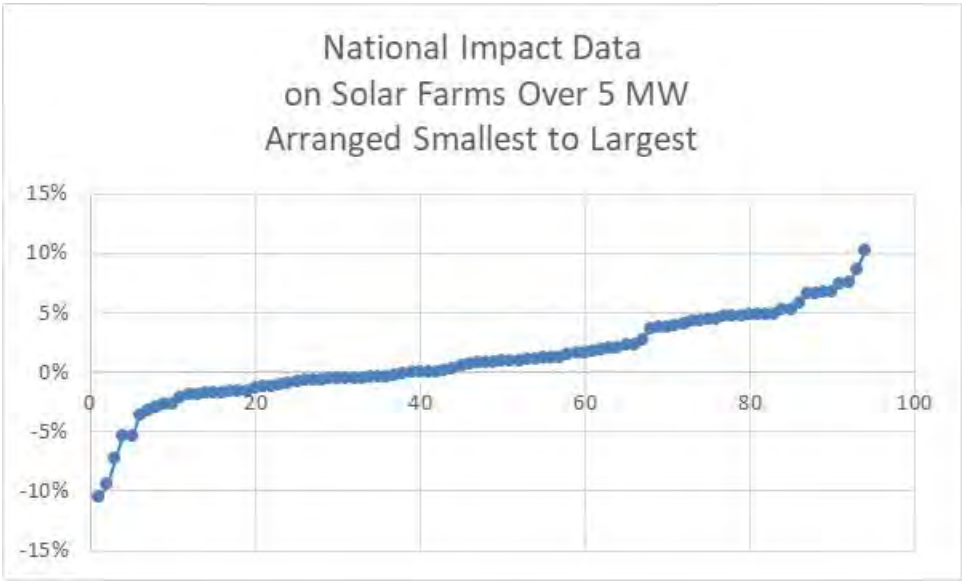
The solar farms summary is shown below with a summary of the matched pair data shown on the following page.

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 Kentucky 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, which is consistent with the Fleming Solar Project, 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 750 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, then 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 how can you claim damages for a less impactful use.

Summary

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 subdivisions 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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XIII. Curriculum Vita

Kirkland Appraisals, LLC

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

Appendix B

Description of Legal Boundaries

Fleming Solar, LLC
Project Legal Descriptions

Tract 1: PID# 030-00-00-019.00 Fleming Farms, LLC (96.82 acres)

Consisting of 99.438 acres, more or less, located approximately 3 miles northwest of Flemingsburg County, Kentucky, on Kentucky #559 and more particularly described as follows:

Beginning in center of Highway #559 (Convict Pike) corner to Glenn McCormack;
thence leaving highway with his line N. 04 degrees 26' E. 1867.0 ft. to post; thence S. 85 degrees 05' E. 519.5 ft. to post, thence S. 84 degrees 15 ' E. 322.0 ft. to post; thence N. 04 degrees 10' E. 114 .0 ft. to post corner to Tom O' Connor; thence with her line (same bearing N. 04 degrees 10' E.) 1105.0 ft. to post corner to Mrs. P. A. Pittenger; thence with her line N. 84 degrees 28 ' W. 2227.0 ft. to post corner to Les Carpenter farm now James Saunders; thence with Saunders line S. 85 degrees 06' W. 1585 .0 ft. to post; thence S. 86 degrees 16 ' E. 678. 0 ft. to post; thence S. 03 degrees 33' W. 1487.0 ft. to center of Highway #559; thence out center of highway S. 84 degrees 22' E. 410.0 ft.; thence S. 83 degrees 42' E. 200.0 ft.; thence S. 82 degrees 11 ' E. 99.0 ft. to corner to Glenn McCormack, the beginning. Containing 99.438 acres.

EXCEPTION THEREFROM:

There is excepted here from and not conveyed herein , the following tract of land which consists of the house and lot on said farm:

Beginning at a point in the center of KY Highway No. 559 which point is 225 feet east of the James C. Saunders corner; thence along the highway toward Flemingsburg a distance of 195.5 feet; thence leaving the highway, a new line along a wire fence, north, a distance of 162 feet to a post; thence· west 32 feet to a post; thence north again, a long a plank fence a distance of 143 feet to a post; thence west along the fence 141.5 feet to a post; thence south, a new line a distance of 306.5 feet to the point of beginning and containing 1.16 acres.

FURTHER EXCEPTION THEREFROM:

That portion of the above described real estate conveyed to Dominic Sgantas and Angela Sgantas by deed recorded August 19, 2015 in Deed Book 257, Page 657, and more particularly described as follows:

Tract I:

Being a 0.312 acre tract of land located on the north side of Ky 559 (Convict Pike) approximately 1.75 miles west of its intersection with Ky 1200 in Fleming County, Kentucky and being more particularly described as follows:

Beginning at a point in the centerline of Ky 559 (Convict Pike) corner to William T. & Jacqueline Ann Hord and William Dale Hord DB 169, Pg 599 and at the southeast corner of Dominic L. & Angela Sgantas DB 194 Pg 450; Thence along the line of Sgantas N 06-38-12 W (passing an iron pin & cap set as reference at 23.43') a total distance of 162.18' to an iron pin & cap set at a fence post found; Thence N

79-05-23 W 21.27' to an iron pin & cap set at a fence post found; Thence N 09-13-53 E 144.00' to an iron pin & cap set at a fence post found, corner to Sgantas & Hord; Thence along new division line of Hord S 85-06-21 E 62.71' to an iron pin & cap set; Thence continuing along the new division line of Hord S 05-36-18 W 283.67' to an iron pin & cap set (as reference); Thence S 05-36-18 W 22.08' to a point in the centerline of Ky 559 (Convict Pike); Thence along the centerline of Ky 559 (Convict Pike) N 85-28-30 W 6.29' to the point of beginning containing 0.312 acres according to the survey by Travis A. McGione PLS 3919 of Buffalo Trace Surveying LLC 8/20/2012.

Tract II:

Being a 0.070 acre tract of land located on the north side of Ky 559 (Convict pike) approximately 1.75 miles west of its intersection with Ky 1200 in Fleming County, Kentucky and being more particularly described as follows:

Beginning at a point in the centerline of Ky 559 (Convict Pike) corner to William T. & Jacquelyn Ann Hord and William Dale Hord DB 169, Pg 599 and at the southwest corner of Dominic L. & Angela M. Sgantas DB 194 Pg 450; Thence along the centerline of Ky 559 (Convict Pike) N 85-22-15 W 10.00' to a point in said road, new corner to Hord; Thence along the new division line of Hord N 05-07-11 E 20.00' to an iron pin & cap set (as reference); Thence N 05-07-11 E 286.82' to an iron pin & cap set new corner to Hord; Thence S 85-06-21 E 10.00 to an iron pin & cap set at fence post found corner to Sgantas & Hord; Thence along the line of Sgantas S 05-07-11 W (passing a fence post as reference at 284.74) a total distance of 306.77' to the point of beginning containing 0.070 acres according to the survey by Travis A. McGione PLS 3919 of Buffalo Trace Surveying LLC 8/20/2012.

Tract 2: PID # 030-00-00-017.00 Fleming Farms, LLC (325.38 acres)

TRACT 1:

A certain tract of land situated in Fleming County, Kentucky, about two and one-half miles west of Flemingsburg, Kentucky, on the north side of the Convict Pike, bounded and described as follows: Beginning at a set stone corner to James B. Dudley and J.H. Cooper, from which stone an elm bears S 80 E 18 links; thence with Cooper's line N 3-1/2 E 115 poles to a set stone, corner to same; thence N 87-1/2 W 124.24 poles to a set stone, corner to said Cooper in David Early's line; thence S 3-1/8 W passing 7.1 poles Early's and McIlvain's corner, in all 131.6 poles to a stake 5 links from the south edge of the middle of the Flemingsburg and Johnson Junction turnpike, corner to James B. Dudley; thence with Dudley's line and said turnpike S 86 E 141.2 poles to the beginning. Containing 118 acres and 7 poles.

SAVE AND EXCEPT THE FOLLOWING:

Excepted from Tract 1 is a certain parcel or tract of land lying or situated on the north side of Kentucky Highway 559, the Convict Pike, located approximately 1.5 miles west of the intersection of Kentucky Highway No. 559 and Kentucky Highway No. 1200, the Helena Road, in Fleming County, Kentucky, which is deeded to the Glen R. and Mary Ann McCormack Trust dated the 12th day of August, 1997, Mary Ann

McCormack, Trustee, recorded in Deed Book 190, Page 480, in the Fleming County Clerk's Office, and more specifically described as follows:

Beginning at a point in the north right of way line of Kentucky Highway No. 559, said point being twenty (20) feet from the center of the road and a common corner to Tract 2 and Tract 3 of the Glen R. and Mary Ann McCormack Trust (DB 190, Pg 480); thence with the common line of same N 03°07'30" East, passing a one-half (1/2) inch rebar and cap (set witness corner) at 4.19 feet for a total distance of 2027.87 feet to the corner of William T. Hord, et al (DB 169, Pg 599); thence continuing 03°07'30" East with the line of Hord, et al and passing a one-half (1/2) inch rebar and cap (set witness corner) at 103.13 feet, for a total distance of 113.13 feet to an old corner post, said point a common corner to Tract 2 and Tract 4. S 87°46'49" East, 1260.19 feet to a one-half (1/2) inch rebar and cap (set); thence with a new division line of said Tract 2, S 02°51'21" West, 524.49 feet to a one-half (1/2) inch rebar and cap (set) near the south base of a corner post; thence continuing with new division lines of Tract 2 and along the existing fences for the following eight calls: S 04°19'32" West, 405.38 feet to a center brace post; thence S 11°31'21" West, passing a one-half (1/2) inch rebar and cap (set witness corner) at 8 feet, for a total distance of 342.38 feet to a one-half (1/2) inch rebar and cap (set); thence N 83°53'04" West. 284.16 feet to a one-half (1/2) inch rebar and cap (set); thence N 84°17'07" West, 387.75 feet to a one-half (1/2) inch rebar and cap (set); thence S 08°29'23" West, 287.61 feet to a one-half (1/2) inch rebar and cap (set); thence N 81°57'53" West, passing a one-half (1/2) inch rebar and cap (set witness corner) at 132.03 feet, for a total distance of 140.03 feet to a corner post; thence S 02°56'22" West, 377.91 feet to a corner post; thence S 31°27'07" West, passing a one-half (1/2) inch rebar and cap (set witness corner) at 9 feet, for a total distance of 320.04 feet to a one-half (1/2) inch rebar and cap (set) in aforesaid right of way line; thence with the right of way line (Commonwealth of Kentucky, Right of Way DB 92, Pg 157) at 20 feet from and parallel with the center of the road for the following two calls: North 86°08'56" West, 131.31 feet to a point of curve (P.C.); thence 85.07 feet along the arc of a curve to the right to the point of beginning, with said curve having a radius of 616.6 feet and a chord N 81°47'08" West, 85 feet; containing 43.866 acres.

TRACT 2:

A certain parcel or tract of land lying or situated on the north side of Kentucky Highway 559, the Convict Pike, located approximately 1.5 miles west of the intersection of Kentucky Highway No. 559 and Kentucky Highway No. 1200, the Helena Road, in Fleming County, Kentucky, and more specifically described as follows:

Beginning at a point in the north right of way line of Kentucky Highway No. 559, said point being twenty (20) feet from the center of the road and a common corner to Tract 2 and Tract 3 of the Glen R. and Mary Ann McCormack Trust (DB 190, Pg 480); thence with the common line of same N 03°07'30" East, passing a one-half (1/2) inch rebar and cap (set witness corner) at 4.19 feet for a total distance of 2027.87 feet to the corner of William T. Hord, et al (DB 169, Pg 599); thence continuing N 03°07'30" East with the line of Hord, et al and passing a one-half (1/2) inch rebar and cap (set witness corner) at 103.13 feet, for a total distance of 113.13 feet to an old corner post, said point a common corner to Tract 2 and Tract 4 of aforesaid McCormack trust; thence with the common line of said Tract 2 and Tract 4, S 87°46'49" East, 1260.19 feet to a one-half (1/2) inch rebar and cap (set); thence with a new division line

of said Tract 2, S 02°51'21" West, 524.49 feet to a one-half (1/2) inch rebar and cap (set) near the south base of a corner post; thence continuing with new division lines of Tract 2 and along the existing fences for the following eight calls: S 04°19'32" West, 405.38 feet to a center brace post; thence S 11°31'21" West, passing a one-half (1/2) inch rebar and cap (set witness corner) at 8 feet, for a total distance of 342.38 feet to a one-half (1/2) inch rebar and cap (set); thence N 83°53'04" West, 284.16 feet to a one-half (1/2) inch rebar and cap (set); thence N 84°17'07" West, 387.75 feet to a one-half (1/2) inch rebar and cap (set); thence S 08°29'23" West, 287.61 feet to a one-half (1/2) inch rebar and cap (set); thence N 81°57'53" West, passing a one-half (1/2) inch rebar and cap (set witness corner) at 132.03 feet, for a total distance of 140.03 feet to a corner post; thence S 02°56'22" West, 377.19 feet to a corner post; thence S 31°27'07" West, passing a one-half (1/2) inch rebar and cap (set witness corner) at 9 feet, for a total distance of 320.04 feet to a one-half (1/2) inch rebar and cap (set) in aforesaid right of way line; thence with the right of way line (Commonwealth of Kentucky, Right of Way DB 92, Pg 157) at 20 feet from and parallel with the center of the road for the following two calls: North 86°08'56" West, 131.31 feet to a point of curve (P.C.); thence 85.07 feet along the arc of a curve to the right to the point of beginning, with said curve having a radius of 616.6 feet and a chord N 81°47'08" West, 85 feet; containing 43.866 acres.

TRACT 3:
A certain tract of land located in Fleming County, Kentucky on the Convict Pike and described as follows:

Beginning in the center of the Convict Turnpike road, and corner to R.O. Bailey; thence leaving the road with his line N 5-1/4 E 1,870 feet to a post; thence S 84-1/4 E 842 feet to a post, corner to Bailey in Mrs. Wilma Dye's line; thence with her line S 5 W 2,048 feet to the center of road; thence down the same N 73-1/2 W 86 feet; N 69 W 369; N 70-1/2 W 100 feet; N 78-1/4 W 304 feet to the beginning, containing 37.17 acres.

TRACT 4:

A certain tract or parcel of land lying and being in Fleming County, Kentucky, located on the Convict Pike (Ky. Highway 559) about 1-1/2 miles northwest of Flemingsburg, Kentucky, and more particularly described as follows, to-wit:

Beginning in center of Highway 559 at intersection of Farm Road (522 ft. west of Watson and Bruner Lumber Company, corner to Highway); thence out center of Highway South 84°10' E 200 ft.; thence S 52°00 min E 322 ft. to corner to Watson and Bruner Lumber Company; thence leaving Highway with their line N 03°37 min E 225 ft. to post; thence S 81° 30 min E 366 ft. to post corner to Robert Crain; thence with his line N 01°00 min E 280 ft. to post; thence S 86°34 min E 230 ft. to post corner to J.B. Lathram Estate; thence with same N 06°42 min E 1,748 ft. to post; thence N 86°09 min W 672 ft. to post; thence N 06°45 min E 787 ft. to center of Old L & N Railroad (now discontinued), corner to Tom O'Connor Farm; thence out center of Railroad with O'Connor's line N 69°40 min W 712 ft. to post; thence N 71°11 min W 161 ft. to post; thence N 65°07 min W 150 ft. to post; thence N 56°50 min W 192 ft. to post; thence N 49°15 min W 182 ft. to post; thence N 44°40 min W 100 ft. to post; thence N 38°12 min W 176 ft. to post; thence leaving old Railroad N 84°23 min W 400 ft. to post; thence N 86°10 min W 1,916 ft. to post corner to Lowell Sorrell's; thence with his line S 07°00 min W 660 ft. to post corner to

Glenn McCormack; thence with his line S 85°12 min E 2,346 ft. to post; thence S 03°07 min W 2,280 ft. to center of Highway 559; thence out center of Highway S 23°05 min E 255 ft.; thence S 35°25 min E 549 ft.; thence S 44°00 min E 60 ft.; thence S 61°10 min E 50 ft.; thence S 76°15 min E 67 ft.; thence S 82°26 min E 270 ft. to center of intersection of farm road, the place of beginning, containing 170.243 acres.

Tract 3: PID# 030-00-00-013.00 William Dale Hord (108.79 acres)

TRACT 1:
Beginning at a set stone corner to J.H. Cooper and David Early, thence with said Cooper's line S 88-3/4 E 157-1/2 poles to a stone corner to same; thence S 59-3/4 E 23-9/10 poles to a stone another corner to same; thence S 88-3/4 E 53-4/10 poles to the corner post of the fence corner to Cooper and the Lander tract; thence S 4-1/4 W 26-1/10 poles to a stake in Cooper's line in the center of the railroad; thence with the center of the railroad track S 72-1/2 E 11 poles; S 65 E 8 poles; S 56-1/2 E 10 poles; S 42-1/2 E 12 poles; S 30 E 8-4/10 poles to a stake in the center of the railroad, corner to the lands sold to John Cullen; thence with the line of same N 67-1/2 E 40-6/10 poles to a stake in the center of the turnpike; thence dividing same equally N 43-1/2 W 5 poles; N 30-1/4 W 18 poles; N 22-1/4 W 17-9/10 poles to a stake in the center of the pike, corner to the Owens land; thence continuing with the center of the pike N 15-3/4 W 29 poles; N 6-1/2 W 17-36/100 poles to a point in the road one pole from a stone on the west side of the road and corner to John Maley; thence N 84-5/8 W 276-1/10 poles to a stone in T.B. McIntire's line corner to Maley; thence with McIntire's line S 1°50' W passing at 26-1/4 poles to a stake in McIntire and Early's line, same course in all 53-16/100 poles to the beginning; containing 99 acres 2 quarters and 17 poles.

TRACT 2:
All that certain tract of land lying and being in Fleming County, Kentucky, along the line of Flemingsburg and Northern Railroad, and bounded and described as follows, to-wit:

Beginning at a set stone corner to Tom O'Connor; thence with his line N 86 W 52.52 rods to a set stone; thence N 57 W 23.24 rods to a set stone; thence N 85-1/2 W 17.48 rods to center of Flemingsburg & Northern Railroad; thence up the railroad with its meanders S 42-1/2 E 8.76 rods; S 53 E 11.24 rods; S 56 E 16.4 rods; S 64-1/4 E 11 rods; S 71-1/2 E 50.08 rods to a point in the center of track; thence leaving railroad with O'Connor's line N 5-1/2 E 25.68 rods to the beginning, containing 8.8 acres, more or less.

Tract 4: PID # 038-00-00-002.00 and 038-00-00-003.00 (portion) John & Tonia Sayre (140.30 acres)

Parcel 1:

Being a 139.450 acre tract of land located approximately one mile north of Flemingsburg on the west side of Ky Hwy 11, at an area locally known as Tollgate Hill, in Fleming County, Kentucky and being more particularly described as follows:

Beginning at a ½" iron pin and cap found (WTC 2380 -disturbed) 77.03' left of centerline station 78+19.55, at the west right of way of Ky Hwy 11 Commonwealth of Kentucky DB 167 Pg 34 and corner to Trustee of Trust A-1 of the Tom and Anne Schiffer Revocable Trust and Betty E. Barrett DB 247, Pg 368

(Hereafter known as Barrett) and Stephanie S. & Michael G. Edmond DB 197, Pg 383 1.41 acres; thence along the west right of way of Ky Hwy 11 S 22-15-44 E 165.32' to a right of way marker found 70' left of centerline station 76+50; thence continuing along said right of way S 10-45-46 E 146.69' to a concrete right of way marker found 85' left of centerline station 75+00; thence S 04-05-44 E 444.98' to an iron pin and cap set 135' left of centerline station 70+39.67; thence crossing the farm access road S 22-55-32 E 206.52' to a concrete right of way marker found 70' left of centerline station 68+39.67; thence S 06-13-30 W 141.89' to a concrete right of way marker found 95' left of centerline station 67+00; thence S 05-25-40 E 380.84' to a concrete right of way marker found 85' left of centerline station 63+19.29; thence S 11-06-52 E 100.85' to an iron pin and cap set at a concrete right of way marker found at the north edge of an old lane, corner to Barrett and Graham Acres LLC DB 237, Pg 360 Farm 2; thence leaving the right of way of Ky Hwy 11 generally along the northern edge of the old land and the line of Graham Acres LLC N 85-12-23 W 766.80' to an iron pin and cap set; thence crossing the end of the old land S 08-21-10 W 29.70' to an iron pin and cap set; thence continuing along the line of Graham Acres LLC N 87-08-50 W 419.06' to a fence post (Flagged); thence N 87-08-50 W 740.89' to an iron pin and cap set at base of old gate post; thence S 03-57-44 W 774.29' to an iron pin and cap set; thence S 04-23-48 W 529.01' to an iron pin and cap set; thence N 85-41-59 W 734.25' to an iron pin and cap set; thence S 15-24-40 W 18.15' to an iron pin and cap set, corner to Barrett and Charles A. & Dorothy W. Brown DB 186, Pg 681 Tract 1; thence along the line of Brown N 84-14-05 W 221.56' to a point in the center of Ky Hwy 1200, corner to Barrett and Jeff L. & Anna F. Hord DB 190, Pg 713; thence along the Hord line N 03-45-34 E 16.50' to an iron pin and cap set (as reference); thence continuing along said line N 03-45-34 E 499.75' to an iron pin and cap set; thence along the line of Kenneth Arnett, Effie Jane Arnett and Brooke W. Rodgerson, Trustees of Trans Financial Bank NA DB 191, Pg 13 N 04-09-30 E 940.08' to an iron pin and cap set; thence N 04-19-36 E 1000.00' to an iron pin and cap set; thence N 04-28-28 E 999.97' to an iron pin and cap set in the line of Martha D. Sims DB 120, Pg 228 and corner to said Arnett and Rodgerson and Barrett; thence along the line of Sims S 84-16-16 E 207.93' to an iron pin and cap set; thence continuing along the Sims line S 85-03-35 E 725.34' to a fence post (Flagged); thence S 03-39-34 W (passing a reference iron pin and cap set at 5.00') a total distance of 509.85' to a point being 3.3' west of a 32" ash found and referenced by an iron pin and cap set, being S 25-07-27 E 5.24'; thence S 84-13-40 E 709.05' to an iron pin and cap set corner to Sims and Christopher O. & Carla M. Sims DB 180, Pg 772; thence along the Chris Sims line S 84-31-58 E 593.46' to a ½" iron pin and cap found (WTC 2380) at the southwest corner of the Edmond 1.41 acre lot; thence along said lot S 84-14-35 E 288.89' to the point of beginning containing 139.450 acres according to the survey by Travis A. McGlone PLS 3919 of Buffalo Trace Surveying, LLC 2/13/2013. Bearings coordinated to the Kentucky State Plane Coordinate System (NAD 83- North Zone) Property subject to all legal right of ways, easements of record and unrecorded conveyances.

SAVE AND EXCEPT THE FOLLOWING:

Being a 1.238 acre tract of land located approximately one mile North of Flemingsburg on the West side of Ky Hwy 11, at an area locally known as Tollgate Hill, in Fleming County, Kentucky and being more particularly described as follows:

Beginning at a ½" iron pin & cap found (T. McGlone PLS 3919) at the right of way of Ky Hwy 11, being 135' left of centerline station 70+39.67, corner to John & Tonia Sayre DB 249, Pg 781 and corner to

Fleming Solar, LLC
Project Legal Descriptions

Commonwealth of Kentucky DB 167, Pg 34; thence along the West Ky Hwy 11 right of way S 22-55-32 E 104.28; to an iron pin & cap set new corner to Sayre; thence leaving said right of way along the new division line of Sayre N 65-49-50 W 88.92' to an iron pin & cap set; thence continuing along the new division line of Sayre N 42-01-01 W 102.16' to an iron pin & cap set; thence N 81-02-33 W 166.75' to an iron pin & cap set; thence N 09-10-21 E 150.17' to an iron pin & cap set; thence S 84-45-15 E 27.13' to an iron pin & cap set on the south side of a gravel farm road; thence crossing the farm road N 08-27-53 E 14.15' to an iron pin & cap set; thence leaving said road along the fence N 85-56-42 E 205.57' to an iron pin & cap set at the West right of way of Ky Hwy 11; thence along the West right of way of Ky Hwy 11 S 04-05-44 E 217.08' to the point of beginning containing 1.238 acres according to the survey by Travis A. McGlone PLS 3919 of Buffalo Trace Surveying LLC 6/11/2015. (Field survey completed on 5/21/2015 as a Urban Class survey with an unadjusted traverse closure of 1:28,399).

All iron pin & caps set were ½" x 18" rebar with an orange plastic cap stamped "T. McGlone PLS 3919." Bearings coordinated to the Kentucky State Plane Coordinate System NAD 83 (North Zone)

ALSO SAVE AND EXCEPT THE FOLLOWING:

Being a 0.653 acre tract of land located approximately 1 mile North of Flemingsburg and approximately 350' West of Ky Hwy 11 at an area known as Tollgate Hill, in Fleming County, Kentucky and being more particularly described as follows:

Beginning at a ½" iron pin & cap found (T. McGlone PLS 3919) corner to John & Tonia Sayre DB 249, Pg 781 and the Southwest corner of Robert Boone & Amanda Ann Mitchell DB 257, Pg 758; thence along the new line of Sayre N 78° 23'46" W a distance of 199.14' to an iron pin & cap set; thence continuing along the new line of Sayre N 12°18'29" E a distance of 45.29' to an iron pin & cap set; thence N 38°57'36" E a distance of 19.78' to an iron pin & cap set; thence N 21°52'55" W a distance of 79.42' to an iron pin & cap set; thence S 83°40'03" E a distance of 227.90' to an iron pin & cap set at the Northwest corner of Mitchell; thence along the West line of Mitchell S 09°10'21" W a distance of 150.17' to the point of beginning containing 0.653 acres according to the survey by Travis A. McGlone PLS 3919 of Buffalo Trace Surveying, LLC 1/29/2019 (Field survey completed on 1/28/2019 with Topcon 236w Total Station as an Urban class survey having an unadjusted traverse closure of 1:12,612 as shown in file 2019/Sayre John-Lot Addition and reviewed 1/29/2019).

All iron pin & caps set were ½" x 18" rebar with an orange plastic cap stamped "T. McGlone PLS 3919."

Bearings coordinated to the ½" iron pin & caps found (T. McGlone PLS 3919) Robert Boone & Amanda Ann Mitchell DB 257, Pg 758.

Parcel 2:

Being a 2.75 acre tract of land located approximately 2.4 miles northwesterly along Kentucky Road 1200 from the courthouse square in Flemingsburg, Fleming County, Kentucky, said property located in the northwest corner of the John Sayre and Tonia Sayre property described in Deed Record 259, page 692, being more fully described as follows:

Fleming Solar, LLC
Project Legal Descriptions

Commencing at 1/2-inch rebar with a cap stamped "MCGLONE 3919" marking the southeast corner of the John Sayre & Tonia Sayre property recorded in Deed Record 249, page 781; thence along the line common to the Sayre property recorded Deed Record 259, page 692 and Deed Record 249, page 781, NORTH 86 degrees 36 minutes 31 seconds WEST, 470.91 feet to a 5/8-inch rebar with purple cap stamped "BRCJ-COOPER KY3906", hereafter called a marked 5/8-inch rebar and POINT OF BEGINNING; thence SOUTH 12 degrees 35 minutes 10 seconds WEST, 384.49 feet to a marked 5/8-inch rebar; thence SOUTH 38 degrees 41 minutes 40 seconds WEST, 297.15 feet to a mag nail in the center of the road known as Kentucky 1200 (passing over a marked 5/8-inch rebar at 262.15 feet); thence along said centerline the following three (3) courses: 1) NORTH 03 degrees 46 minutes 37 seconds WEST, 106.25 feet; 2) thence NORTH 04 degrees 39 minutes 01 seconds WEST, 162.68 feet; 3) thence NORTH 06 degrees 04 minutes 23 seconds WEST, 179.16 feet to a mag at the western corner of the John Sayre and Tonia Sayre property described in Deed Record 259, page 692; thence NORTH 14 degrees 35 minutes 25 seconds EAST, 182.30 feet to a 1/2-inch rebar with a cap stamped "MCGLONE 3919" at the northwest corner of the John Sayre and Tonia Sayre property described in Deed Record 259, page 692 (passing a marked 5/8-inch rebar at 75.00 feet and a 1/2-inch rebar with a cap stamped "MCGLONE 3919" at 164.07 feet); thence along the north line of said Sayre property, SOUTH 86 degrees 36 minutes 31 seconds EAST, 263.23 feet to the point of beginning. Containing 2.75 acres, more or less.

<u>Tract 5:</u> PID # 030-00-00-016.00 John & Tanya Sayre (94.44 acres)

A 94.44 acre tract of land located approximately 2.0 miles northwesterly along Kentucky Highway 1200 from the courthouse square in Flemingsburg, Fleming County, Kentucky, said property being the John Sayre and Tonia Sayre tracts described in Deed Record 259, page 703, being described by survey as follows:

Beginning at a 10-inch wooden fence corner post marking the northwest corner of Lot 1 in Ray Litton Subdivision recorded in Deed Book 146, Page 344 of the Fleming County Clerk's Office; thence along the west line of said subdivision, SOUTH 51 degrees 37 minutes 07 seconds EAST, 1106.23 feet to a 5/8-inch rebar with a purple cap stamped "BRCJ-COOPER KY 3906", hereafter called a marked 5/8-inch rebar at the southwest corner of Lot 11 in said subdivision; thence NORTH 48 degrees 51 minutes 17 seconds EAST, 47.86 feet to a marked 5/8-inch rebar at the northwest corner of the Stephanie D. Brannon property described in Deed Record 259, Page 731, known as Lot 12; thence SOUTH 47 degrees 57 minutes 46 seconds EAST, 118.32 feet to a marked 5/8-inch rebar at the southwest corner of said Brannon property; thence SOUTH 42 degrees 24 minutes 21 seconds EAST, 349.83 feet to a marked 5/8-inch rebar at the southwest corner of the James Richard Litton Jr. property described in Deed Record 246, Page 160; thence NORTH 46 degrees 55 minutes 31 seconds EAST, 200.70 feet to a mag nail in the centerline of Kentucky Highway 1200 (passing over a 5/8-inch rebar with a cap stamped "RDH 3264" at 180.10 feet); thence along said centerline the following Seven (7) courses:
1) SOUTH 42 degrees 48 minutes 38 seconds EAST, 225.02 feet; thence
2) SOUTH 42 degrees 15 minutes 56 seconds EAST, 118.21 feet; thence
3) SOUTH 41 degrees 37 minutes 45 seconds EAST, 117.47 feet; thence
4) SOUTH 39 degrees 18 minutes 14 seconds EAST, 52.57 feet; thence
5) SOUTH 36 degrees 18 minutes 07 seconds EAST, 56.37 feet; thence

6) SOUTH 35 degrees 56 minutes 20 seconds EAST, 53.52 feet; thence
7) SOUTH 32 degrees 05 minutes 47 seconds EAST, 341.43 feet to a mag nail set at the northeast corner of the Susan Rae Wagoner property described in Deed Record 259, Page 595; thence SOUTH 61 degrees 11 minutes 39 seconds WEST, 170.00 feet to a marked 5/8-inch rebar at the northwest corner of said Wagoner property (passing over a marked 5/8-inch rebar at 25.00 feet); thence SOUTH 32 degrees 38 minutes 22 seconds EAST, 259.05 feet to a marked 5/8-inch rebar at the southwest corner of said Wagoner property; thence along the north line of the Eugene Crain property described in Deed Record 249, Page 01, SOUTH 69 degrees 44 minutes 33 seconds WEST, 507.72 feet to a 6-inch wood post; thence SOUTH 70 degrees 13 minutes 38 seconds WEST, 270.15 feet to a 1/2-inch rebar with a cap stamped "WRIGHT PLS2808"; thence SOUTH 81 degrees 46 minutes 11 seconds WEST, 52.56 feet to a 1/2-inch rebar with a cap stamped "WRIGHT PLS2808"; thence SOUTH 86 degrees 40 minutes 20 seconds WEST, 377.65 feet; to a 1/2-inch rebar with a cap stamped "WRIGHT PLS2808" thence SOUTH 86 degrees 13 minutes 48 seconds WEST, 350.08 feet to a 1/2-inch rebar with a cap stamped "WRIGHT PLS2808"; thence NORTH 89 degrees 16 minutes 05 seconds WEST, 382.17 feet to a 1/2-inch rebar with a cap stamped "WRIGHT PLS2808"; thence NORTH 89 degrees 56 minutes 43 seconds WEST, 560.95 feet to a 1/2-inch rebar with a cap stamped "WRIGHT PLS2808" at the southeast corner of the Fleming Farms LLC property described in Deed Record 251, Page 787; thence leaving the north line of said Eugene Crain property and along the east line of said Fleming Farm LLC property, NORTH 03 degrees 59 minutes 51 seconds EAST, 870.93 feet to a 1/2-inch rebar with a cap stamped "MCLONE"; thence NORTH 03 degrees 38 minutes 03 seconds EAST, 254.37 feet to a marked 5/8-inch rebar; thence NORTH 03 degrees 38 minutes 03 seconds EAST, 621.30 feet to a 48-inch tree at a fence corner that is marking the northeast corner of said Fleming Farm LLC property; thence NORTH 88 degrees 27 minutes 29 seconds WEST, 669.31 feet to a wood fence corner post; thence NORTH 03 degrees 30 minutes 29 seconds EAST, 787.00 feet to a 1/2-inch rebar with a cap stamped "MCLONE" in the centerline of the abandon Flemingburg & Northern Railroad; thence along said centerline the next Five (5) courses:
1) SOUTH 72 degrees 55 minutes 33 seconds EAST, 181.50 feet; thence
2) SOUTH 65 degrees 25 minutes 33 seconds EAST, 132.00 feet to a marked 5/8-inch rebar; thence
3) SOUTH 56 degrees 55 minutes 33 seconds EAST, 165.00 feet; thence
4) SOUTH 42 degrees 55 minutes 33 seconds EAST, 198.00 feet to a marked 5/8-inch rebar; thence
5) SOUTH 30 degrees 25 minutes 33 seconds EAST, 143.76 feet to a wood fence corner post at the southern corner of the William Dale Hord property (Will Bk 9, Page 426) described in Deed Record 167, Page 60; thence along the south line of said Hord property, NORTH 67 degrees 31 minutes 59 seconds EAST, 392.69 feet to the point of beginning. Containing 94.44 acres, more or less.

The property is subject to all legal easements, record conveyances, public utilities, and right of ways including the public rights of Kentucky 1200.

The above description was prepared by Matthew L. Cooper, Kentucky Professional Surveyor number 3906, and is shown on a plat by Bledsoe Riggert Cooper & James, Inc., project number 3-1367, dated May 5, 2021. The basis of bearings for the above description is the Kentucky Single Zone Coordinate System NAD1983(2011). The point of beginning has a coordinate of N(y): 4055703.97, E(x):5491583.44 per the Kentucky Single Zone Coordinate System, NAD1983(2011), using the United States Survey Foot. Said coordinate was derived by GNSS observations using the Kentucky Real Time Reference Network (KYCORS). Completion Date: May 25, 2021

Fleming Solar, LLC
Project Legal Descriptions

Tract 6: PID# 030-00-00-021.00 John & Marjorie Shank (65.00 acres)

Being a 65.00 acre tract located approximately 2 miles westerly along Old Convict Road from its intersection with Kentucky 1200 near the City of Flemingsburg, Fleming County, Kentucky, said property is a part of the John and Marjorie Shank property described in Deed Record 246, page 556, being more fully described as follows:

BEGINNING at a 5/8-inch rebar with a purple cap stamped "BRCJ-COOPER KY 3906", hereafter called a marked 5/8-inch rebar marking the northeast corner of the John and Marjorie Shank property recorded in Deed Record 246, page 556; thence along the line common to said Shank property and the Fleming Farms, LLC property recorded in Deed Record 274, page 473, SOUTH 03 degrees 01 minutes 01 seconds WEST, 1698.26 feet to a marked 5/8-inch rebar; thence NORTH 89 degrees 27 minutes 49 seconds WEST, 1693.89 feet to a marked 5/8-inch rebar on the east line of the Tommy and Wilhemina Whisman property described in Deed Record 246, Page 140; thence NORTH 03 degrees 06 minutes 50 seconds EAST, 718.32 feet to a 1/2-inch rebar at the northeast corner of said Whisman property; thence NORTH 12 degrees 27 minutes 06 seconds EAST, 1053.36 feet to a marked 5/8-inch rebar at the corner of the Phillip and Lisa Wagoner property described in Deed Record 246, Page 349; thence SOUTH 87 degrees 31 minutes 00 seconds EAST, 1518.49 feet to the point of beginning. Containing 65.00 acres, more or less.

Tract 7: PID # 030-00-00-011.00 (Part of) Sunrise Dairy, LLC – Access/Utility Easement

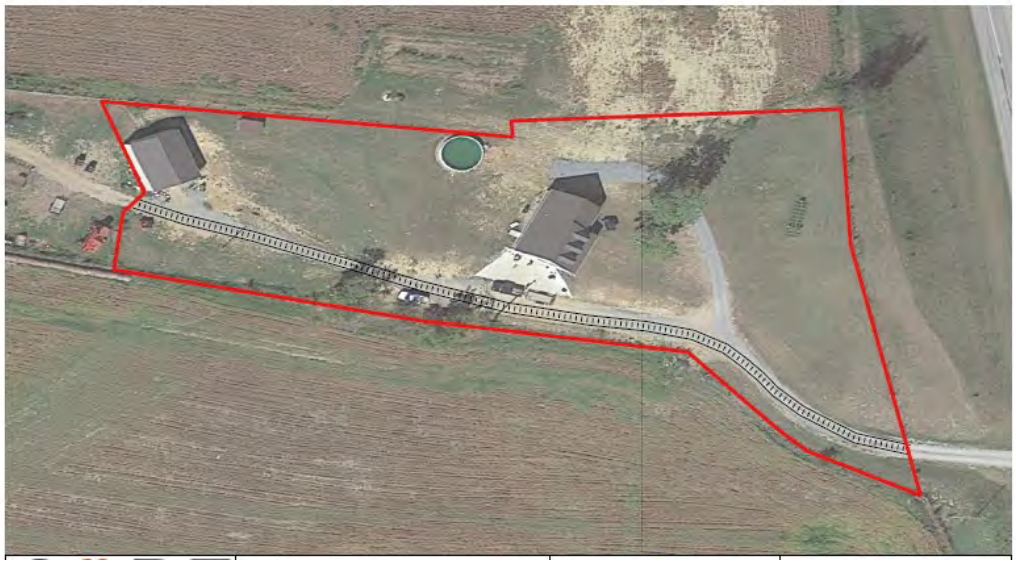
Being a 0.56 acre easement located approximately 2.4 miles northwesterly along Kentucky Road 1200 from the courthouse square in Flemingsburg, Fleming County, Kentucky, said easement is located in the southeast corner of the Sunrise Dairy, LLC property described in Deed Record 256, page 765, being more fully described as follows:

BEGINNING at a mag nail in the center of the road known as Kentucky 1200 marking the southeast corner of the Sunrise Dairy, LLC property recorded in Deed Record 256, page 765; thence along the line common to the Sunrise Dairy property recorded Deed Record 256, page 765 and the William Dale Hord property recorded in Deed Record 167, page 60, NORTH 83 degrees 00 minutes 37 seconds WEST, 105.00 feet to a 5/8-inch rebar with a purple cap stamped "BRCJ-COOPER KY3906", hereafter called a marked 5/8-inch rebar (passing over a marked 5/8-inch rebar at 20.00 feet); thence NORTH 02 degrees 14 minutes 17 seconds WEST, 237.47 feet to a marked 5/8-inch rebar; thence NORTH 84 degrees 08 minutes 19 seconds EAST, 95.00 feet to a mag nail in the centerline of said Kentucky 1200; thence along said centerline, SOUTH 03 degrees 46 minutes 37 seconds EAST, 106.25 feet to a mag nail; thence continuing along said centerline, SOUTH 04 degrees 27 minutes 34 seconds EAST, 154.21 feet to the point of beginning. Containing 0.56 acres in said easement.

Tract 8: PID# 038-00-00-002.001 (Part of) Amanda Mitchell – Temporary Construction Easement

Fleming Solar, LLC
Project Legal Descriptions

Proposed Easement approximately 530 ft by 15 ft on the existing driveway/gravel road as shown on the depicted map below.



Appendix C

Noise and Traffic Study

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Noise and Traffic Studies Report

Fleming Solar, LLC
Fleming Solar Project
Fleming County, Kentucky

GAI Project Number: R210073.00, Tasks 001 and 002
May 2021

Prepared by: GAI Consultants, Inc.
Louisville Office
9850 Von Allmen Court, Suite 201
Louisville, Kentucky 40241-2855

Prepared for: Fleming Solar, LLC
1221 South Mopac Expressway, Suite 225
Austin, Texas 78746-7677

Noise and Traffic Studies Report

Fleming Solar, LLC
Fleming Solar Project
Fleming County, Kentucky

GAI Project Number: R210073.00, Tasks 001 and 002

May 2021

Prepared for:
Fleming Solar, LLC
1221 South Mopac Expressway, Suite 225
Austin, Texas 78746-7677

Prepared by:
GAI Consultants, Inc.
Louisville Office
9850 Von Allmen Court, Suite 201
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Project Manager

Ryan P. Hurt, PE, MBA
Senior Project Manager
KY PE Number 31014

Table of Contents

1.0 Noise and Traffic Evaluation

GAI Consultants, Inc. (GAI) is pleased to present this Noise and Traffic Studies Report to Fleming Solar, LLC (Fleming Solar) for the Fleming Solar Project (Project) located in Fleming County, Kentucky (KY). GAI was contracted by the Project's developer, Core Solar LLC.

GAI is a full-service engineering company with 26 office locations across 12 states including two local offices in Louisville and Florence, KY. While GAI has been serving the energy industry (Natural Gas, Nuclear Energy, Power Generation and Power Delivery) for over 60 years, GAI entered the renewable energy market prior to 2000 and has worked on 140 renewable energy projects for utilities, developers and contractors, spanning various technical services and regions across the United States including solar power installations.

1.1 Introduction

This Noise and Traffic Studies Report has been prepared in accordance with the requirements for site assessment reports in KRS 278.708. In particular, this Report addresses the requirements of:

- KRS 278.708(3)(a)(8): Evaluation of the noise levels expected to be produced by the facility;
- KRS 278.708(3)(d): Evaluation of anticipated peak and average noise levels associated with the facility's construction and operation at the property boundary;
- KRS 278.708(3)(a)(5): Location and use of access ways, internal roads and railways; and
- KRS 278.708(3)(e): The impact of the facility's operation on road and rail traffic to and within the facility, including anticipated levels of fugitive dust created by the traffic and anticipated degradation of roads and lands in the vicinity of the facility.

GAI understands that the Project will consist of approximately 830 acres and will include solar photovoltaic panels and associated racking (approximately 80MWac), 22 inverters, and a substation generation step up (GSU) transformer that will connect to East Kentucky Power Cooperative's Flemingsburg-Spurlock 138kV transmission line located onsite. The Project is located near the City of Flemingsburg in Fleming County, KY, and its address is 1258 Old Convict Road Flemingsburg, KY 41041. The Project is not located within the limits of any city. There is no planning or zoning commission with jurisdiction over the site nor local set-back requirements.

- Refer to Figure 1 for the Project Location and Figure 2 for the Preliminary Site Plan.

2.0 Sound Impact Evaluation

GAI evaluated the anticipated peak and average sound levels associated with Project construction and operation at the Project site. The Project is located in unincorporated Fleming County (northwest of Flemingsburg), and Fleming County does not have a noise control ordinance.

The area surrounding the Project location consists of parcels designated as either Agricultural, Residential or Agricultural/Residential in use as well as several Residential Neighborhoods as defined by KRS 278.700(6).

The local sound environment is currently dominated by several existing significant sources of sound, which may be classified as sources of noise by sensitive receptors. These existing sources primarily consist of primary and secondary roadways including KY Route 559 (Old Convict Road), KY Route 1200 (Helena Road), and KY Route 11 (Maysville Road). Additional, transient, and less significant sources of noise typical to these types of areas may also be present.

Because there will be variations to the layout over time as the Project enters later stages of development, Fleming Solar has identified a Potential Project Footprint within the Project Boundary. The Project Boundary is defined as the outer parcel boundaries for any parcel that is the subject to a lease, purchase, or easement through an existing option agreement, which allows for construction activities or the operation of Project components on that parcel. The Potential Project Footprint represents the furthest extent that generating equipment will be located in the Project's final design within the Project Boundary. This area will be enclosed with a security fence. Fleming Solar established the Potential Project Footprint using a setback of 300 feet from the Project Boundary if there is a nearby residence and 50 feet from the Project Boundary if there is no nearby residence. For the purpose of establishing the Potential Project Footprint, residences are considered "nearby" if they are located within 300 feet of the Project Boundary. Figure 3 (Potential Project Footprint and Nearest Residences Map) is included for reference and shows residences in the vicinity of the Project. Individual residences that are Non-Project Landowners are denoted with black dots, and those individual residences within 300 feet of the Project Boundary (aka Nearby Residences) are noted with aqua circles. Residences belonging to Project Landowners are noted as white squares.

In addition to establishing the Potential Project Footprint, Fleming Solar is proposing the following setbacks for operating equipment:

- Substation GSU transformer/HVAC:
  - 300 feet from the Project Boundary
- Inverters:
  - 300 feet from the Project Boundary adjacent to non-participating parcels with nearby residences
  - 150 feet from the Project Boundary adjacent to non-participating parcels without nearby residences.
- All other equipment:
  - 300 feet from the Project Boundary adjacent to non-participating parcels with nearby residences
  - 50 feet from the Project Boundary adjacent to non-participating parcels without nearby residences
  - 50 feet from adjacent roads

Residences noted as Noise Sensitive Areas (NSAs) were determined using existing and publicly available aerial imagery for the Project area surrounding the proposed site. With the exception of one church 350 feet outside of the Potential Project Footprint, no other NSAs, such as schools, hospitals, nursing homes, parks, or cemeteries, etc. were identified. Professional judgement was used to estimate which structures within the study extents meet the criteria of sensitive receptors.

Distances of Nearest Residences to inverters and to the Potential Project Footprint are provided in Table 1.

Table 1

Proposed Distances to Residences

Nearby Residence ID	Distance to Nearest Inverter (feet)	Distance to Potential Project Footprint (feet)
1	1,456	415
2	1,646	455
3	1,570	421
4	1,551	460
5	1,368	416
6	1,316	547
7	911	326
8	1,065	355
9	1,207	353
10	1,328	553
11	1,414	620
12	1,147	434
13	1,345	474
14	1,169	426
15	1,092	414
16	1,289	509
17	1,273	453
18	1,255	367
19	1,420	452
20	1,489	507
21	736	362
22	874	486
23	884	388
24	858	375
25	901	436
26	921	402
27	1,040	529

2.1 Sound Level During Facility Construction

During construction of the Project, sound levels generated by equipment used on the site are anticipated to range from 70 to 125 A-weighted decibels (dBA) at the source, based upon professional judgement and experience of equipment in typical use for similar types of projects.[1]

[1] Also see: https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm Table 9.1 RCNM Default Noise Emission Reference Levels and Usage Factors Federal Highway Administration (FHWA) Construction Noise Handbook for example construction equipment and their associated sound levels.

Construction activities are anticipated to be transient in nature and of a limited duration, ending once construction has been completed, and taking place daily between 7:30 AM to 7:00 PM, with two exceptions: (1) pile driving activities within 1,000 feet of a non-participating will be restricted to the hours of 9:00 AM - 5:00 PM, and (2) no heavy construction activities (including pile driving) will take place prior to noon on Sundays.

The loudest source from construction is expected to be pile driving equipment (approximately 125.0 dBA at three feet from source) used in the construction of the solar panel racking system (Table 2).

Table 2

Construction Equipment Noise Levels at Distance (Typical)

Anticipated Noise Produced by Very Loud Construction Equipment (pile driver)	
Distance from Source to Receptor (feet)	**Sound Level Experienced at Receptor (dBA)**
25	106.6
50	100.6
100	94.5
150	91.0
200	88.5
300	85.0
500	80.6
1,000	74.5
1,500	71.0

During the construction phase of the Project, sound level impacts at 300 feet from active pile driving operations would be approximately equivalent to the sound level produced by the use of a household hairdryer (Table 3).

Table 3

Household Noise Levels (Typical)[2]

Source	dBA
Air Conditioning	50.0 to 75.0
Clothes Dryer	50.0 to 75.0
Clothes Washer	60.0 to 75.0
Dishwasher	50.0 to 70.0
Electric Blender	80.0 to 90.0
Garbage Disposal	70.0 to 95.0
Hair Dryer	60.0 to 95.0
Refrigerator	50.0
Television	70.0
Toilet Flush	75.0 to 85.0

The pile driving phase of the work requires the associated equipment to move around the site. Once each pile is installed, the pile driver moves to the next and does not remain in each area of the Project site for long periods of time. This results in short term impacts associated with construction to the surrounding area at each temporary location.

Construction sound levels other than the pile driving are not expected to exceed 125.0 dBA at the source.

As such, the impact to the local sound environment due to construction is anticipated to be minor and temporary.

2.2 Sound Level During Facility Operation

Based on profiles for equipment associated with solar energy production facilities, the following sound levels (at approximately three feet from source) are expected:

- Inverters (includes Medium Voltage transformers) - 74.0 dBA to 85.6 dBA each.
- Heating, Ventilation, and Air-Conditioning (HVAC) units - 67.0 dBA each.
- Project Substation GSU Transformer - 71.0 dBA each.

Sound levels generated by operating equipment are assumed to include all applicable sound sources within the equipment package (for example, fans, transformers integrated with the inverters, etc.). Tracking motors on the solar arrays were not included as their sound levels are generally 40.0 dBA at 10 feet and well below the existing anticipated background noise levels.

Based on Figure 2 (Preliminary Site Plan), operating equipment including the Project substation GSU transformer, inverters, etc. will be located at sufficient distances back from the established security fence and nearby non-participating residences. The location of the Utility Substation, along KY Route 559 (Old Convict Road) and adjacent to the transmission line, was determined by the transmission owner, East Kentucky Power Cooperative. Fleming Solar located the Project substation GSU transformer and Operations and Maintenance (O&M) Building on the northern side of the substation

[2] Source: Noise Levels of Common Household Sounds (Infographic) https://www.captel.com/2019/10/noise-levels-of-common-household-sounds-infographic/

area to further minimize noise impacts. Similarly, the location of panels and inverters were prioritized to be setback as far from the roadways as possible.

To quantify the sound level impacts of the Project on nearby NSAs, Tables 4, 5, and 6 are provided to illustrate how sound level contributions for each piece of equipment change over distance from a given source.

Table 4

Source: Inverters (Typical)

Distance (feet)	dBA
3	85.6
50	61.2
100	55.1
150	51.6
200	49.1
300	45.6
400	43.1
800	37.1

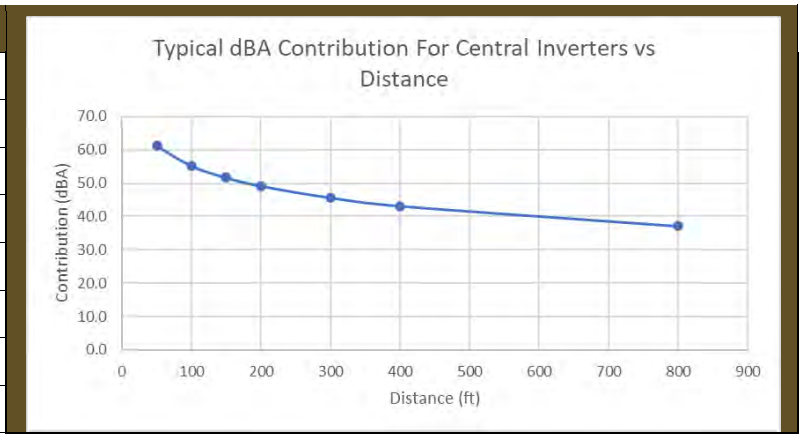


Table 5

Source: HVAC Units

Distance (feet)	dBA
3	67.0
50	42.6
100	36.5
150	33.0
200	30.5
300	27.0
400	24.5
800	18.5

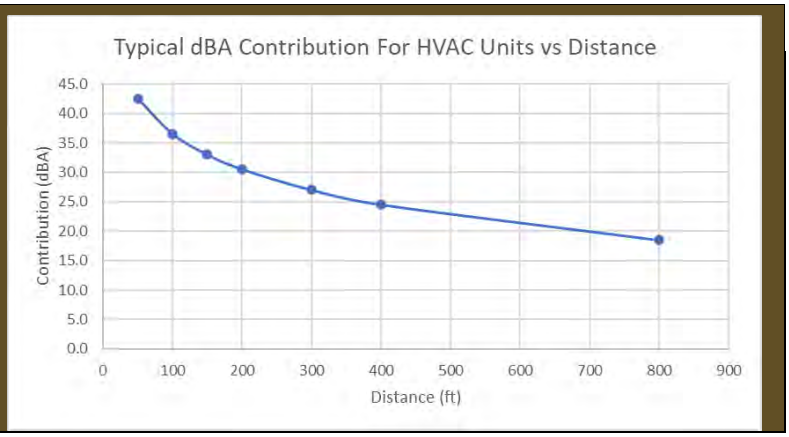
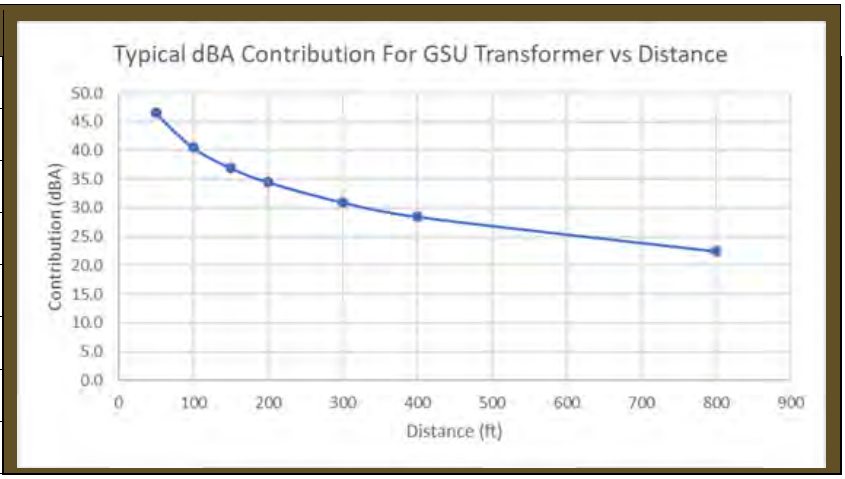


Table 6

Source: Substation GSU Transformer

Distance (feet)	dBA
3	71.0
50	46.6
100	40.5
150	37.0
200	34.5
300	31.0
400	28.5
800	22.5



Each of the anticipated sound level contributions were determined for these sources using the inverse square law, which dictates that sound levels at a distance are inversely proportional to the square of the distances.

Inverse Square Law:

$$\frac{I_2}{I_1} = \left[\frac{d_1}{d_2}\right]^2$$

Where I_1 and d_1 are the sound level (I_1) measured at the distance from the source (d_1) and I_2 and d_2 are the sound level (I_2) at the distance of concern from the source (d_2).

Because sound levels are logarithmic in nature, they must be converted to linear scale before plugged into the Inverse Square Law. The conversion from logarithmic to linear sound pressure levels is performed by the formula: SPL = $10^{(dBA/10)}$. Once converted to linear scale, sound pressure levels are calculated for the new distance and converted to the logarithmic scale via the formula: dBA = 10*LOG(SUM[SPLs]). This provides the dBA contribution of the sources at a given distance as shown in the tables above.

2.3 Sound Level Impact During Facility Operation

Based on GAI's professional judgement and experience, the ambient daytime outside sound level for the area surrounding this Project is anticipated to average between 50.0 and 60.0 dBA. The areas immediately adjacent to the roadways described above will experience higher outdoor sound levels between 60.0 to 70.0 dBA depending on the time of day and traffic levels. These assumptions are backed up by the recently performed ambient sound study for another local project (AEUG Fleming Solar, LLC, May 2021).[3] This report and study was previously submitted to the Siting Board.

As described above, Fleming Solar is proposing the following minimum setbacks for Project equipment:

[3] Fleming Solar Facility Project: Baseline Sound Monitoring, May 2021. Prepared for AEUG Fleming Solar, LLC by SWCA Environmental Consultants.

- Substation GSU transformer/HVAC:
  - 300 feet from the Project Boundary
- Inverters:
  - 300 feet from the Project Boundary adjacent to non-participating parcels with nearby residences
  - 150 feet from the Project Boundary adjacent to non-participating parcels without nearby residences.
- All other equipment:
  - 300 feet from the Project Boundary adjacent to non-participating parcels with nearby residences
  - 50 feet from the Project Boundary adjacent to non-participating parcels without nearby residences
  - 50 feet from adjacent roads

Based on information presented in Section 2.2, Table 4, it is anticipated at 300 feet the sound level contribution from the operation of a typical inverter will be approximately 45.6 dBA.

It is anticipated at 100 feet the sound level contribution from the operation of the GSU transformer will be approximately 40.5 dBA. It is anticipated at 150 feet the sound level contribution from the operation of the HVAC units will be approximately 33.0 dBA.

Table 7 illustrates how the cumulative effect of sound levels may be estimated without rigorous mathematical calculations (for example, detailed iterative modeling, terrain and atmospheric effects) for each scenario, thus allowing us to assess the cumulative impact of the equipment on ambient sound levels.

Table 7

How to Add Decibels[4]

When the numerical difference in dBA between two sound levels is:	Add this dBA amount to the higher of the two sound levels for a total:
0.0	3.0
0.1 to 0.9	2.5
1.0 to 2.4	2.0
2.4 to 4.0	1.5
4.1 to 6.0	1.0
6.1 to 10	0.5
10	0.0

Based on the above table, if the ambient sound level environment is 50.0 dBA (the lower end of the estimated range), the contribution from a typical inverter at 300 feet (estimated as 45.6 dBA) is +1.0 dBA. This is determined by matching the decibel difference of the ambient environment and the source contribution (50.0 - 45.6 = 4.4 dBA) in the left hand column and reading across to the right hand column. In this case, the dBA increase would be approximated to be 1.0 dBA. This value is

[4] Adding Decibels (link: https://www.engineeringtoolbox.com/adding-decibel-d_63.html)

added to the larger of the two values and the ambient sound level environment would become 51.0 dBA (50.0 dBA + 1.0 dBA).

For other sources proposed related to this Project, and for an ambient sound level environment of 50.0 dBA, it would remain approximately 50.0 dBA based on the following impacts at their designated non-participating residences setback:

- HVAC Units: 27.0 dBA (10+ dBA difference and 0.0 dBA contribution).
- Substation GSU Transformer: 37.0 dBA (10+ dBA difference and 0.0 dBA contribution).

The average human ear's sensitivity to sound level changes is plus or minus three dBA.[5] Changes to the sound level below this threshold are deemed to be insignificant.

Thus, in the cases described, the ambient sound level environment would not be significantly impacted by the installation of a single source at the prescribed setbacks to a residential structure. It is anticipated that the inverters will generate the only potential sound level impact on the surrounding area during operation. That impact is limited to approximately 1.0 dBA at 300 feet away, which is below the average human ear's sensitivity to sound level changes. Solar inverters are expected to operate only during daylight hours, further limiting the impact.

3.0 Traffic Impact Evaluation

GAI assessed the impact of the Project's operation on road and rail traffic to and within the Project, including the resulting anticipated levels of fugitive dust and anticipated degradation of roads and lands in the vicinity of the Project.

3.1 Existing Road Network and Traffic Conditions

The Project will be located around one-mile northwest of Flemingsburg. The Project will be constructed north of KY Route 559 (Old Convict Road), west of KY Route 1200 (Helena Road), and west of KY Route 11 (Maysville Road). Refer to Figure 2 for the Preliminary Site Plan and Figures 2 and 4 showing the proposed access entrances to KY Route 559 (Old Convict Road) and KY Route 11 (Maysville Road). These routes are not part of the National Highway System (NHS). Their typology are as follows:

- KY Route 559 (Old Convict Road) is classified as a Local Road west of KY Route 1200 (Helena Road) and as a Minor Collector east of KY Route 1200 (Helena Road). The roadway is two lanes with double yellow pavement markings and a cartway width of 18 feet west of KY Route 1200 (Helena Road) and 20 feet east of KY Route 1200 (Helena Road). Much (but not all) of the roadway has vegetative shoulders a minimum of one foot in width.
- KY Route 1200 (Helena Road) is a two-lane Minor Collector with white edgelines (no double yellow centerline) and a cartway width varying between 16 and 18 feet, much of it with at least one-foot vegetative shoulders.
- KY Route 11 (Maysville Road) is a two-lane Minor Arterial with a cartway width of 46 feet consisting of one 12-foot lane and one 11-foot right shoulder in each direction, marked by a double yellow centerline and white edgelines.

The nearest NHS Routes are KY Route 9 to the north, US Route 68 to the west, and I-64 to the south. KY Route 9 is 11 driving miles north of the site entrance along KY Route 11 (Maysville Road).

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[5] Techniques for Reviewing Noise Analyses and Associated Noise Reports FHWA-HEP-18-067, 1.3 Traffic Noise Terminology (link: https://www.fhwa.dot.gov/Environment/noise/resources/reviewing_noise_analysis/)

US Route 68 is 9 driving miles to the west along KY Routes 559, 860, 170, and 161. I-64 is located either 25 driving miles to the south along KY Routes 11, 32, 111, 158, and 801, or 32 miles to the south along KY Route 11.

Figure 4 shows the construction site access points and Average Annual Daily Traffic (AADT) information from Kentucky Transportation Cabinet (KYTC) count station locations for KY Route 559, KY Route 1200, KY Route 11, and KY Route 57 (that joins with KY Route 11), which is summarized in Table 8.

Table 8

Hourly and Daily Traffic Volumes along State Highways Near the Project

Station ID[1]	Roadway	AADT	Peak Hour Traffic Volume[2]	Year Counted
035770	KY 559	147	18	2018
035010	KY 559	717	87	2019
035056	KY 559	1,200	182	2017
035767	KY 1200	361	47	2017
035058	KY 11	6,006	631	2018
035096	KY 11	7,528	716	2017
035A43	KY 11/57	6,914	706	2018
035094	KY 11/57	6,953	668	2019
035102	KY 57	2,147	258	2018

Notes:

1 Station ID and traffic data from KYTC's Interactive Statewide Traffic Counts Map.

2 Peak Hour Traffic Volume calculated based on K Factors shown in Figure 4. (K Factor represents the proportion of ADT occurring in a peak hour).

3.2 Proposed Site Entrances

The Project will require two site entrance driveways and two additional temporary construction entrances, which are identified on Figure 2 and Figures 4 through 6. The Main Plant Entrance and the Construction Laydown Entrance will be along KY Route 559 (Old Convict Road). The North Entrance and the North Construction Access Easement will be along KY Route 11 (Maysville Road), since there will not be an internal connection to this area of the Project. Driveways from KY Route 559 (Old Convict Road) and the Northern Plant Entrance from KY Route 11 (Maysville Road) will be new connections. The construction access easement from KY Route 11 (Maysville Road) will connect to an existing residential driveway, opposite Ledan Street.

- The Main Plant Entrance will be along KY Route 559 (Old Convict Road), and it will remain open once construction is completed. It will provide access to the Substation and the O&M Building.
- The Construction Laydown Entrance will be along KY Route 559 (Old Convict Road) east of the Main Entrance. It will provide access to the construction laydown area and thus will be used for general construction deliveries. This driveway will be closed once construction has been completed.
- The Northern Construction Access Easement will be along KY Route 11 (Maysville Road), consistent with an existing driveway. This driveway will only be used during construction of the northern portion of the Project.

- The Northern Plant Entrance will be constructed along KY Route 11 (Maysville Road), and it will remain open once construction is completed. It will provide access to the northern portion of the Project.

3.3 Traffic Impacts During Project Construction

A formal Traffic Impact Study is not required for construction based on KYTC 2012 policy, Traffic Impact Study Requirements, so the following section describes anticipated Project construction trips compared to the most recently available KYTC traffic counts.

Construction of the Project is expected to take approximately 12 months (Eastern Power Cooperative's substation may take up to 15 months). On-site workers will perform one daily 10-hour shift each working day, five to six construction days per week. Employee headcounts are expected to be below 100 for six of the months, between 100 and 200 for three of the months, and between 200 and 250 for three of the months. Should the substation take 15 months and elongate the schedule, employee headcounts would be expected to be below 100 for seven of the months, between 100 and 200 for four of the months, and between 200 and 250 for four of the months. Once a construction certificate is received from the Siting Board, Fleming Solar, will select an engineering, procurement, and construction (EPC) contractor. The EPC contractor will work with local property owners to establish an off-site remote parking location(s). Up to two shuttle bus round trips per hour are anticipated from remote parking to the site on average, though during periods of maximum employment there may be up to five shuttle bus round trips for employee arrival and departure peaks as necessary. Due to the nature of shuttle system, peak hour employee exiting trips will effectively be metered, since only one vehicle load of employees can exit the remote parking area at a time. This will reduce the potential for traffic impacts. An on-site parking area holding approximately 50 vehicles will be located near the O&M Building along the laydown area identified on the site plan. Access will be through the Construction Laydown Entrance. This parking area will hold around 25 visitor spaces and around 25 company vehicles for on-site transporting of personnel, tools, equipment, etc. Employee housing will not be provided. Table 9 gives the anticipated monthly number of construction employees:

Table 9

Anticipated Number of Employees per Month during 12-Month Project Construction

Month[1]	1	2	3	4	5	6	7	8	9	10	11	12
Employees	25	35	60	85	150	185	220	250	250	130	85	30

Note:

[1] Project construction schedule dependent on Eastern Power Cooperative's substation construction schedule which could be as long as 15 months.

Site construction deliveries are anticipated to average five deliveries per day with an expected maximum of ten deliveries per day. Routing will be along state highways from the source of the load, so trucks may use any allowable state highway. Figure 5 provides a background traffic distribution showing traffic patterns along KY Route 559 (Old Convict Road) to the Main Plant Entrance/ Construction Laydown Entrance and along KY Route 11 (Maysville Road) to the Northern Plant Entrance/Northern Construction Access Easement. Worker shuttles and equipment deliveries would be routed though the Construction Laydown Entrance. Construction vehicles will then proceed to the northern entrances as needed when that portion of the Project is under construction. Typical deliveries will be made on 40 ton (max weight) semi-trailers and flatbed trailers. Equipment delivered to the Project site is anticipated to include dozers, end loaders, and pickup and dump type trucks for initial clearing and grubbing, trenching, and other site clearing activities. General construction equipment to build the Project is anticipated to include plow or trenching equipment, forklifts, end loaders, pile drivers, and small mobile cranes. Concrete delivery trucks for building foundations will use the Construction Laydown Entrance from KY Route 559 (Old Convict Road) and will be scheduled for approximately three days. Deliveries of larger site construction components, such as work trailers and

larger cranes, will occur infrequently. Equipment deliveries for Project installation will occur from months five through 12 (assuming a 12-month schedule) once the site has been prepared, with most deliveries and loads within the maximum truck sizes and frequencies described above.

Oversized trucks will be required infrequently. These trucks will be permitted separately and will adhere to their permitting conditions by the transport contractor. The largest of these permit loads is anticipated to be the site transformer, weighing approximately 140 tons. It will be transported on a "low boy" specialty, multi-axle trailer, pulled by standard semi-tractor. This delivery will use the KY Route 559 (Old Convict Road) Construction Laydown Entrance.

Table 10 provides a summary of typical daily, maximum daily, typical peak hour, and maximum peak hour construction vehicle traffic to the site. Refer to Figure 6 for the peak hour volume distribution showing the maximum number of vehicles expected to use the Project during the highest-volume hour, conservatively estimating vehicles traveling to the KY 559 (Old Convict Road) Main and Construction Entrances and then to the northern entrances during the same hour. Figure 6 compares these peak hour volumes with pre-construction volumes. Construction worker trips commuting to the off-site employee parking lot are not shown since final agreement for a remote site(s) will not be finalized until after the construction permit is awarded. Due to the temporary nature of construction trips, 10-hour construction days, employees parking off-site, and the impact of shuttling employees spreading out the arrival and departure peaks, employee trips are not anticipated to create level of service degradations during the typical 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM peak periods.

Table 10

Anticipated Daily and Peak Hour Construction Vehicles to the Project per Entrance

Vehicle Type	Average Daily Vehicles[1]	Maximum Daily Vehicles[2]	Average Peak Hour Vehicles[3]	Maximum Peak Hour Vehicles[4]
Remote Parking Site				
Employee	125	250	125	250
Shuttle[5]	15	20	2	5
Totals	**140**	**270**	**127**	**255**
KY Route 559 Main Entrance and Construction Laydown Entrance				
Shuttle[5]	15	20	2	5
On-Site Vehicle[5]	25	75	10	27
Delivery Truck	5	10	2	2
Oversized Truck	1	5	1	1
Visitor	4	25	5	25
Totals	**50**	**135**	**20**	**60**
KY Route 11 North Entrance				
Shuttle[5]	15	20	2	5
On-Site Vehicle[5]	25	75	7	27
Delivery Truck	5	10	1	3
Totals	**45**	**105**	**10**	**35**

Notes:

1 Assume zero to two shuttles per hour and 25 on-site vehicles making external trips once per day. Shuttles are assumed to have a 50-person capacity.

2 Assume five shuttles for each peak hour and zero to one at other times of the day. Assume each of the 25 on-site vehicles making three external trips per day and a maximum of five oversized trucks bringing in construction trailers, large cranes, etc. to the main site. Assume each visitor space being used.

3 Assume two shuttles per peak hour, plus 1/3 to 1/4 of on-site vehicles making external trips.

4 Assume maximum employment, additional deliveries per peak hour, and each visitor space being used.

5 Since shuttles and on-site vehicles make multiple trips per day, assume volumes are per round trip.

A roadway approach to a signalized intersection is generally considered to be saturated if the flow exceeds 1,800 vehicles per hour per approaching lane, according to the *Highway Capacity Manual*. Two-way stop-controlled intersections have lower capacities for the stop-controlled approaches, but it ultimately depends on the crossing vehicular flow. The intersection of KY Route 11 (Maysville Road) and KY Route 57 is signalized. At the intersection of KY Route 559 (Old Convict Road) and KY Route 11/57, KY Route 559 (Old Convict Road) is stop controlled and KY Route 11/57 is free flowing. Table 7 shows the maximum pre-construction peak hour volume throughout the Project area to be fewer than 720 vehicles per hour (two-way), and fewer than 200 vehicles per hour on KY Route 559 (Old Convict Road). Table 9 shows the average volume of Project-generated employee and construction vehicles to be under 160 vehicles per hour and the maximum volume to be under 340 vehicles per hour. Since the worst-case impact combining existing and Project-generated trips is anticipated to be around 1,000 vehicles per hour on KY Routes 11/57 and under 550 vehicles per hour on KY Route 559 (Old Convict Road), all area roadways are anticipated to be within capacity thresholds during construction.

Encroachment Permits will be required from the relevant permitting authorities and will be the responsibility of the EPC contractor. Additional permits/agreements could be required for roads beyond the NHS depending on the route(s) the EPC contractor determines will be needed for trucks to the site. Permitting will be performed by the contractor once Fleming Solar selects an EPC contractor and these considerations finalized. Construction is not anticipated to encroach onto State right-of-way other than vehicles accessing the site from the Main Plant Entrance or Construction Laydown Entrance along KY Route 559 (Old Convict Road) and Northern Plant Entrance and Northern Construction Access Easement along KY Route 11 (Maysville Road).

3.3.1 Traffic Mitigation Measures During Project Construction

In order to mitigate the potential construction traffic impacts, The EPC contractor will provide adequate traffic control signs and devices that are compliant with Manual on Uniform Traffic Control Devices. These will include work zone signage and KYTC-certified flaggers to facilitate safe construction deliveries. Due to its narrow width, the contractor will need to conduct traffic stoppages on KY Route 559 (Old Convict Road) during construction to accommodate larger trucks. With an AADT of 147 vehicles per day and a peak hour traffic volume of approximately 18 vehicles per hour, traffic impacts will be temporary in nature and will be minor. There may also be temporary stoppages along KY Route 559 (Old Convict Road), KY Route 1200 (Helena Road), and KY Route 11 (Maysville Road) to facilitate deliveries in and out of site driveways. Disruptions to local property owners will be coordinated during construction.

The construction contractor will document roadway conditions in accordance with all applicable transportation permits obtained from State and local road authorities before construction commences and will be responsible for restoring impacted roadway to pre-construction conditions as required through the permitting process. Consideration will be given to coordinating delivery schedules to minimize the need for trucks to pass each other on KY Route 559 (Old Convict Road). No improvements are anticipated to be required to existing roadways for Project construction.

3.4 Traffic Impacts During Project Operation

Due to the specific nature of the Project, trip generation is estimated based on anticipated staffing. The Project's will be staffed 24 hours a day during operation, with three eight-hour shifts per day. Two operators will staff each shift, plus occasionally the plant manager and warehouse attendant during the morning shift and one or two maintenance workers during the evening shift. Therefore, typical peak hour trips during operation will be four entering and four exiting trips. Total daily trips will be 20. Employees will use the Main Plant Entrance from KY 559 (Old Convict Road), with the North Plant Entrance from KY Route 11 (Maysville Road) only used for maintenance activities. Infrequent additional trips to the site could occur due to non-typical site conditions, though these would be minor in nature. Due to the low trip generation on low-volume rural roads, operation of the Project is not anticipated to adversely impact area traffic. A detailed traffic study is not required since it the Project's operational trip impact will be below the 100 peak hour trips per hour threshold detailed in KYTC's 2012 policy, Traffic Impact Study Requirements.

3.5 Traffic Impacts During Decommissioning

The decommissioning process, which starts after the Project has completed active production, is anticipated to take approximately 12 months, requiring approximately six employees to work eight-hour shifts, five days per week. Construction vehicle trips will also be required, though fewer in number and frequency than during construction. Traffic impacts are not anticipated.

3.6 Fugitive Dust Impacts

Land disturbance from Project construction may create fugitive dust emissions. Impacts are anticipated to be minor in nature due to the large size of the site and the low-density of housing and rural character of the area, though reasonably available control measures will be used to mitigate fugitive dust emissions. Measures will include using compacted gravel at all site driveway entrances and at the laydown yard. Internal roadways will either have compacted gravel or be watered periodically for dust suppression using water trucks.

The EPC contractor will be responsible for developing and implementing a dust control plan, which will include the following best practices:

- The contractor will identify and monitor each day's expected weather conditions, including precipitation and wind speed and direction, to anticipate what dust control measures will be needed. Disturbance areas will be minimized to the maximum extent feasible. Open piles will be covered.
- The contractor will construct and upgrade internal roads and driveways with compacted gravel as needed. Vehicles will be required to travel slowly along site roads (typically 10 miles per hour). Speed limits will be posted and enforced. Construction vehicles such as open bodied trucks will be covered while in motion, and soil loads shall be kept below the freeboard of the trucks. Water will be applied as needed in accordance with industry best practices to control dust along site roadways and to clean equipment and vehicles when needed. Under the KY Pollutant Discharge Elimination System, water used for dust control during Project construction is authorized as a non-stormwater discharge activity.

Once the Project is operational, the 20 daily employee trips will generally occur along the compacted, gravel-surfaced Main Entrance to the O&M Building, so long-term fugitive dust impacts are not anticipated. Infrequent trips throughout the site will be required for maintenance and landscaping activities.

3.7 Railroad Impacts

The Project will have no impact on railroad traffic as there are no railroads, spurs, or other rail facilities in the Project area. There is an active railroad one mile west of the Project boundary that runs alongside KY Route 170. Based on the low traffic volumes that currently exist along KY Route 559 (Old Convict Road) and KY Route 1200 (Helena Road), adverse impacts due to construction traffic are not anticipated.

3.8 Traffic Assessment Summary

Due to the low traffic volumes of existing roadways near the proposed Fleming Solar Project and the nature of temporary anticipated traffic impacts during construction and operation of the Project, overall level of service degradations are not anticipated. Some short-term traffic impacts to the nearby state highways in vicinity of site driveways are anticipated during deliveries, especially with occasional oversized vehicle use; however, appropriate traffic control such as warning signs and flaggers will be provided during construction to minimize traffic impacts. Roadway conditions will be maintained through the permitting process. Once completed, the Project will have two to four employees per shift, three shifts per day, so long-term traffic impacts will not be created due to the low number of trips. Fleming Solar will restore roadways impacted by construction as required through the permitting process. Dust impacts are anticipated to be minor, and the contractor will develop and implement a plan to minimize dust impacts.

4.0 Conclusions

The Noise and Traffic Studies Report concludes that anticipated noise and traffic impacts for the construction and operation of the Project will be minimal, and further detailed noise and traffic studies will not be required.

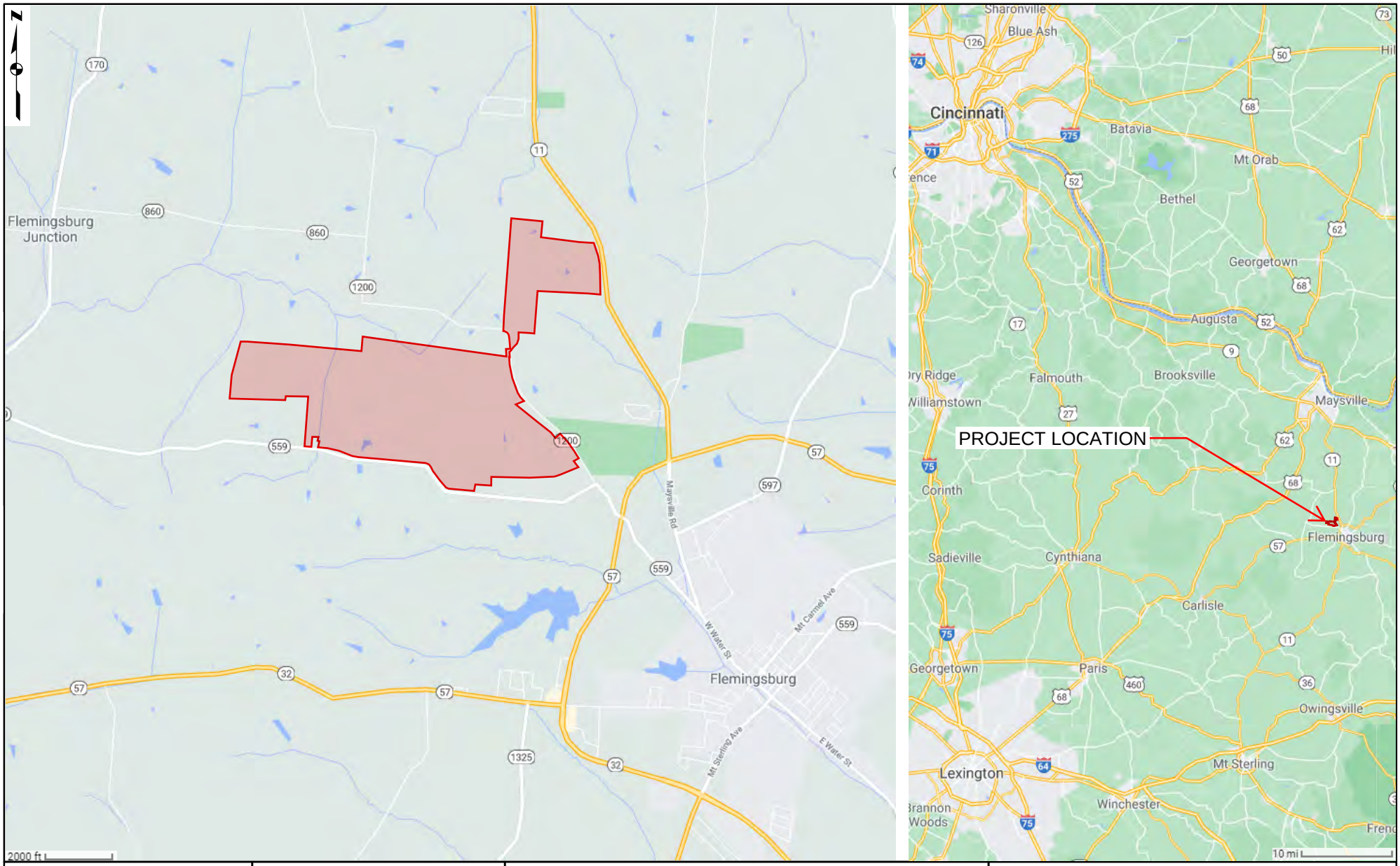
4.1 Sound Level Assessment Conclusions

It is GAI's professional opinion that the Project's impacts to the existing sound level environment will be minimal. This conclusion is based on the existing ambient environment and the nature of the Project including the construction process, types of equipment to be installed, setback distances proposed in Section 2.3, and planned operation.

4.2 Traffic Assessment Conclusions

The traffic assessment concludes that due to the low volume of construction and operation trips (anticipated at fewer than 100 construction vehicles per 10-hour workday along low-volume roads, an off-site shuttle for employee trips) and the utilization of appropriate safety measures such as work zone signage and flaggers, traffic impacts during construction will be minor. During Project operation, there will be four or fewer workers per shift, three shifts per day. Decommissioning will consist of six employees for 12 months. Therefore, additional traffic mitigation will not be required. The contractor will need to obtain an encroachment permit for work on this site and will minimize disturbance from fugitive dust.

FIGURES



REFERENCE:

© Google 2021

LEGEND

PROJECT LOCATION

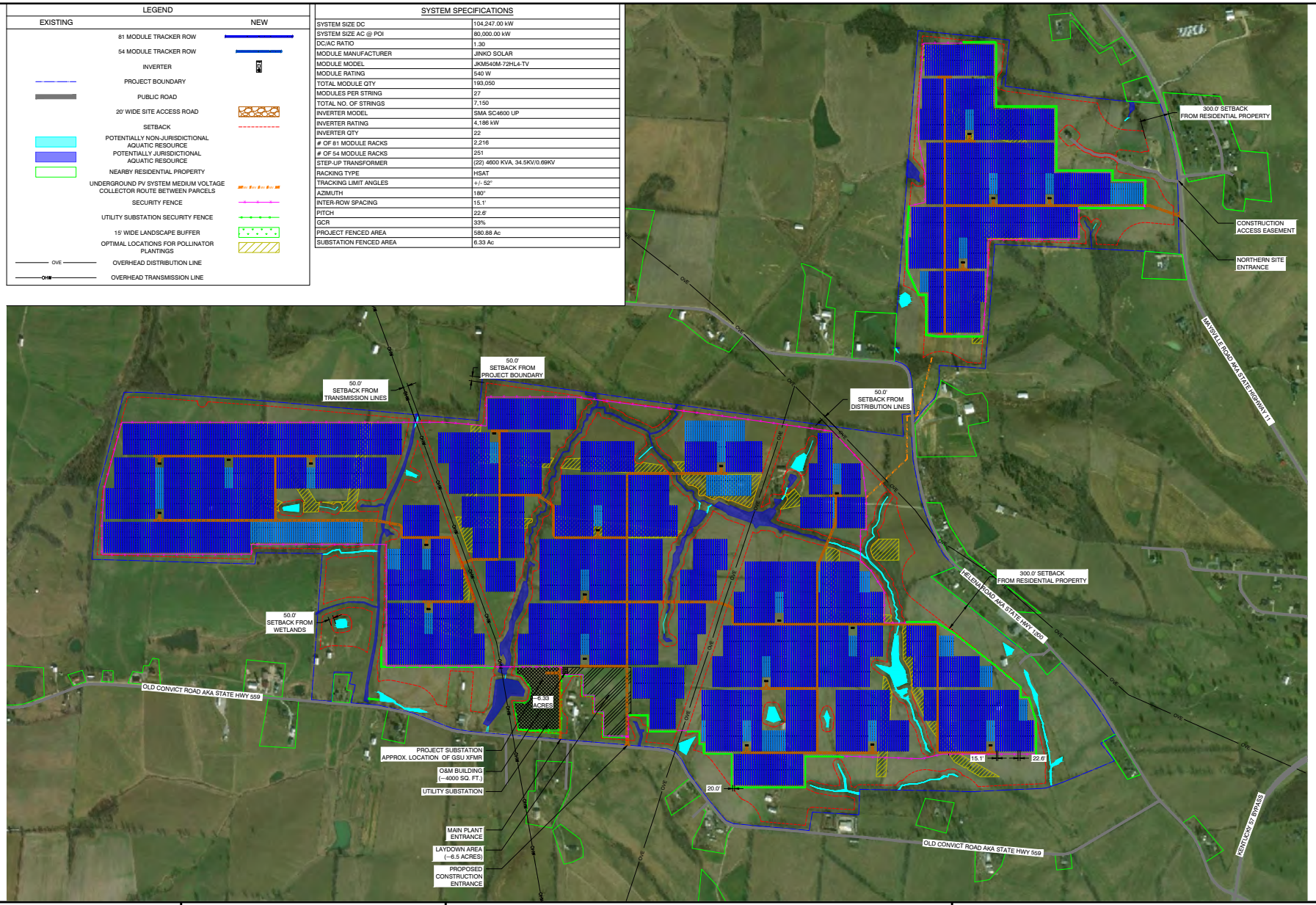
FIGURE 1
PROJECT LOCATION

FLEMING SOLAR, LLC
FLEMING SOLAR PROJECT

gai consultants

CORE SOLAR

DRAWN BY: TMW DATE: 3/17/2021
CHECKED: RAK APPROVED: 3/18/2021



REFERENCE:

© Fleming Solar Figure PV-100

Soleil Solutions Pte Ltd

FIGURE 2
PRELIMINARY SITE PLAN

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FLEMING SOLAR, LLC
FLEMING SOLAR PROJECT

CORE SOLAR

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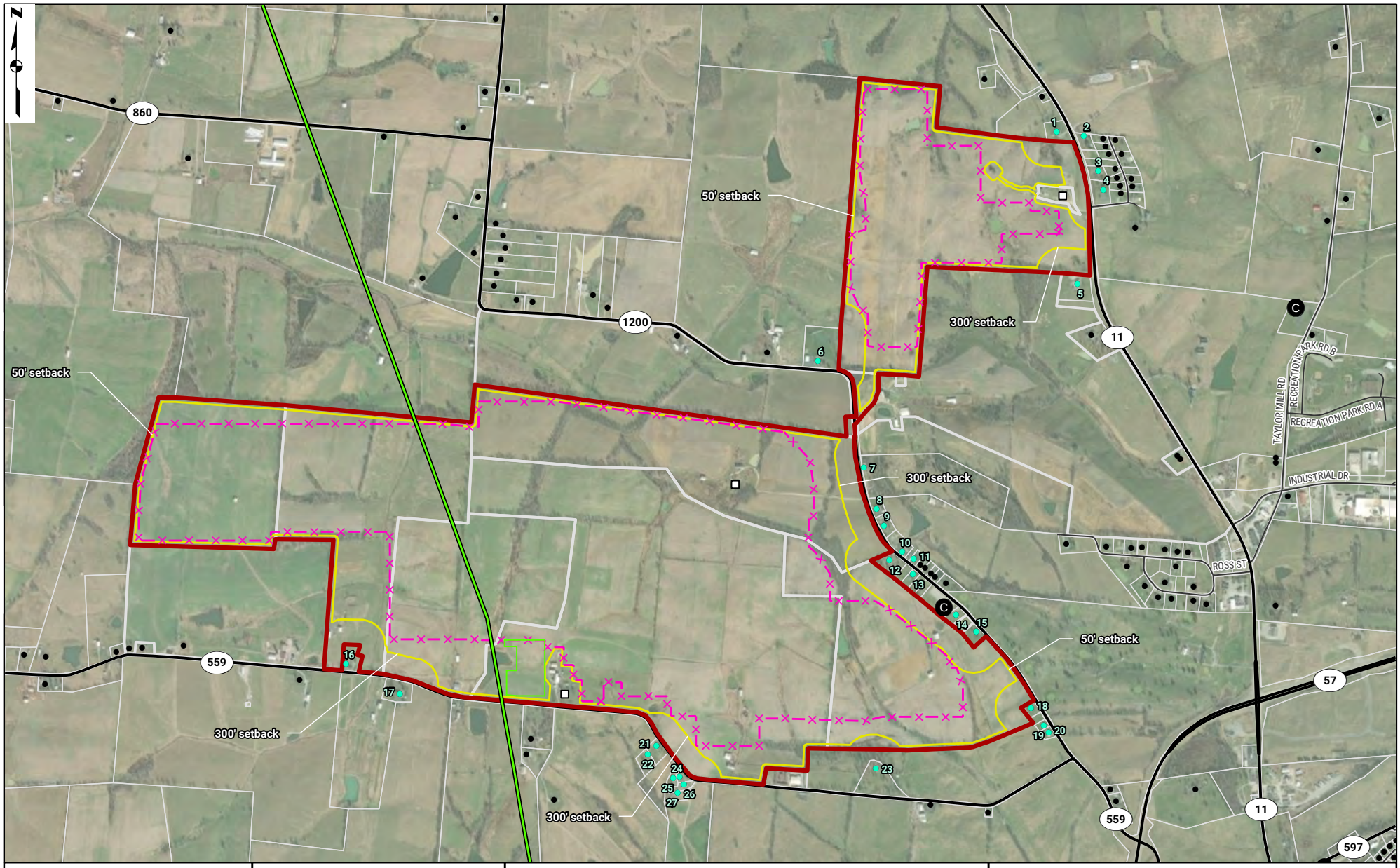
CHECKED: RAK APPROVED: 5/24/2021



REFERENCE:

SCALE: 0 600 1,200 Feet

LEGEND

- Project Boundary (encloses ~830 acres)
- Security Fence (from Prelim. Site Layout dated 5/3/2021)
- Utility Substation Security Fence
- Potential Project Footprint (~725 acres, total)
- Electric Transmission
- Nearest Residential Sturcture (within 300 ft of Project Boundary)
- Residential Structure
- Residential Structure (participating)
- Church
- Land Parcel
- Land Parcel (participating)

FIGURE 3
POTENTIAL PROJECT FOOTPRINT AND NEAREST RESIDENCES

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FLEMING SOLAR, LLC
FLEMING SOLAR PROJECT

CORE SOLAR

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CHECKED: RAK APPROVED: 5/24/2021

REFERENCE:

© KY NAIP 2018

KYTC TRAFFIC COUNTS

SCALE: 0.2 MI

LEGEND

PROJECT BOUNDARY

MAIN PLANT ENTRANCE

NORTHERN PLANT ENTRANCE

CONSTRUCTION LAYDOWN ENTRANCE

NORTHERN CONSTRUCTION ACCESS EASEMENT

DATA COLLECTION LOCATION / SEGMENT

ANNUAL AVERAGE DAILY TRAFFIC (AADT)

0-399

400 - 1599

1600 - 2399

2400 - 4999

5000 - 14999

FIGURE 4
TRAFFIC DATA & SITE ENTRANCES

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FLEMING SOLAR, LLC
FLEMING SOLAR PROJECT

CORE SOLAR

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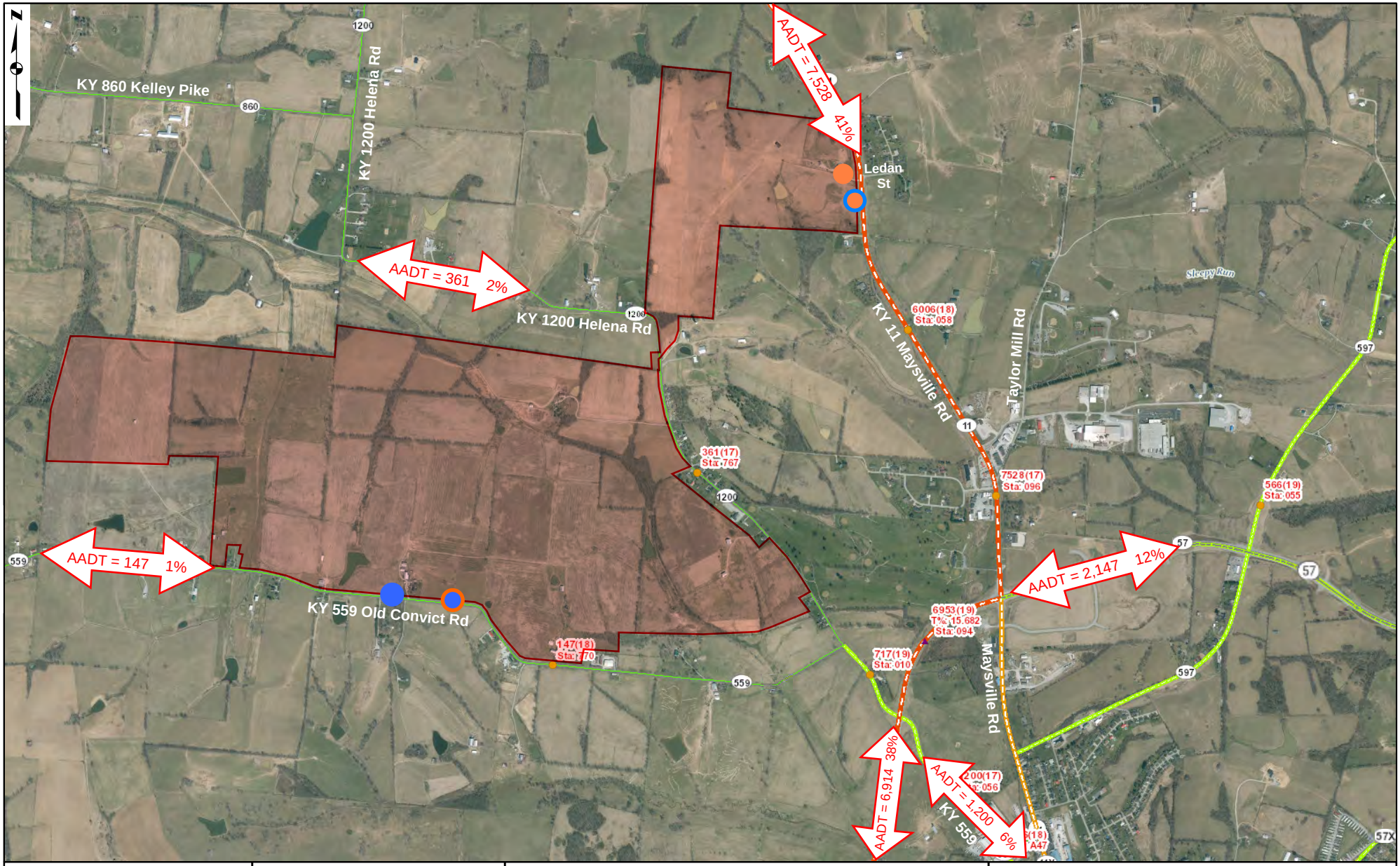

REFERENCE:
© KY NAIP 2018
KYTC TRAFFIC COUNTS

SCALE: 0.2 MI

LEGEND

- PROJECT BOUNDARY
- MAIN PLANT ENTRANCE
- NORTHERN PLANT ENTRANCE
- CONSTRUCTION LAYDOWN ENTRANCE
- NORTHERN CONSTRUCTION ACCESS EASEMENT
- AADT / DISTRIBUTION

ANNUAL AVERAGE DAILY TRAFFIC (AADT)
- 0-399
- 400 - 1599
- 1600 - 2399
- 2400 - 4999
- 5000 - 14999

FIGURE 5
BACKGROUND TRAFFIC DISTRIBUTION

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FLEMING SOLAR, LLC
FLEMING SOLAR PROJECT

CORE SOLAR

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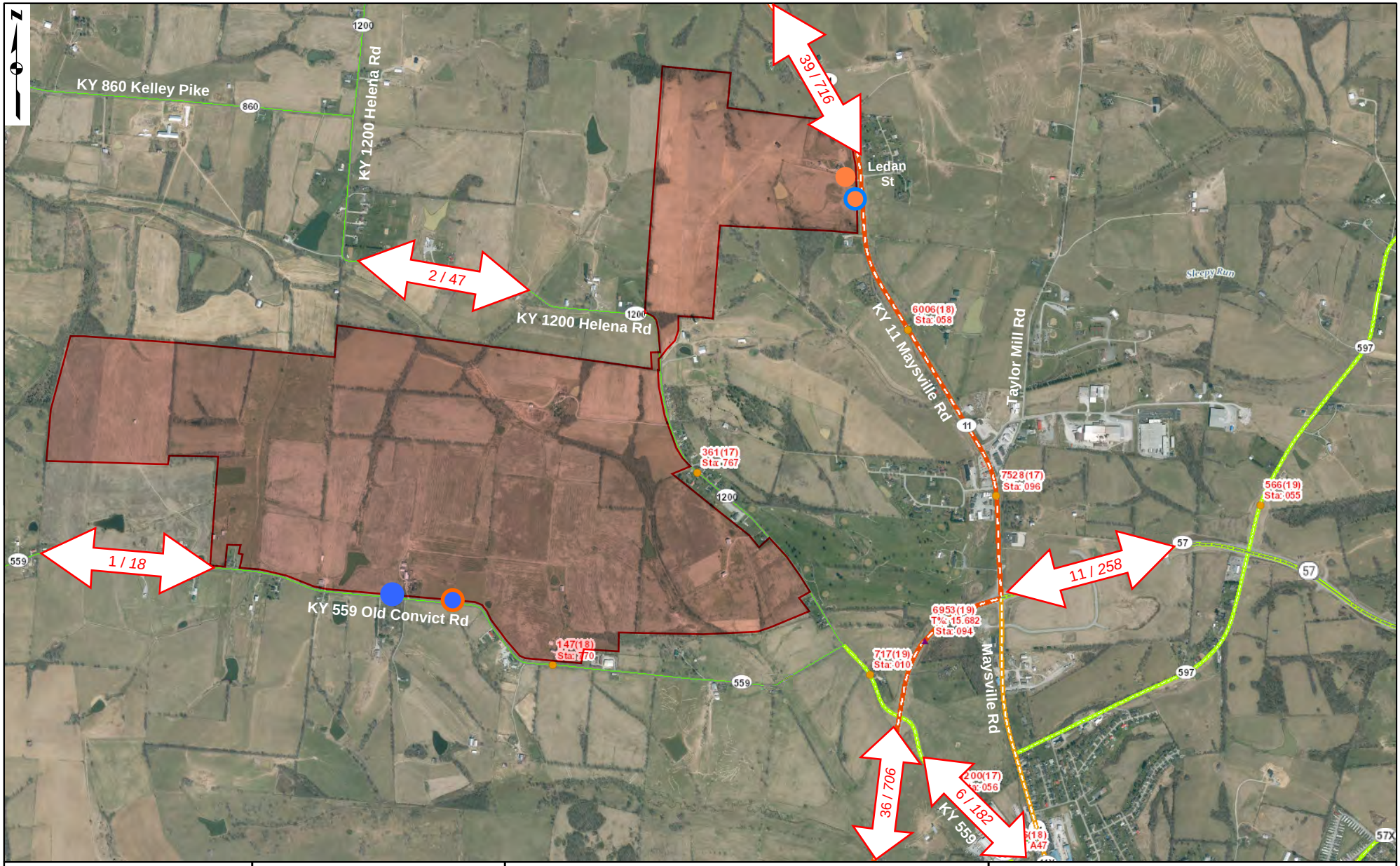
CHECKED: RAK APPROVED: 5/24/2021



REFERENCE:

© KY NAIP 2018
KYTC TRAFFIC COUNTS

NOTE:

MAXIMUM ANTICIPATED PEAK HOUR SITE VEHICLES BASED 60 VEHICLES TO THE MAIN AND CONSTRUCTION ENTRANCES AND 35 VEHICLES TO THE NORTH ENTRANCE, EXCLUDING EMPLOYEE TRIPS TO OFF-SITE PARKING.

SCALE: 0.2 MI

LEGEND

PROJECT BOUNDARY

MAIN PLANT ENTRANCE

NORTHERN PLANT ENTRANCE

CONSTRUCTION LAYDOWN ENTRANCE

NORTHERN CONSTRUCTION ACCESS EASEMENT

PEAK HOUR SITE VEHICLES / *PRECONSTRUCTION VEHICLES*

ANNUAL AVERAGE DAILY TRAFFIC (AADT)

- 0-399
- 400 - 1599
- 1600 - 2399
- 2400 - 4999
- 5000 - 14999

FIGURE 6
PEAK HOUR VOLUME DISTRIBUTION

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FLEMING SOLAR, LLC
FLEMING SOLAR PROJECT

CORE SOLAR

DRAWN BY: TMW
CHECKED: RAK
DATE: 5/24/2021
APPROVED: 5/24/2021

Appendix D

Visual Assessment

MEMO

gai consultants

Date:	May 17, 2021
Project No.	R210073.00
To:	Dominic Salinas, Senior Project Development Manager
From:	James Yost, Jacob Burns, Sharon Dodson, Enrique Bazan-Arias
Subject:	**Visual Assessment Report for Fleming Solar Project**

OVERVIEW

GAI Consultants, Inc. (GAI) is pleased to present this Visual Assessment Report to Fleming Solar, LLC (Fleming Solar) for the Fleming Solar Project (Project) located in Fleming County, Kentucky (KY). GAI was contracted by the Project's developer, Core Solar LLC (Core Solar).

GAI evaluated potential viewshed impacts to areas surrounding the Project by utilizing publicly available existing terrain data, a preliminary site layout with proposed landscape screen (dated March 24, 2021) provided by Fleming Solar, 3-D modeling software, and photo simulation software to render possible viewshed impacts. The preliminary site layout included proposed landscape screening locations based on a desktop review of existing landscape features. Once draft renderings of possible viewshed impacts were complete, Core Solar requested that GAI review the proposed landscape elements of the Project to make further recommendations for vegetative screen screening. The Landscape Review and Recommendations document is provided as an attachment, see Attachment D. The final assessment included herein offers photo simulations in winter and summer foliage at six viewsheds. Each viewshed was selected based on the consultants review of the layout provided. The layout was compared against site lines understood from the public right of way, topography enhanced site lines, and residential site lines in toward the project site. Once these were established, field reconnaissance was completed to take individual photographs and determine if other visual impacts were present.

The information in the following descriptions and visualizations contains a culmination of information provided by Fleming Solar as well as recommendations developed by GAI.

VIEWSHED 01

Existing Conditions: Existing view from Helena Road looking northeast (NE) contains agricultural field screened from neighboring property by mostly deciduous vegetation along property perimeter.

Proposed Conditions: Panels at top of slope would be partially visible during winter foliage conditions. To reduce visual impact of proposed panels, a proposed 15-foot-wide coniferous vegetative screen is to be placed around the solar structures. Combination of existing deciduous and proposed coniferous vegetation will prevent solar structures from being visible during summer and winter foliage conditions.

VIEWSHED 02

Existing Conditions: Existing viewshed from Old Convict Road looking east contains agricultural fields in the background, with a small pond and deciduous vegetation in the foreground. Existing powerline is also visible.

Proposed Conditions: A proposed 15-foot-wide coniferous vegetative screen is to be placed around the solar structures. The proposed screen will prevent panels from being seen from the roadway during summer and winter foliage conditions.

VIEWSHED 03

Existing Conditions: Existing viewshed from Old Convict Road looking NE contains agricultural fields in the background. The roadside contains various forms of deciduous vegetation, which provide minimal screening.

Proposed Conditions: Due to the existing rising terrain, a proposed 15-foot-wide coniferous vegetative screen sit adjacent to the solar panels. An additional 15-foot-wide vegetative screen has been placed along the property boundary to mitigate the viewshed impacts from Old Convict Road right-of-way.

VIEWSHED 04

Existing Conditions: Existing viewshed from the residential property off Helena Road looking southwest contains agricultural fields in the foreground. In the background, existing agricultural structures and deciduous vegetation are visible.

Proposed Conditions: Placement of panels will require the selective removal of agricultural structures. Panel areas are to be surrounded by 15-foot-wide coniferous vegetative screen, which will screen the proposed structures form the neighboring residential property. Due to existing topography, the top of some panels may be visible beyond the proposed vegetative screen, though view will be obscured.

VIEWSHED 05

Existing Conditions: Existing viewshed from the roadway contains an embankment in the foreground, with minimally visible agricultural fields in the background.

Proposed Conditions: Foreground embankment as well as setback of proposed solar facility will prevent any viewshed impacts.

VIEWSHED 06

Existing Conditions: Existing viewshed contains a fence in the foreground, with agricultural fields and existing vegetation in the background.

Proposed Conditions: Existing topography, vegetation, and setback of proposed solar facility will prevent any viewshed impacts.

SUMMARY

To the best ability, the completion of the Visual Assessment, has reviewed all possible scenarios where visual impacts could have been made by the community from the adjacent residences and along the right-of-way surrounding the project site. The assessment provided CORE Solar with a better understanding of where landscape screening would need to be considered, and thus they have made the proper alteration to their layout as seen in Attachment A (Overall Site Map). The facility is proposed to be well screened by existing and proposed

vegetation, as well as structures associated with the development. It should be noted that all screening solutions benefit those who reside nearest the project, while areas such as roadways and rural residential development located outside of built communities could have possible elevated views towards the project site. This does present the opportunity of views that could vary from completely screened to partially and unobstructed screening with every attempt made towards screening the proposed development.

Best,

Jacob Burns, PLA, ASLA
Senior Landscape Architect
GAI Consultants, Inc.

James Yost, PLA, ASLA
Senior Landscape Architect
GAI Consultants, Inc.

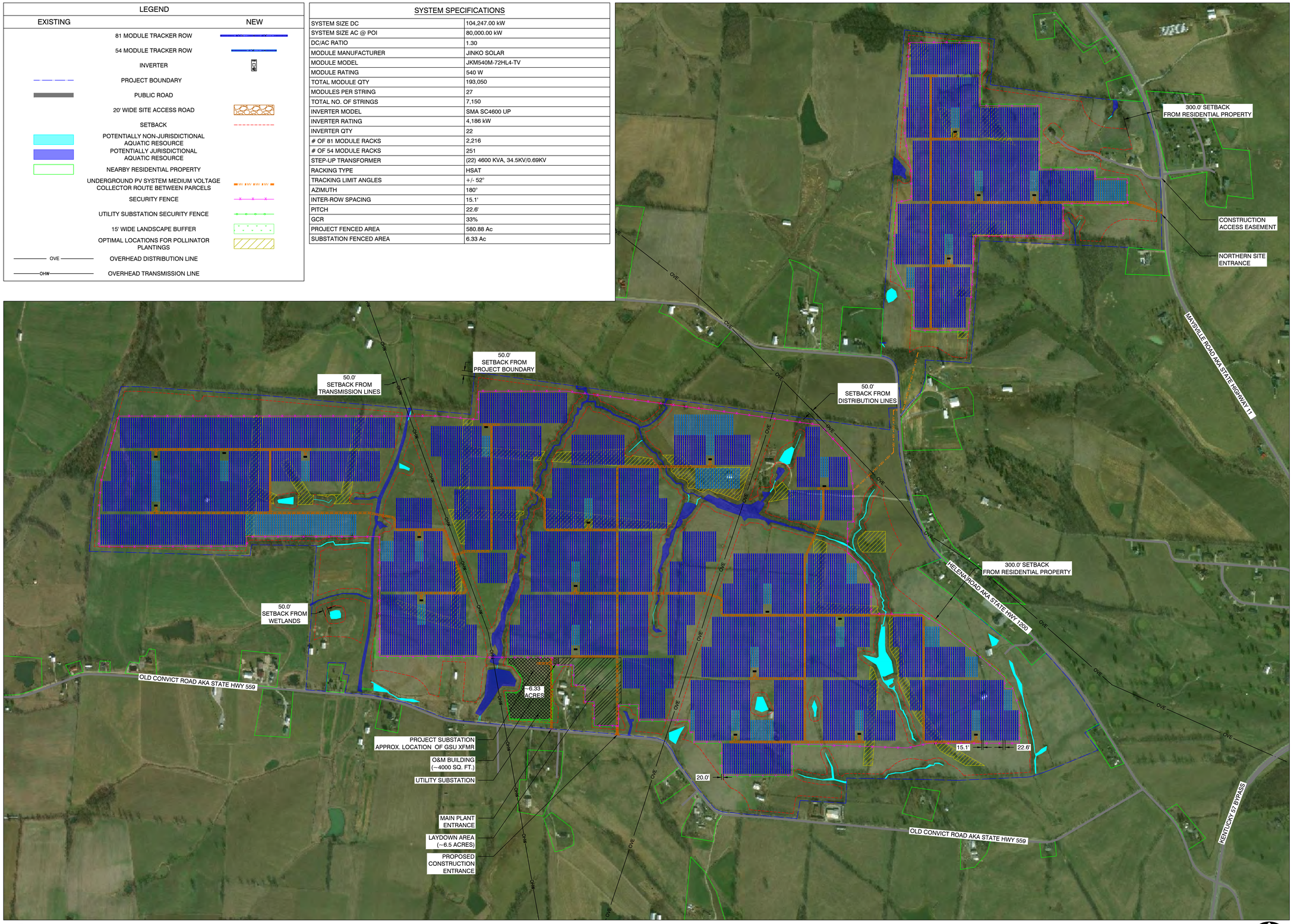
ATTACHMENT A
PRELIMINARY SITE LAYOUT

LEGEND

EXISTING		NEW
	81 MODULE TRACKER ROW	
	54 MODULE TRACKER ROW	
	INVERTER	INV
	PROJECT BOUNDARY	
	PUBLIC ROAD	
	20' WIDE SITE ACCESS ROAD	
	SETBACK	
	POTENTIALLY NON-JURISDICTIONAL AQUATIC RESOURCE	
	POTENTIALLY JURISDICTIONAL AQUATIC RESOURCE	
	NEARBY RESIDENTIAL PROPERTY	
	UNDERGROUND PV SYSTEM MEDIUM VOLTAGE COLLECTOR ROUTE BETWEEN PARCELS	MV MV MV MV
	SECURITY FENCE	
	UTILITY SUBSTATION SECURITY FENCE	
	15' WIDE LANDSCAPE BUFFER	
	OPTIMAL LOCATIONS FOR POLLINATOR PLANTINGS	
OVE	OVERHEAD DISTRIBUTION LINE	
OHW	OVERHEAD TRANSMISSION LINE	

SYSTEM SPECIFICATIONS

SYSTEM SIZE DC	104,247.00 kW
SYSTEM SIZE AC @ POI	80,000.00 kW
DC/AC RATIO	1.30
MODULE MANUFACTURER	JINKO SOLAR
MODULE MODEL	JKM540M-72HL4-TV
MODULE RATING	540 W
TOTAL MODULE QTY	193,050
MODULES PER STRING	27
TOTAL NO. OF STRINGS	7,150
INVERTER MODEL	SMA SC4600 UP
INVERTER RATING	4,186 kW
INVERTER QTY	22
# OF 81 MODULE RACKS	2,216
# OF 54 MODULE RACKS	251
STEP-UP TRANSFORMER	(22) 4600 KVA, 34.5KV/0.69KV
RACKING TYPE	HSAT
TRACKING LIMIT ANGLES	+/- 52°
AZIMUTH	180°
INTER-ROW SPACING	15.1'
PITCH	22.6'
GCR	33%
PROJECT FENCED AREA	580.88 Ac
SUBSTATION FENCED AREA	6.33 Ac



1 PV-100 SITE PLAN

Scale: 1"=450'

N

CORE SOLAR

Soleil Solutions Pte Ltd

NOT FOR CONSTRUCTION

PROJECT OWNER:
FLEMING SOLAR, LLC
1221 S. MOPAC EXPY
AUSTIN, TX 78746

PROJECT:
FLEMING SOLAR

PROJECT LOCATION:
1258 OLD CONVICT RD,
FLEMINGSBURG, KY 41041

LAT: 38.443844°
LON: -83.764725°

REV. NO	DESCRIPTION	DATE
0	PRELIMINARY LAYOUT	05/03/21

SHEET TITLE:

PRELIMINARY SITE LAYOUT

DRAWING NO.:
PV-100

DRAWN BY: LR

REVIEWED BY:

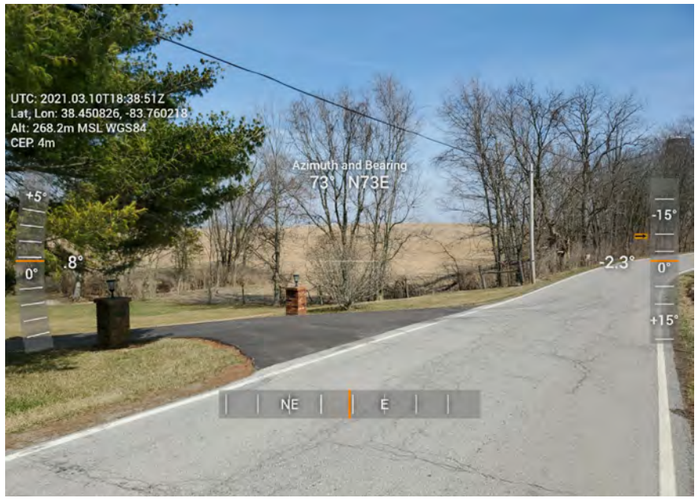
DATE: 05/03/21

SCALE: AS SHOWN

PROJECT NO.:

ATTACHMENT B
PHOTO SIMULATIONS

Existing vegetation and topography provides screening for proposed panels. Existing vegetation is supplemented with proposed evergreen screen to reduce year-round visibility of proposed panels.



Existing View from Helena Road Looking NE

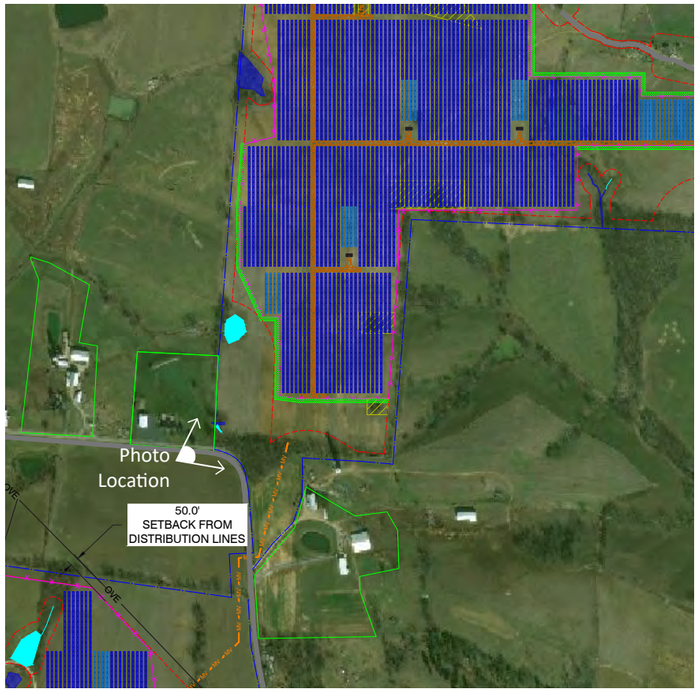


Photo Location Map - Not to Scale

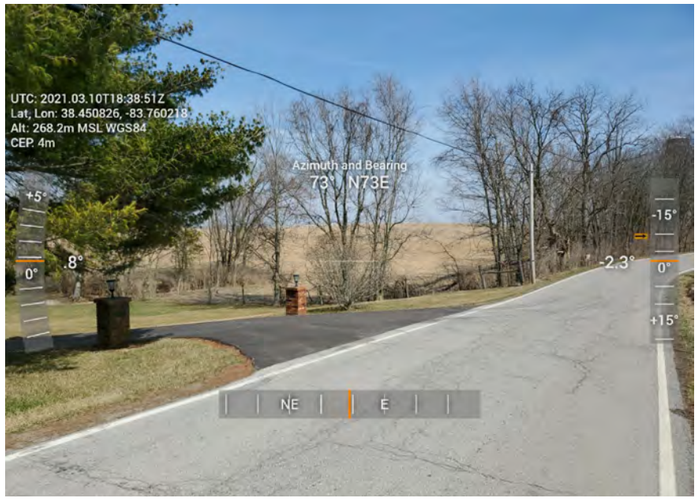
Viewshed 01 Photo Simulation - Winter Foliage

Photo Location Helena Road
Photo Taken 2021-03-10

gai consultants

CORE SOLAR

Existing vegetation and topography provides screening for proposed panels. Existing vegetation is supplemented with proposed evergreen screen to reduce year-round visibility of proposed panels.



Existing View from Helena Road Looking NE

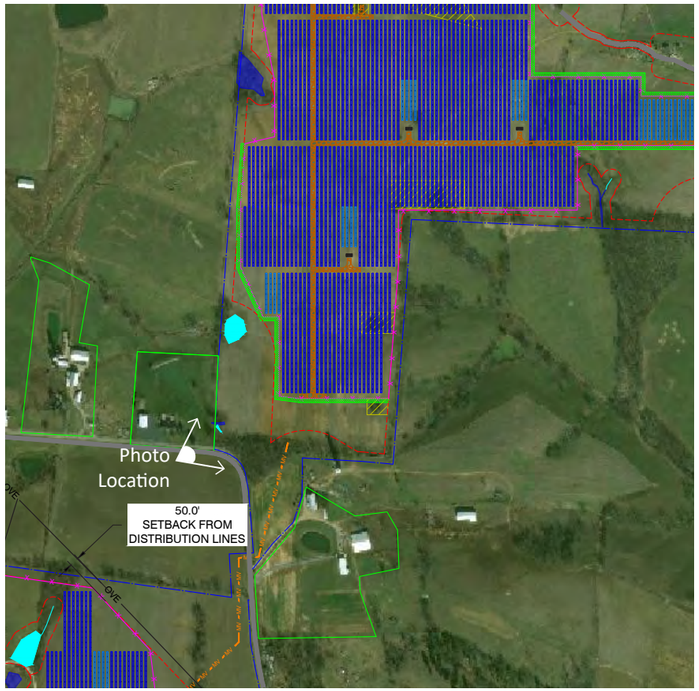


Photo Location Map - Not to Scale

Viewshed 01 Photo Simulation - Summer Foliage

Photo Location Helena Road
Photo Taken 2021-03-10

gai consultants

CORE SOLAR

Evergreen vegetative screen reduces the visual impact of proposed panels.

Existing View from Old Convict Road Looking E

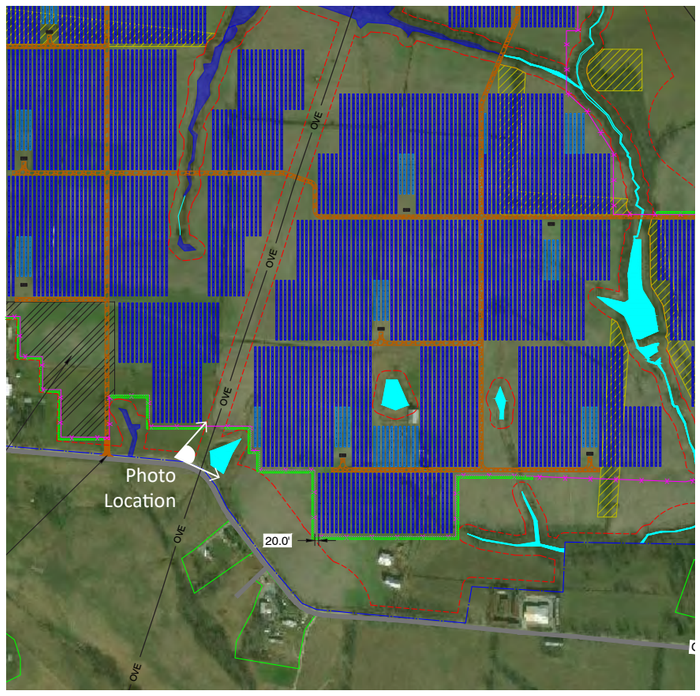


Photo Location Map - Not to Scale

Viewshed 02 Photo Simulation - Winter Foliage

Photo Location Old Convict Road
Photo Taken 2021-03-10

gai consultants

CORE SOLAR

Fleming Solar Project **Flemingsburg, KY**

Evergreen vegetative screen reduces the visual impact of proposed panels.

Existing View from Old Convict Road Looking E

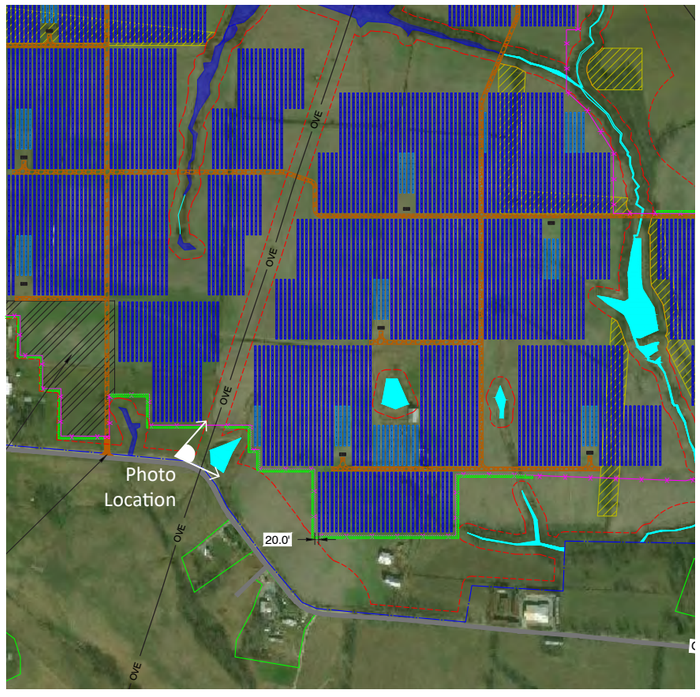


Photo Location Map - Not to Scale

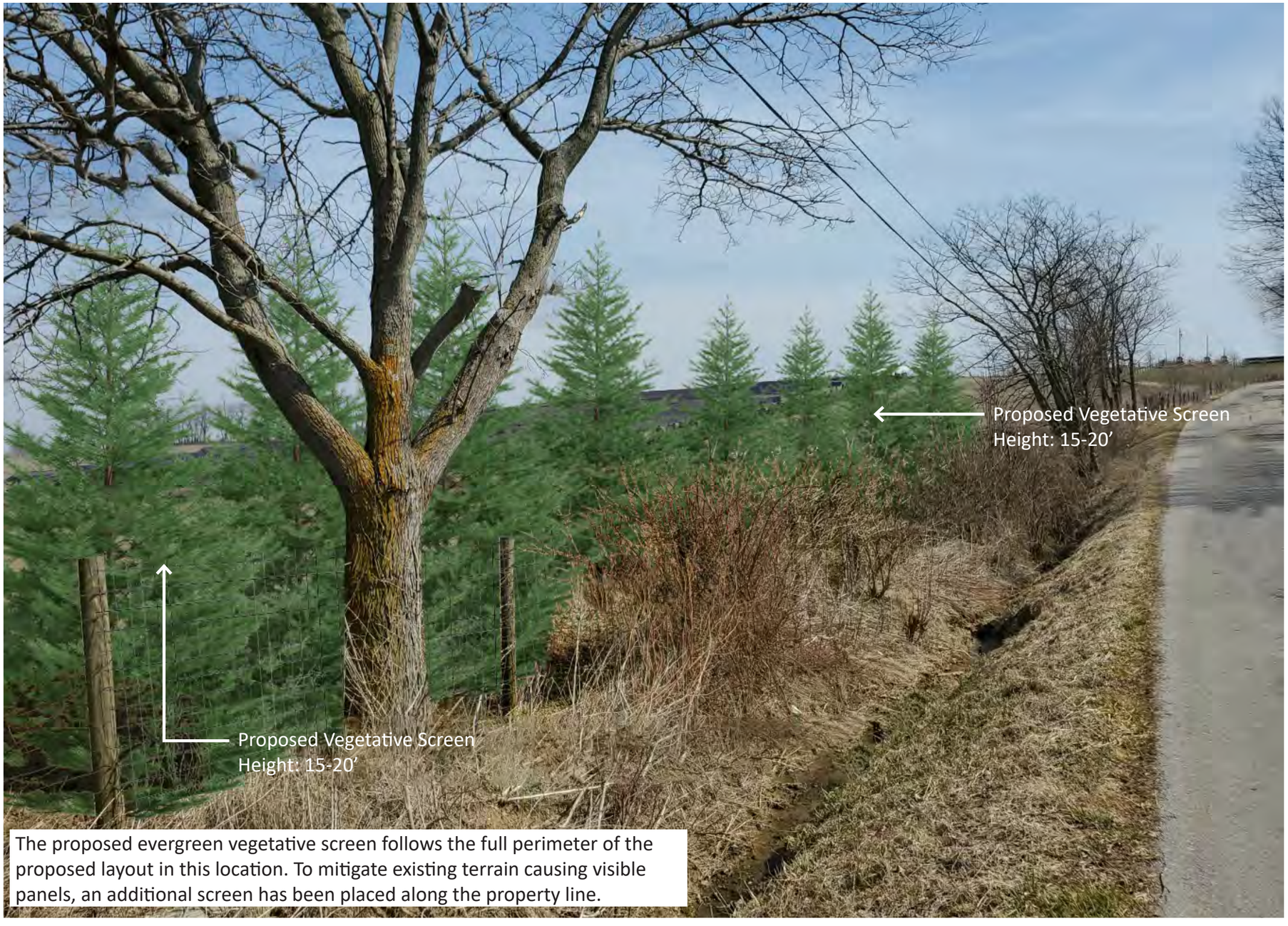
Viewshed 02 Photo Simulation - Summer Foliage

Photo Location Old Convict Road
Photo Taken 2021-03-10

gai consultants

CORE SOLAR

Fleming Solar Project **Flemingsburg, KY**



The proposed evergreen vegetative screen follows the full perimeter of the proposed layout in this location. To mitigate existing terrain causing visible panels, an additional screen has been placed along the property line.

Existing View from Old Convict Road Looking NE

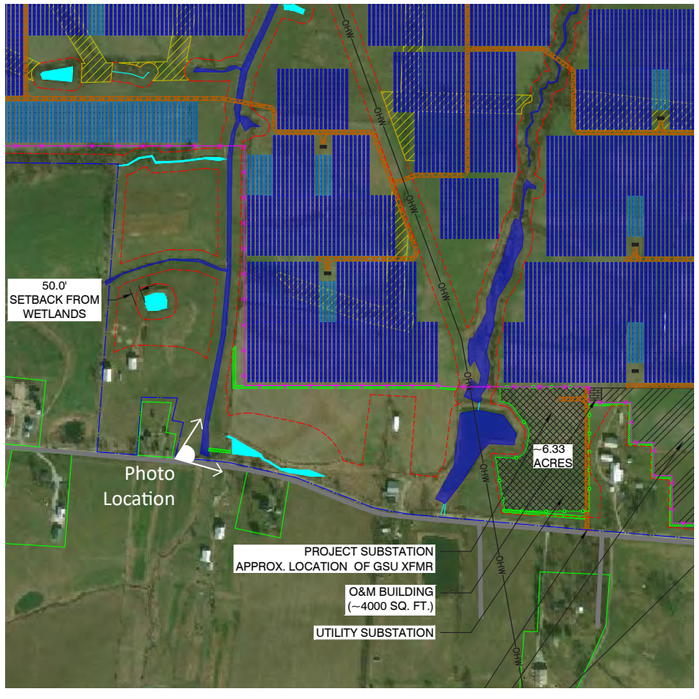


Photo Location Map - Not to Scale

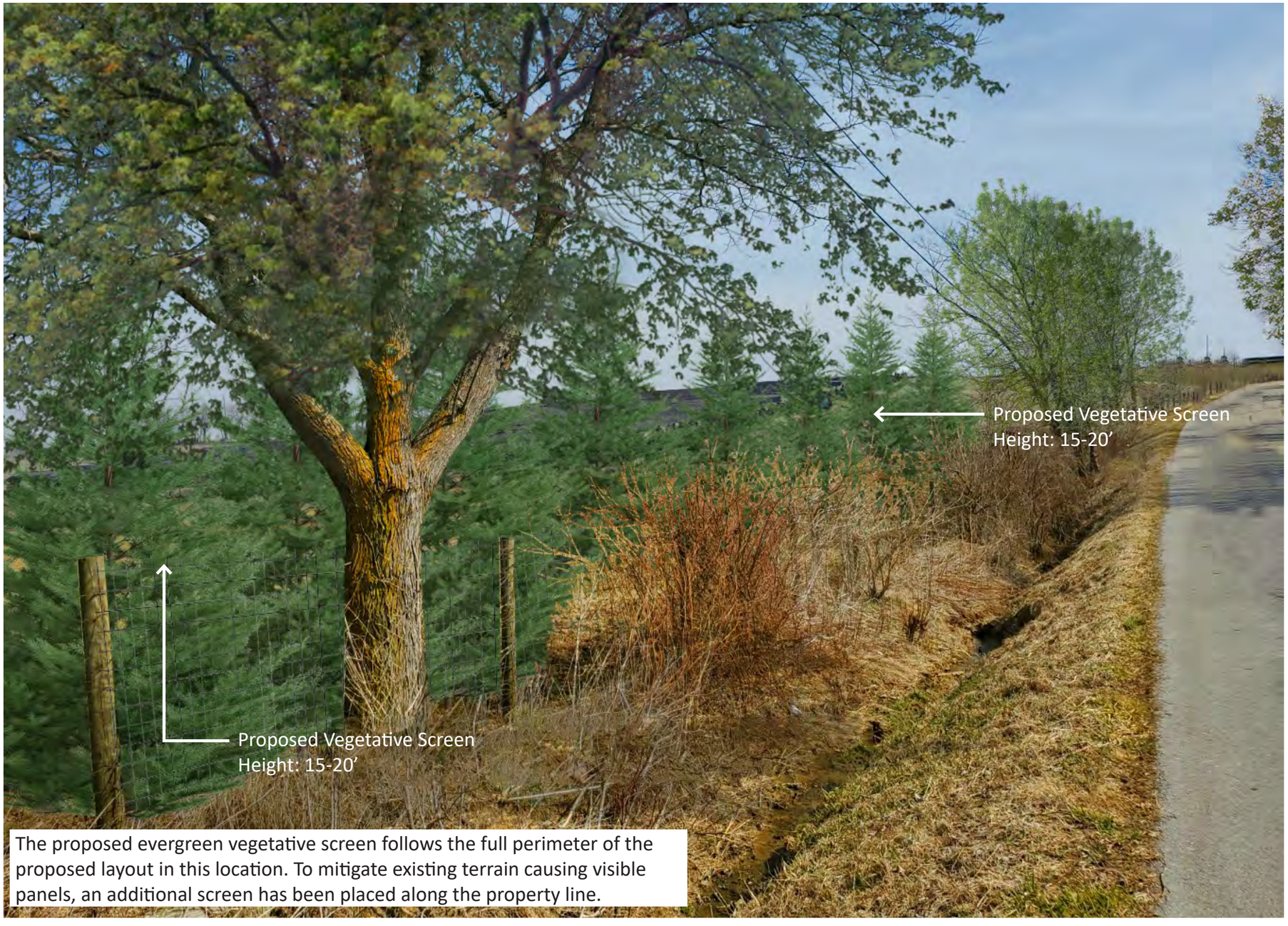
Viewshed 03 Photo Simulation - Winter Foliage

Photo Location Old Convict Road
Photo Taken 2021-03-10

gai consultants

CORE SOLAR

Fleming Solar Project **Flemingsburg, KY**



The proposed evergreen vegetative screen follows the full perimeter of the proposed layout in this location. To mitigate existing terrain causing visible panels, an additional screen has been placed along the property line.

Existing View from Old Convict Road Looking NE

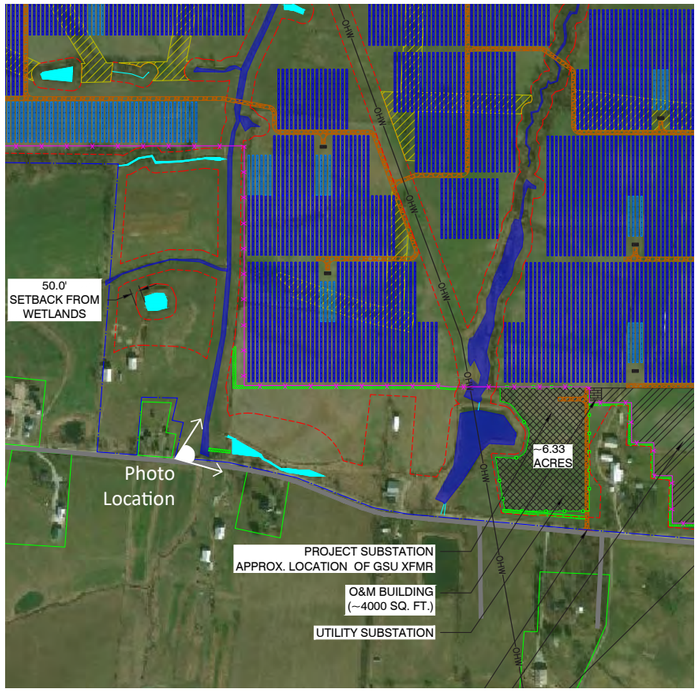


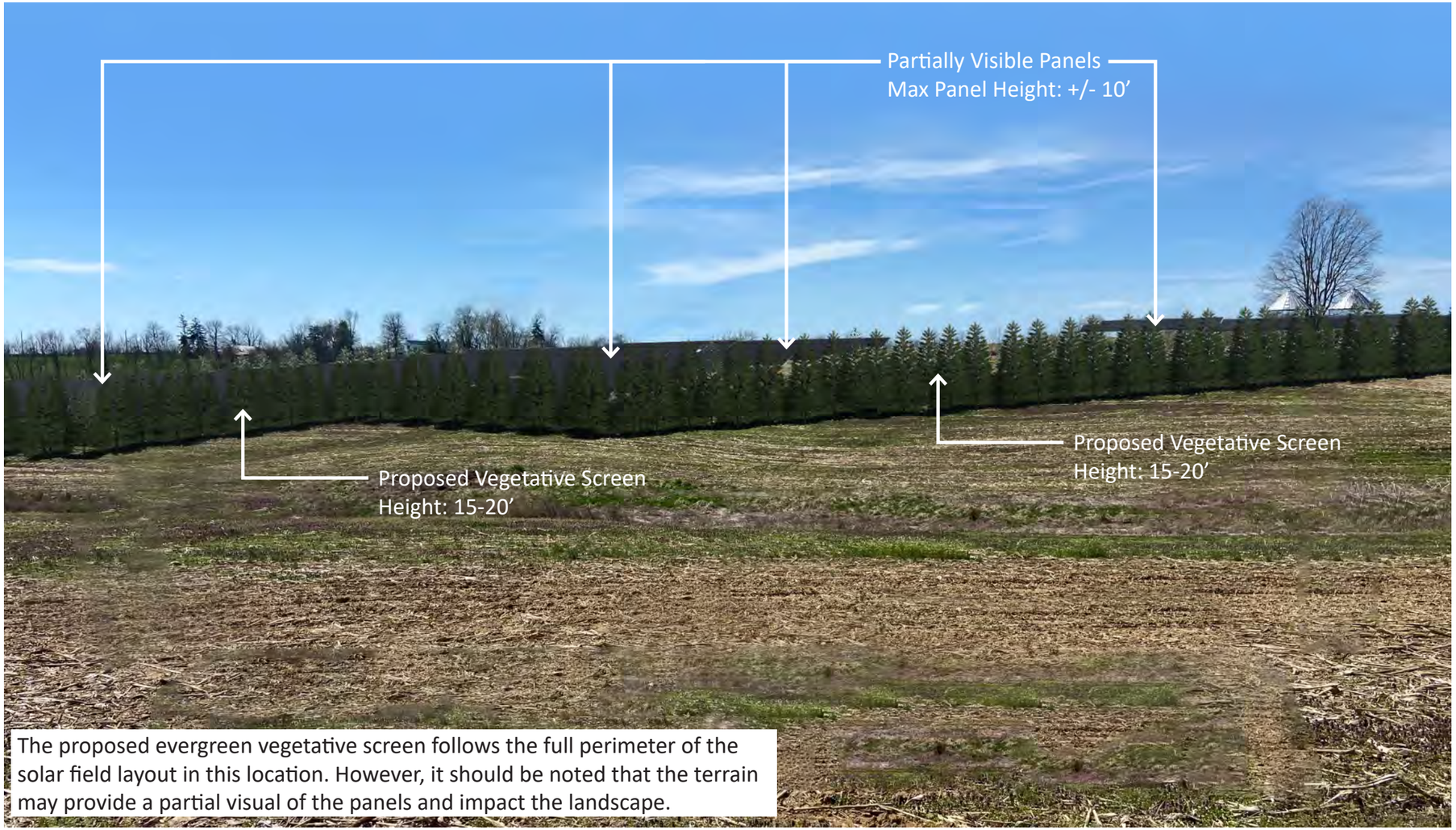
Photo Location Map - Not to Scale

Viewshed 03 Photo Simulation - Summer Foliage

Photo Location Old Convict Road
Photo Taken 2021-03-10

gai consultants

CORE SOLAR



The proposed evergreen vegetative screen follows the full perimeter of the solar field layout in this location. However, it should be noted that the terrain may provide a partial visual of the panels and impact the landscape.

Existing View from Residential Property Looking SW

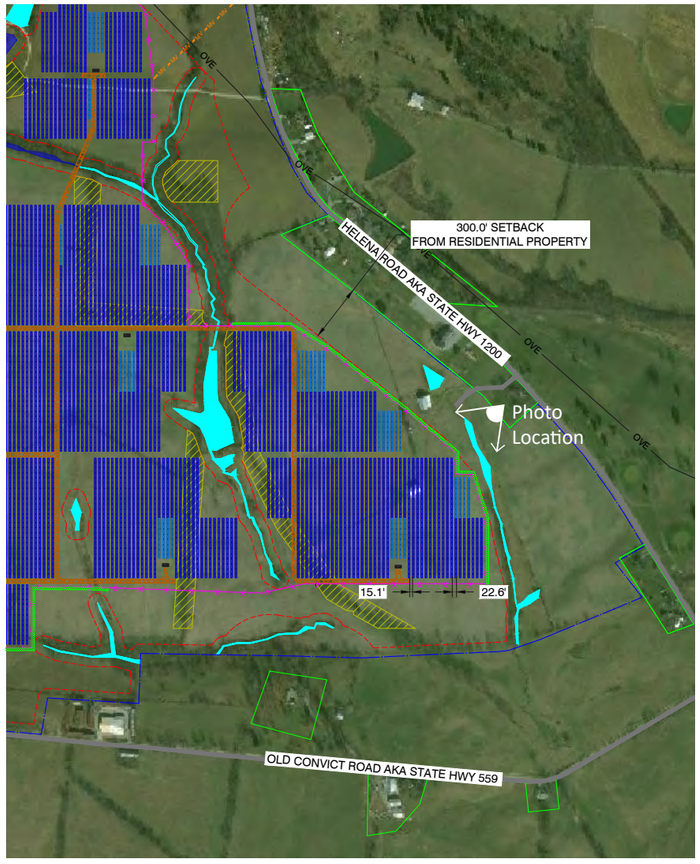


Photo Location Map - Not to Scale

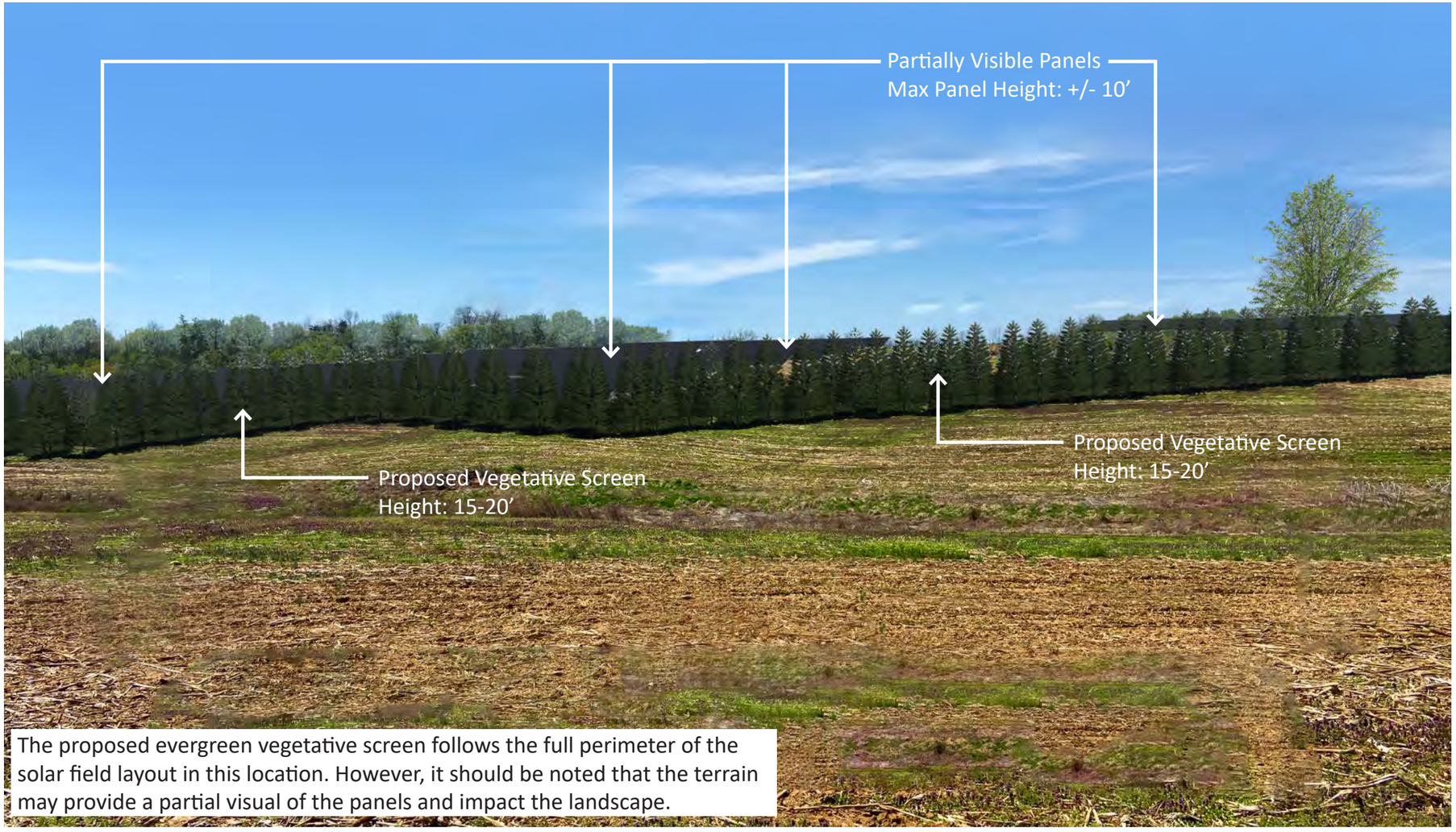
Viewshed 04 Photo Simulation - Winter Foliage

Photo Location Residential Property off Helena Road
Photo Taken 2021-03-30

gai consultants

CORE SOLAR

Fleming Solar Project **Flemingsburg, KY**



The proposed evergreen vegetative screen follows the full perimeter of the solar field layout in this location. However, it should be noted that the terrain may provide a partial visual of the panels and impact the landscape.

Existing View from Residential Property Looking SW

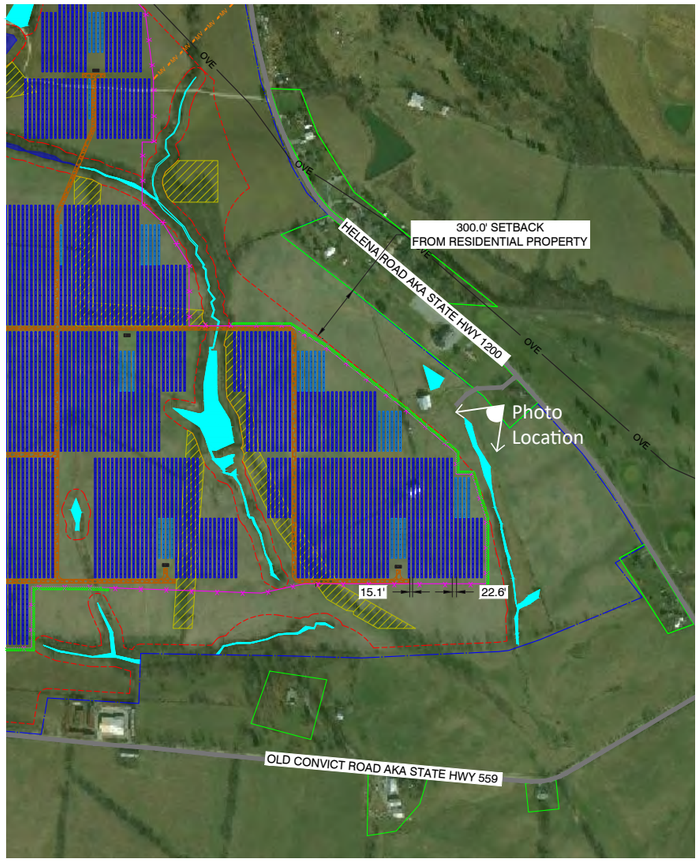


Photo Location Map - Not to Scale

Viewshed 04 Photo Simulation - Summer Foliage

Photo Location Residential Property off Helena Road
Photo Taken 2021-03-30

gai consultants

CORE SOLAR

Existing topography and setback of proposed solar panels from residential properties mitigates possible viewshed impacts.

Existing View from Mayesville Road Looking SW

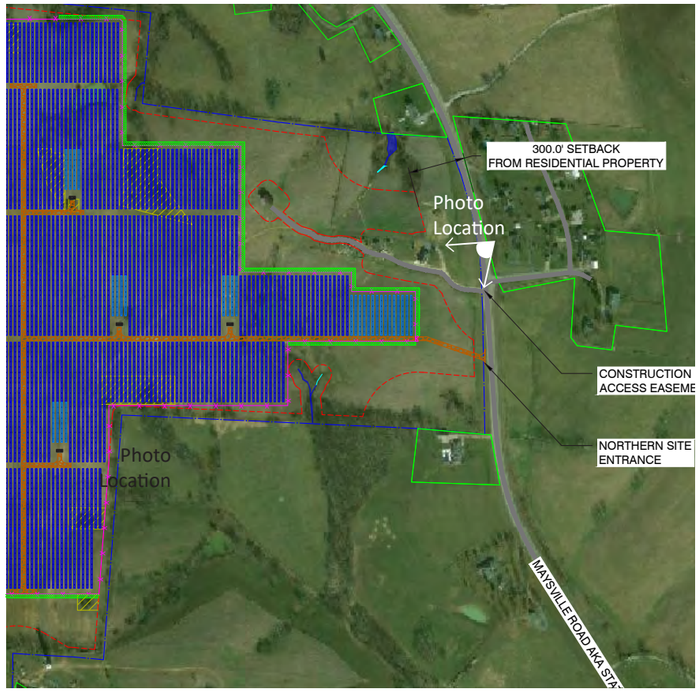


Photo Location Map - Not to Scale

Viewshed 05 - Winter Foliage

Photo Location Mayesville Road
Photo Taken 2021-03-10

gai consultants

CORE SOLAR

Fleming Solar Project **Flemingsburg, KY**

Existing topography, vegetation, and setback of proposed solar panels from edge of Right-Of-Way mitigates possible viewshed impacts.

Existing View from Helena Road Looking W

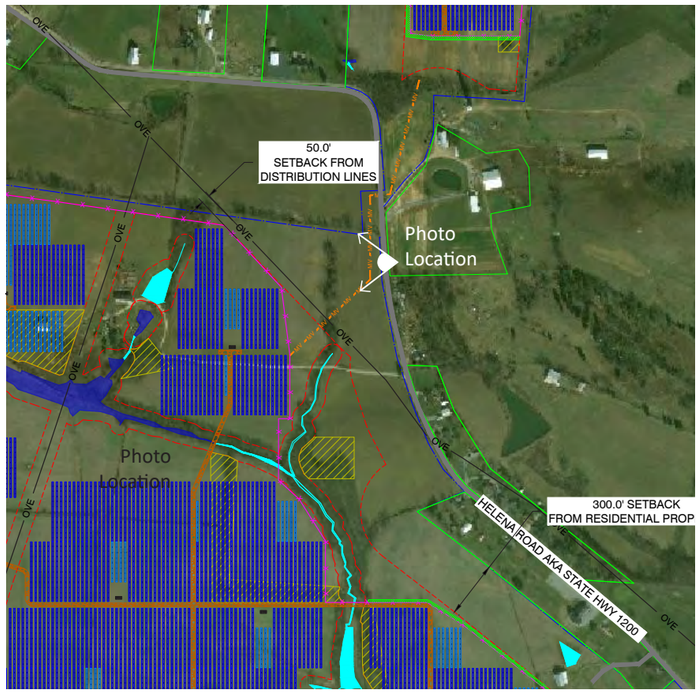


Photo Location Map - Not to Scale

Viewshed 06 - Winter Foliage

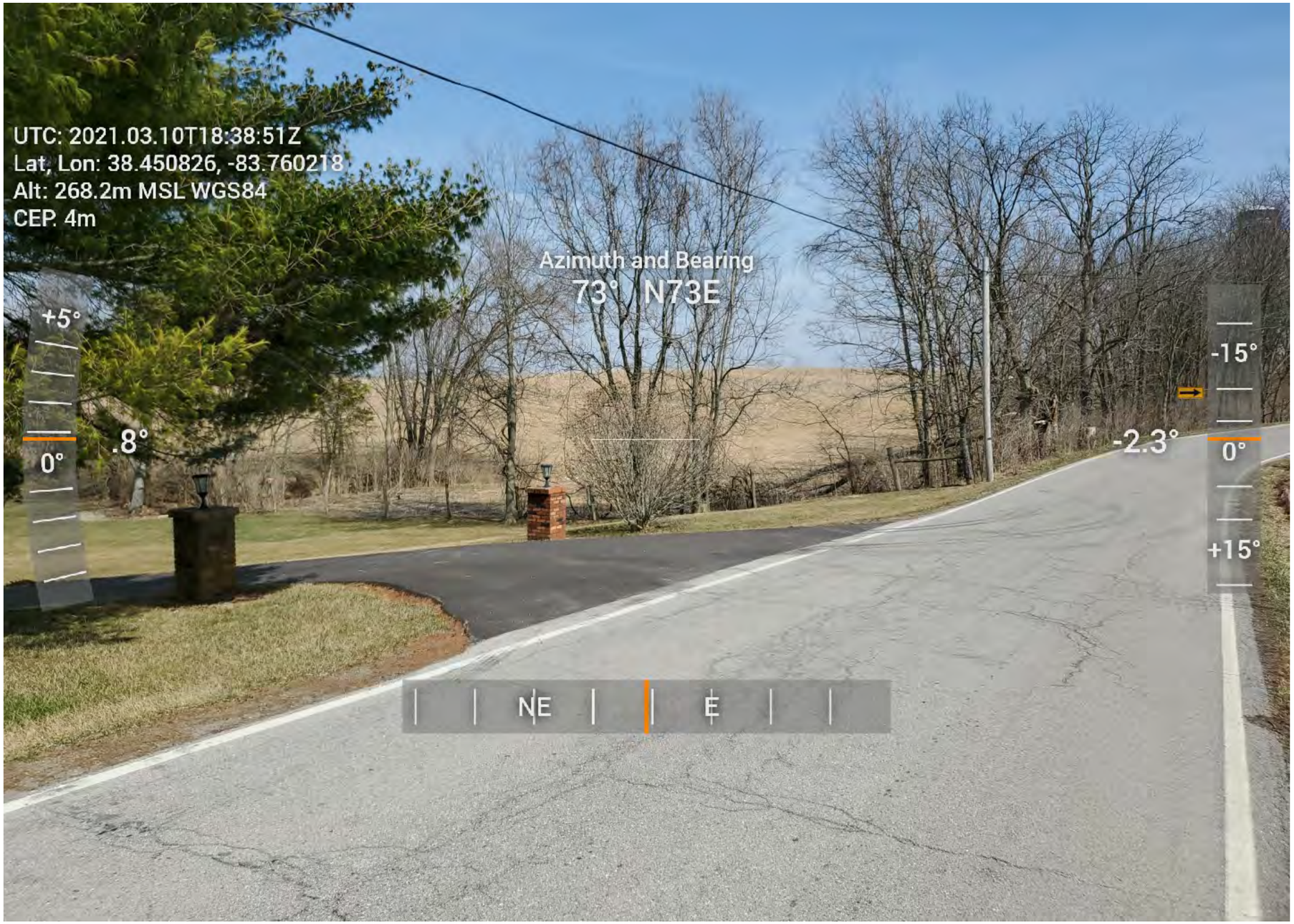
Photo Location Helena Road
Photo Taken 2021-03-10

gai consultants

CORE SOLAR

Fleming Solar Project **Flemingsburg, KY**

ATTACHMENT C
PHOTO LOG



Viewshed 01 - Existing Conditions

Photo Location Helena Road
Photo Taken 2021-03-10

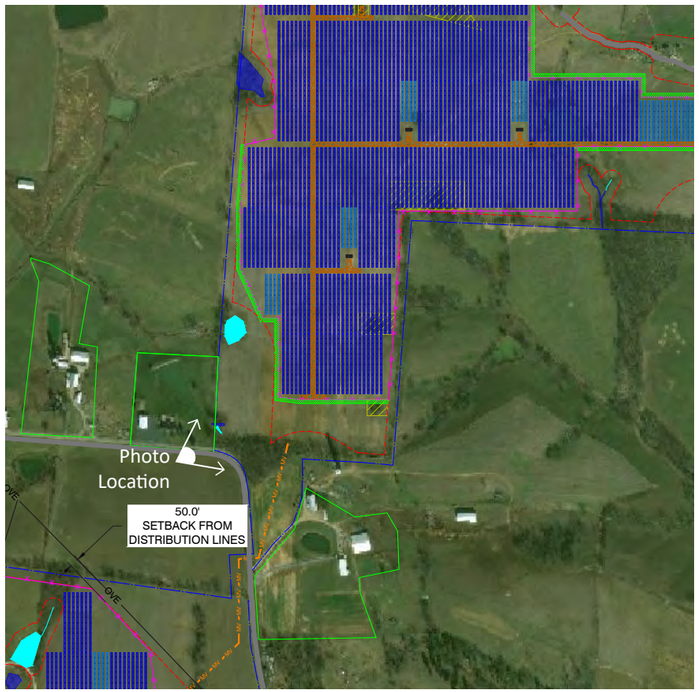


Photo Location Map - Not to Scale

gai consultants

CORE SOLAR

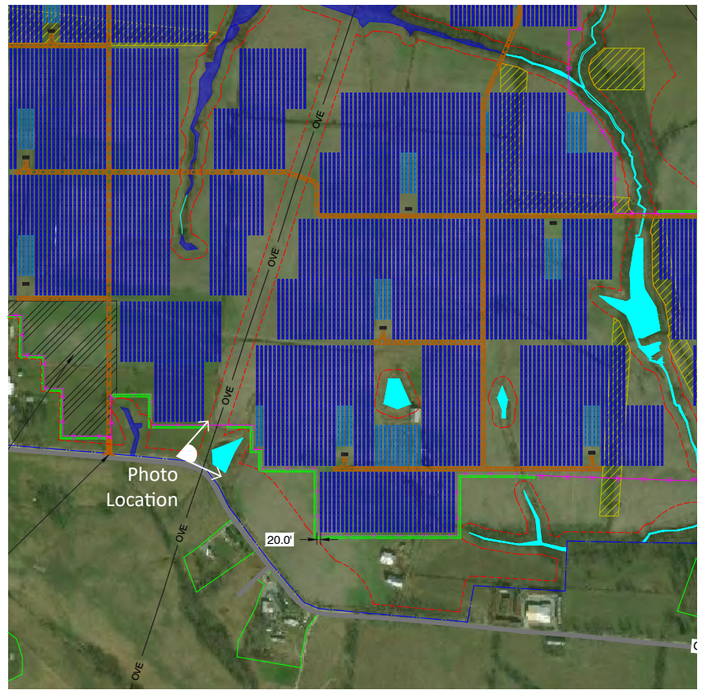


Photo Location Map - Not to Scale

Viewshed 02 - Existing Conditions

Photo Location Old Convict Road

Photo Taken 2021-03-10

gai consultants

CORE SOLAR

Fleming Solar Project **Flemingsburg, KY**

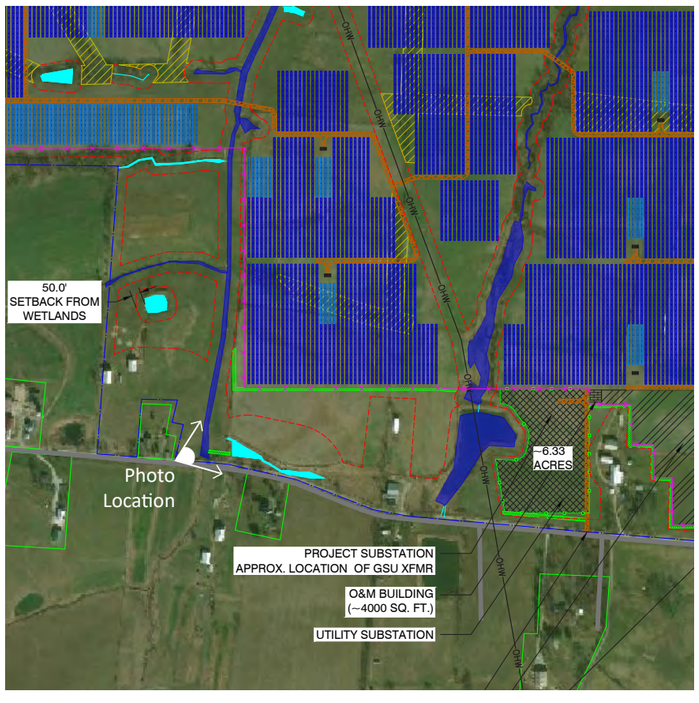


Photo Location Map - Not to Scale

Viewshed 03 - Existing Conditions

Photo Location Old Convict Road

Photo Taken 2021-03-10

gai consultants

CORE SOLAR

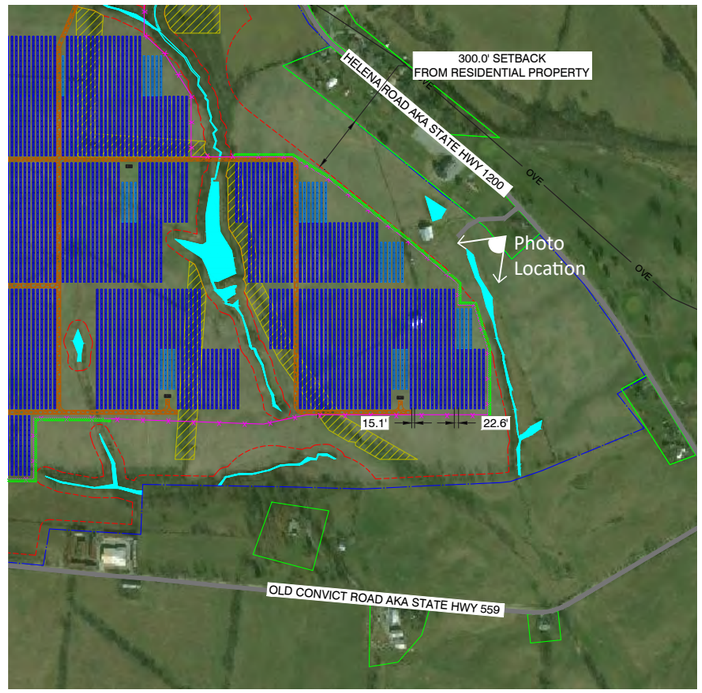


Photo Location Map - Not to Scale

Viewshed 04 - Existing Conditions

Photo Location Residential Property off Helena Road
Photo Taken 2021-03-30

gai consultants

CORE SOLAR

Viewshed 05 - Existing Conditions

Photo Location Mayesville Road
Photo Taken 2021-03-10

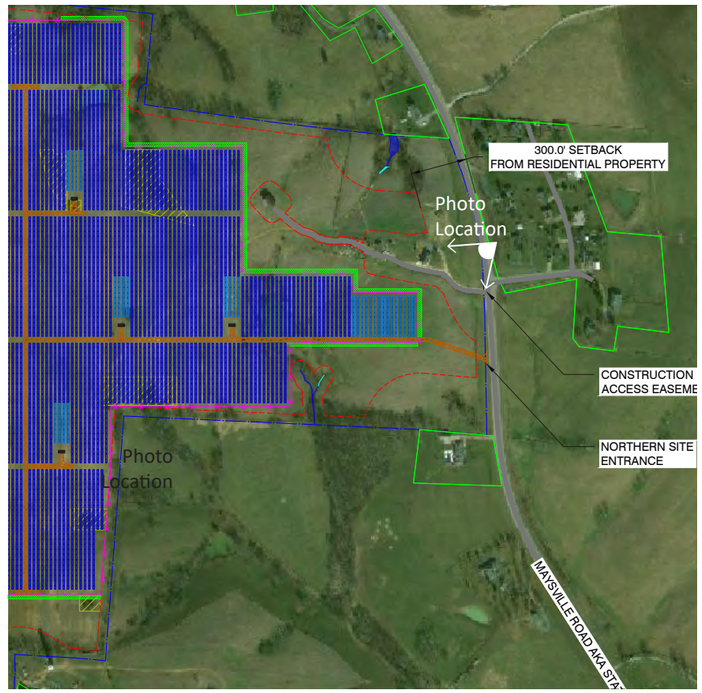


Photo Location Map - Not to Scale

gai consultants

CORE SOLAR

Viewshed 06 - Existing Conditions

Photo Location Helena Road
Photo Taken 2021-03-10

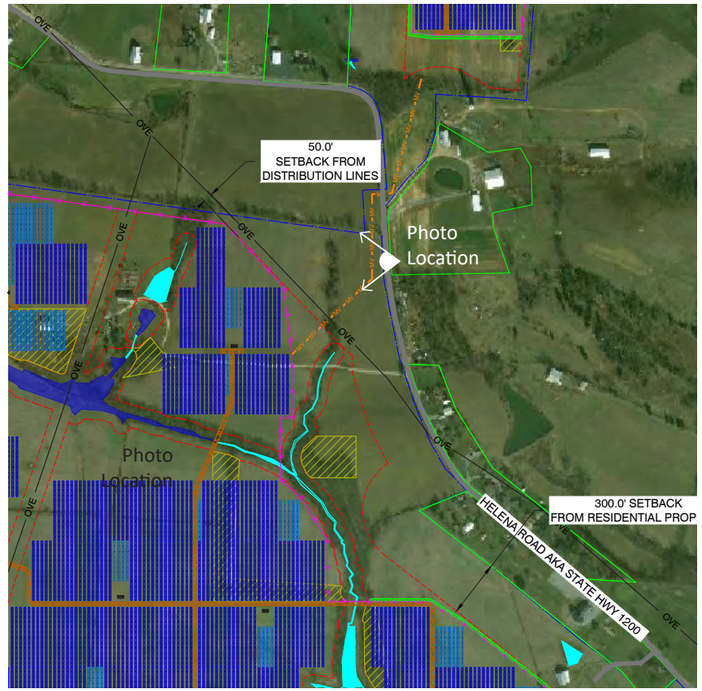


Photo Location Map - Not to Scale

gai consultants

CORE SOLAR

Fleming Solar Project **Flemingsburg, KY**

ATTACHMENT D
LANDSCAPE REVIEW

MEMO

gai consultants

Date:	May 17, 2021
Project No.	R210073.00
To:	Dominic Salinas, Senior Project Development Manager
From:	James Yost, Sharon Dodson, Enrique Bazan-Arias
Subject:	**Landscape Review and Recommendations for Fleming Solar Project**

BACKGROUND AND METHODOLOGY

GAI Consultants, Inc. (GAI) is pleased to present this Landscape Review and Recommendations to Fleming Solar, LLC (Fleming Solar) for the Fleming Solar Project (Project) located in Fleming County, Kentucky (KY). GAI was contracted by the Project's developer, Core Solar LLC (Core Solar).

An evaluation of the compatibility of the proposed facility with the scenic surroundings was completed as part of a Visual Assessment, to which this document is an attachment of, completed by GAI for the Project. The Visual Assessment was based on a May 3, 2021 site plan which included initial proposed locations for vegetative screening. The May 3rd site plan screening locations were identified in a desktop exercise based on aerial images of existing vegetation. Core Solar requested GAI to complete a full landscape review and make recommendations for improving the planned locations of vegetative screening to lessen the Project's impacts of the Project to the visual environment of the community.

Fleming Solar provided a map of potentially impacted residences, shown in Attachment B. This review provided a framework for the design of the landscape screen to confirm the least number of visual impacts that would be made to the 27 residences identified by Fleming Solar surrounding the perimeter of the proposed facility. The landscape design review took several factors into consideration when identifying where a vegetative screen would be needed to protect daily visual impacts such as, seasonal existing vegetation, terrain, and site distances to facilities. This assisted in the development of recommendations to either maintain the initially proposed screening layout, extend and/or add new screening, and eliminate excess landscape screening where no visual impacts would be present.

GENERAL RECOMMENDATIONS

- Existing vegetation between perimeter of the solar arrays and the residences will be left in place, to the extent practicable, to help screen the Project and reduce visual impacts from the adjacent homes.
- The area falling outside the array perimeter, which must be kept trimmed to prevent shading of the solar PV facility by adjacent trees. In a typical array, this area extends a distance equal to at least double the height of surrounding trees on the east, west, and south sides of the array, with a smaller setback required on the north side. In typical cases, this area will not be severely disturbed during facility construction, but for the life of the solar array, it must be kept trimmed to 10'-12' to prevent panel shading.
- Existing field vegetation should be left in place to the extent possible, so no extensive disturbances occur for the development of the proposed facility. Where construction clears the site, the vegetative cover would be restored following construction in that area to allow vegetation to take root prior to operating the facility.

- Use of a solar pollinator mix in areas where vegetative disturbance takes place during site development. Select a mix with native species to promote healthy growth habits and decrease maintenance efforts. The use of the pollinator mix allows any vegetative disturbances to be remediated and allows the site to continue as an agricultural generator.
- Proposed landscape screening should extend and connect to existing site vegetation, to help create a more natural transition between existing vegetation and developed.
- The proposed vegetative screen should be planted with evergreen shrubs and small trees (such as cedar or arborvitae) to limit the view of the solar PV facility from the roadway or adjacent properties.
- Evergreen trees planted as part of the vegetative screen should be a minimum of 6 feet tall when planted and planted early in the construction phase to maximize growth.
- The landscape screen placement should be adapted in consultation with GAI, if panel placement varies in final design.

LAYOUT SPECIFIC RECOMMENDATIONS: NORTH AREA

- **Residential Benefit (01):** Eliminate initially proposed screen, as this area sits adjacent to agricultural uses.
- **Residential Benefit (02):** Maintain proposed screen.
- **Residential Benefit (03):** Extend proposed vegetative screen to meet fence line and complete visual screen.
- **Residential Benefit (04):** Add a vegetative screen following solar panel alignment is recommended. As the panels sit near the ridgeline, the additional screen will better screen the proposed facility from the adjacent residence. *(Reference Viewshed 01 within Photo Simulations Report)*
- **Residential Benefit (05):** Eliminating proposed screen is recommended if the vegetative screen in Residential Benefit 04 is accepted. This will provide the residence longer site lines from their property and mimic their existing conditions.
- **Residential Benefit (06):** Maintain proposed screen.
- **Residential Benefit (07):** Recommendation to eliminate the screen nearest the gate entrance. The existing berm along the roadway provides a visual screen from the proposed facility, thus a vegetative screen is not needed.
- **Residential Benefit (08):** Recommendation to eliminate the screen in this area. The proposed screen is facing agricultural uses and has adequate existing vegetation to help screen the proposed facility.
- **Seed Mix:** Use of a solar pollinator seed mix is areas where the vegetative disturbance occurs. Allowing for low maintenance and the re-establishment of site vegetation. *(13.33 acres proposed)*

LAYOUT SPECIFIC RECOMMENDATIONS: SOUTH AREA

- **Residential Benefit (09):** Maintain proposed screen.
- **Residential Benefit (10):** Existing vegetation provides adequate screen of the proposed facility. This area is recommended to be eliminated from the design.
- **Residential Benefit (11):** Maintain proposed screen. *(Reference Viewshed 04 within Photo Simulations Report)*
- **Residential Benefit (12):** Recommendation to eliminate the screen in this area. The proposed screen has adequate existing vegetation to help screen the proposed facility and a significant set back from the right-of way.
- **Residential Benefit (13):** Maintain proposed screen.

- **Residential Benefit (14):** Recommendation to eliminate the screen as design in this area. The proposed screen has adequate existing vegetation to help screen the proposed facility and a significant set back from the right-of-way.
- **Residential Benefit (15):** Maintain proposed screen.
- **Residential Benefit (16):** Recommendation to extend the vegetative screen to meet the transmission line right-of-way. *(Reference Viewshed 02 within Photo Simulations Report)*
- **Residential Benefit (17):** Maintain proposed screen.
- **Residential Benefit (18):** Maintain proposed screen.
- **Residential Benefit (19):** Maintain proposed screen.
- **Residential Benefit (20):** Recommendation to extend vegetative screen along fence line to water way offset, to help provide screen for residence.
- **Residential Benefit (21):** Maintain proposed screen.
- **Right-of-Way Benefit (01):** Maintain proposed screen.
- **Right-of-Way Benefit (02):** Recommendation to extend vegetative screen to complete visual screen along right-of-way.
- **Right-of-Way Benefit (03):** Recommendation to add vegetative screen along roadway to prevent visual impacts made to landscape. *(Reference Viewshed 03 within Photo Simulations Report)*
- **Seed Mix:** Use of a solar pollinator see mix is areas where the vegetative disturbance occurs. Allowing for low maintenance and the re-establishment of site vegetation. *(39.92 acres proposed)*

CONCLUSION

Following the completion of the Visual Assessment, the landscape design presented opportunities for possible realignments to the original proposed vegetative screen layout. While several areas of the landscape screen have been recommended to remain in place, there are several areas where realignments could take place based on existing conditions such as terrain and vegetation. As recommended, there are also key areas identified for potential expansion and additions to the landscape screen assisting in the decrease of the overall impact created to the visual landscape. Generally, the proposed facility will be screened by vegetation and structures associated with development; however, areas such as roadways and rural residential development located outside of built communities would have elevated views towards the Project. This ultimately creates views that would vary from completely screened to partially screened to unobstructed with every attempt made towards screening the proposed development.

Best,

James Yost, PLA, ASLA
Senior Landscape Architect
GAI Consultants, Inc.

LANDSCAPE REVIEW
ATTACHMENT A LANDSCAPE
REVIEW EXHIBIT

LEGEND

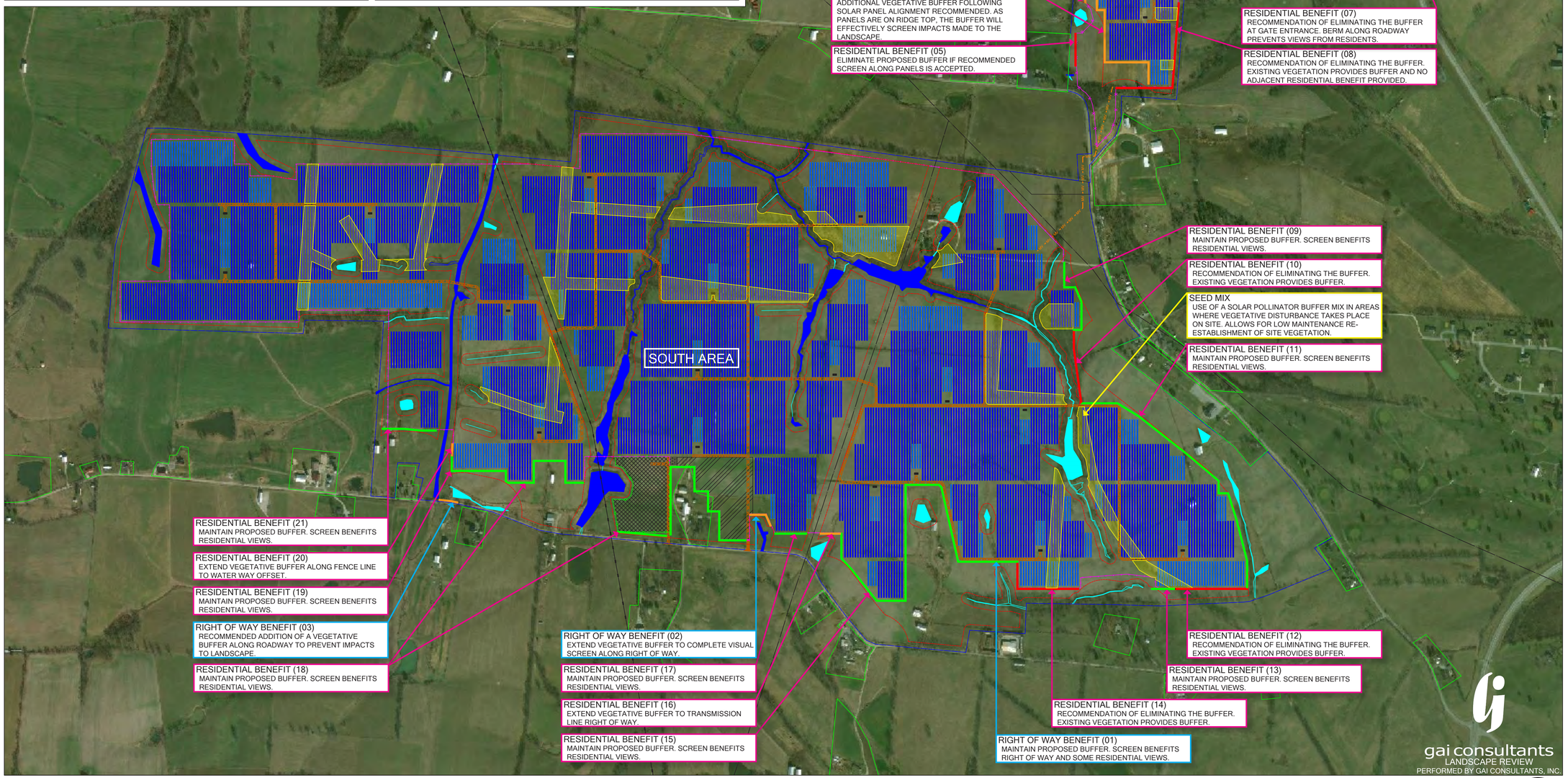
EXISTING		NEW
	81 MODULE TRACKER ROW	
	54 MODULE TRACKER ROW	
	INVERTER	
	PROJECT BOUNDARY	
	PUBLIC ROAD	
	20' WIDE SITE ACCESS ROAD	
	SETBACK	
	POTENTIAL PROJECT FOOTPRINT	
	POTENTIALLY NON-JURISDICTIONAL AQUATIC RESOURCE	
	POTENTIALLY JURISDICTIONAL AQUATIC RESOURCE	
	NEARBY RESIDENCES	
	UNDERGROUND MV ROUTE BETWEEN PARCELS	
	SECURITY FENCE	
	UTILITY SUBSTATION SECURITY FENCE	
OVE	OVERHEAD DISTRIBUTION LINE	
OHW	OVERHEAD TRANSMISSION LINE	

SYSTEM SPECIFICATIONS

SYSTEM SIZE DC	108,096.12 kW
SYSTEM SIZE AC @ POI	80,000.00 kW
DC/AC RATIO	1.35
MODULE MANUFACTURER	JINKO SOLAR
MODULE MODEL	JKM540M-72HL4-TV
MODULE RATING	540 W
TOTAL MODULE QTY	200,178
MODULES PER STRING	27
TOTAL NO. OF STRINGS	7,414
INVERTER MODEL	SMA SC4600 UP
INVERTER RATING	4,186 kW
INVERTER QTY	22
# OF 81 MODULE RACKS	2,112
# OF 54 MODULE RACKS	539
STEP-UP TRANSFORMER	(22) 4600 KVA, 34.5KV/0.69KV
RACKING TYPE	HSAT
TRACKING LIMIT ANGLES	+/- 52°
AZIMUTH	180°
INTER-ROW SPACING	15.1'
PITCH	22.6'
GCR	33%
FENCED AREA	626.57 Ac

LANDSCAPE LEGEND

15' PROPOSED LANDSCAPE BUFFER	ADDITIONAL BUFFER
RESIDENTIAL BENEFIT	EXCESS BUFFER
RIGHT OF WAY BENEFIT	SOLAR POLLINATOR MIX



1 PV-100 SITE PLAN

Scale: 1"=450'

N

gai consultants
LANDSCAPE REVIEW
PERFORMED BY GAI CONSULTANTS, INC.

CORE SOLAR

Soleil Solutions Pte Ltd

NOT FOR CONSTRUCTION

PROJECT OWNER:
FLEMING SOLAR, LLC
1221 S. MOPAC EXPY
AUSTIN, TX 78746

PROJECT:
FLEMING SOLAR

PROJECT LOCATION:
1258 OLD CONVICT RD,
FLEMINGSBURG, KY 41041

LAT: 38.443844°
LON: -83.764725°

REV. NO	DESCRIPTION	DATE
0	PRELIMINARY LAYOUT	03/24/21

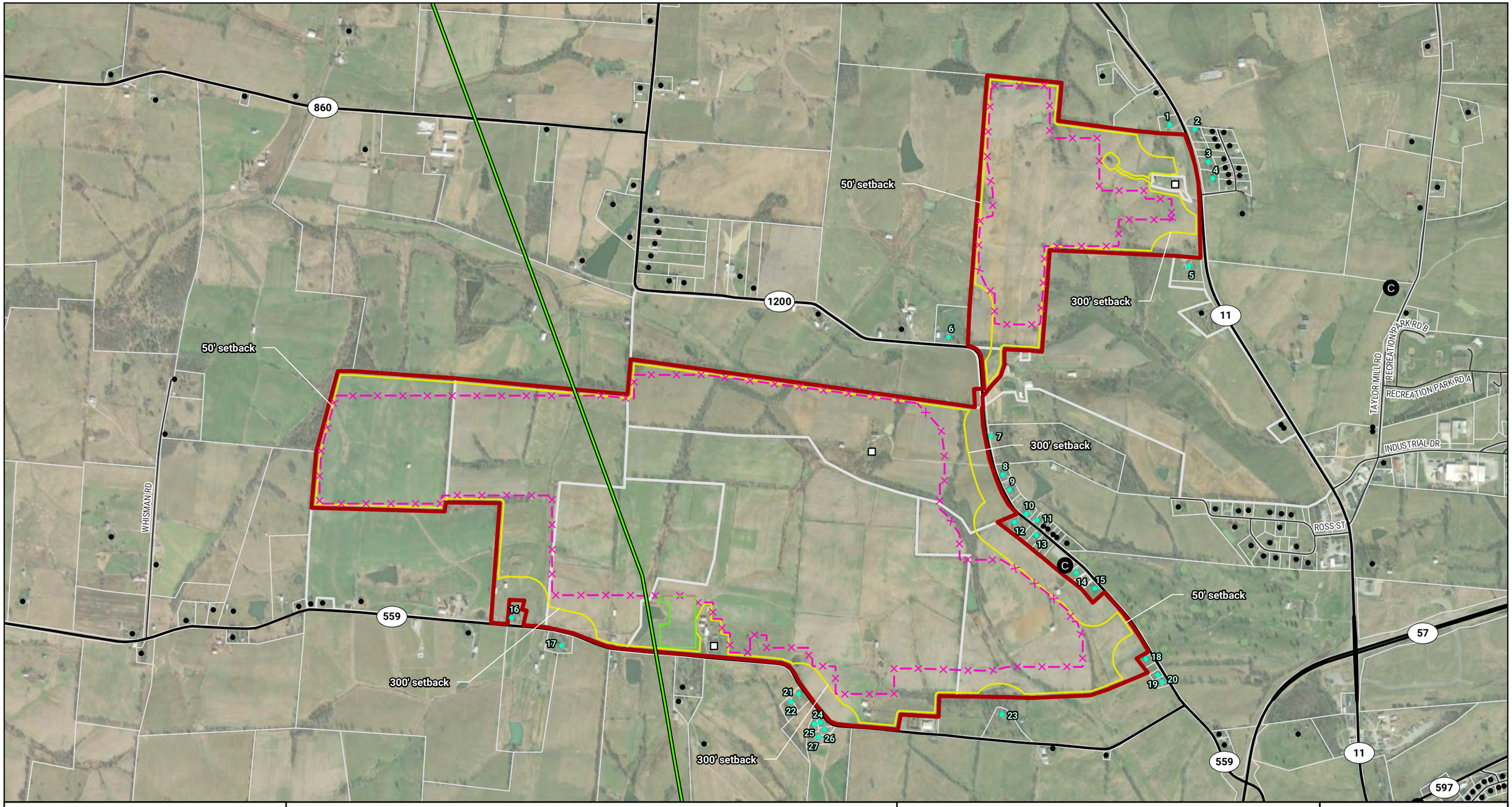
SHEET TITLE:

PRELIMINARY SITE LAYOUT
LANDSCAPE REVIEW

DRAWING NO.:
LR-100

DRAWN BY: JY
REVIEWED BY:
DATE: 04/01/21
SCALE: AS SHOWN
PROJECT NO.:

LANDSCAPE REVIEW
ATTACHMENT B
NEAREST RESIDENCES



LEGEND

- Project Boundary (encloses ~830 acres)
- Security Fence (from Prelim. Site Layout dated 5/3/2021)
- Utility Substation Security Fence
- Potential Project Footprint (~725 acres, total)
- Nearest Residential Sturcture (within 300 ft of Project Boundary)
- Residential Structure
- Residential Structure (participating)
- Electric Transmission
- Church
- Land Parcel
- Land Parcel (participating)

Fleming Solar, LLC

Fleming Solar Project

Potential Project Footprint and Nearest Residences

Project Location: Fleming County, Kentucky

N

0 600 1,200 Feet

FIGURE 3

Prepared by: J. Hobbs

Date: 2021-05-12

Appendix E

Solar Glare Hazard Report

Solar Glare Hazard Report

Discrete Vantage Point
& Roadway Analysis

for the solar project at:

Fleming Solar, LLC

1258 Old Convict Rd

Flemingsburg, KY 41041

presented to:

GAI Consultants

385 E. Waterfront Drive

Homestead, PA 15120

by:

PURE POWER ENGINEERING

111 River Street, Suite 1110

Hoboken, NJ 07030

May 26th, 2021

Pure Power Engineering
111 River Street
Suite 1110
Hoboken, NJ 07030
(201) 687-9975
www.purepower.com

Introduction

To measure the degree of glare/glint on various observation locations adjacent roadways, and aircraft on final approach to FAA-classified airports, a glare and ocular impact analysis has been completed for the following points, roads, nearby classified airports, and proposed solar installation:

(1) Solar installation:	Single axis tracker ground mount system
(40) Observation Points	Please see report
(3) Roadways	Please see report
(0) Classified Airports	See note below

The Forge Solar PV Planning & Glare Analysis Program was used to determine the potential for ocular impact of the proposed solar installation on various discrete observation points, adjacent roadways, and airport runway final approach paths. Ocular impact was analyzed over the entire calendar year from when the sun rises above the horizon until the sun sets below the horizon.

On the following pages, you will find the Potential Project Footprint as the basis of the analysis and the results of the Solar Glare Hazard Analysis Tool utilized for the following scenarios:

Discrete Receptors – Ground Level

Location	Summary of Findings
Points #1 thru #40	No potential for glare predicted

Discrete Receptor Note:

The (40) observation points are selected based on criteria established by GAI/Core.

-All residences within 300 feet of the project boundary

-Six viewshed locations that were used for photo simulations

-Adjacent church

-Adjacent golf course

-Adjacent roads (see below)

Road Receptors

Road	Summary of Findings
Old Convict Road	No potential for glare predicted
Helena Road (2 portions)	No potential for glare predicted
Maysville Road/Rte 11	No potential for glare predicted

Airports

The final approach path is defined as two (2) miles from the landing threshold using standard three (3) degree glide paths. No runways of airports classified by the FAA were found to be in range, therefore glare on airports is not addressed in this report.

Should you have any questions or require any additional information, please do not hesitate to contact us.

Very truly yours,

PURE POWER ENGINEERING, INC.
Richard Ivins, P.E.
President

FORGESOLAR GLARE ANALYSIS

Project: **Fleming Solar PV System**
Glint/glare assessment for proposed 104MWDC ground mount solar PV project in Flemingsburg, KY.

Site configuration: **Fleming Solar**
Analysis conducted by SCOTT Meacham (smeacham@purepower.com) at 20:53 on 21 May, 2021.

U.S. FAA 2013 Policy Adherence

The following table summarizes the policy adherence of the glare analysis based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276. This policy requires the following criteria be met for solar energy systems on airport property:

- No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles
- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- Default analysis and observer characteristics (see list below)

ForgeSolar does not represent or speak officially for the FAA and cannot approve or deny projects. Results are informational only.

COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
2-mile flight path(s)	N/A	No flight paths analyzed
ATCT(s)	N/A	No ATCT receptors designated

Default glare analysis parameters and observer eye characteristics (for reference only):

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

FAA Policy 78 FR 63276 can be read at https://www.federalregister.gov/d/2013-24729

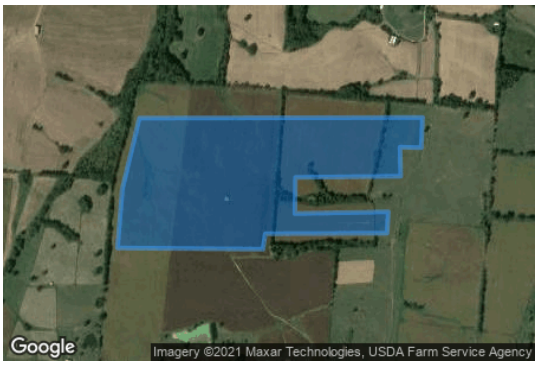
SITE CONFIGURATION

Analysis Parameters

DNI: peaks at 1,000.0 W/m^2
Time interval: 1 min
Ocular transmission coefficient: 0.5
Pupil diameter: 0.002 m
Eye focal length: 0.017 m
Sun subtended angle: 9.3 mrad
Site Config ID: 54084.9714

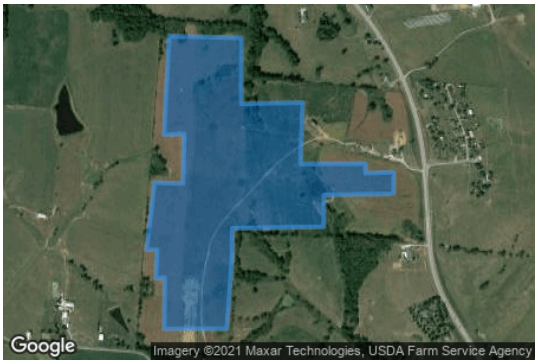
PV Array(s)

Name: PV array 1
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0°
Tracking axis tilt: 0.0°
Tracking axis panel offset: 0.0°
Max tracking angle: 52.0°
Resting angle: 5.0°
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



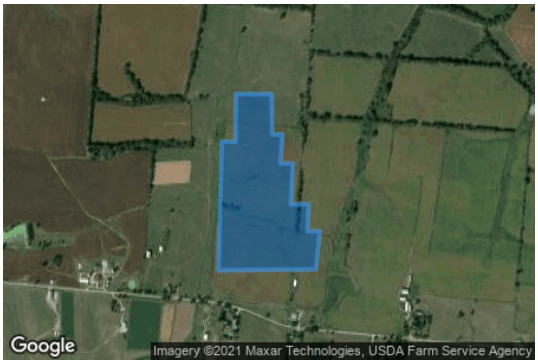
Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.449076	-83.777645	904.06	5.00	909.06
2	38.449059	-83.787923	912.55	5.00	917.55
3	38.447042	-83.788546	961.35	5.00	966.35
4	38.445378	-83.788717	962.53	5.00	967.53
5	38.445345	-83.783439	944.16	5.00	949.16
6	38.445782	-83.783353	957.47	5.00	962.47
7	38.445799	-83.778933	920.10	5.00	925.10
8	38.446404	-83.778890	925.62	5.00	930.62
9	38.446353	-83.782280	951.67	5.00	956.67
10	38.447378	-83.782259	956.21	5.00	961.21
11	38.447412	-83.778439	916.26	5.00	921.26
12	38.448235	-83.778460	923.68	5.00	928.68
13	38.448219	-83.777688	904.15	5.00	909.15

Name: PV array 10
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0°
Tracking axis tilt: 0.0°
Tracking axis panel offset: 0.0°
Max tracking angle: 52.0°
Resting angle: 5.0°
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



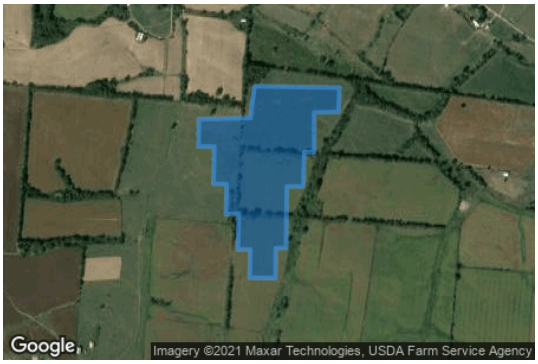
Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.459789	-83.758646	976.28	5.00	981.28
2	38.459738	-83.756028	940.58	5.00	945.58
3	38.457873	-83.756028	957.36	5.00	962.36
4	38.457907	-83.753797	985.62	5.00	990.62
5	38.456168	-83.753883	967.79	5.00	972.79
6	38.456176	-83.751522	973.58	5.00	978.58
7	38.455907	-83.751522	973.80	5.00	978.81
8	38.455932	-83.750492	984.13	5.00	989.13
9	38.455319	-83.750503	981.52	5.00	986.52
10	38.455285	-83.753024	949.51	5.00	954.51
11	38.454386	-83.753036	941.71	5.00	946.71
12	38.454344	-83.756360	973.06	5.00	978.06
13	38.453513	-83.756360	968.24	5.00	973.24
14	38.451496	-83.756553	987.69	5.00	992.69
15	38.451496	-83.758828	986.56	5.00	991.56
16	38.452950	-83.758806	973.73	5.00	978.73
17	38.452925	-83.759128	967.36	5.00	972.36
18	38.453731	-83.759085	969.98	5.00	974.98
19	38.453740	-83.759471	968.51	5.00	973.51
20	38.455638	-83.759177	964.72	5.00	969.72
21	38.455613	-83.758147	962.35	5.00	967.35
22	38.457016	-83.758104	969.92	5.00	974.93
23	38.456991	-83.758834	958.91	5.00	963.91

Name: PV array 2
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0°
Tracking axis tilt: 0.0°
Tracking axis panel offset: 0.0°
Max tracking angle: 52.0°
Resting angle: 5.0°
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



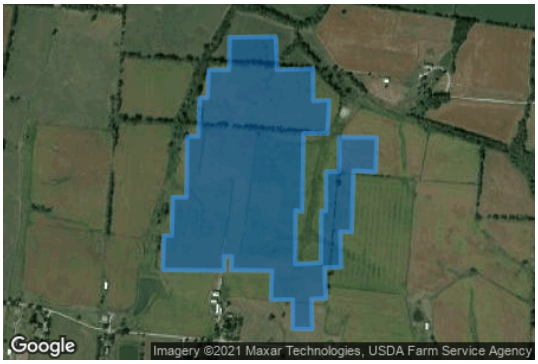
Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.441954	-83.774867	969.33	5.00	974.33
2	38.441926	-83.778402	927.98	5.00	932.98
3	38.445581	-83.778284	911.43	5.00	916.43
4	38.445572	-83.777779	922.08	5.00	927.08
5	38.446925	-83.777769	907.80	5.00	912.80
6	38.446917	-83.776470	943.65	5.00	948.65
7	38.445774	-83.776449	964.92	5.00	969.92
8	38.445782	-83.776084	964.58	5.00	969.58
9	38.444959	-83.776149	958.51	5.00	963.51
10	38.444951	-83.775698	968.68	5.00	973.68
11	38.443799	-83.775773	957.29	5.00	962.29
12	38.443808	-83.775129	966.44	5.00	971.44
13	38.443035	-83.775161	960.98	5.00	965.98
14	38.443035	-83.774722	963.82	5.00	968.82

Name: PV array 3
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0°
Tracking axis tilt: 0.0°
Tracking axis panel offset: 0.0°
Max tracking angle: 52.0°
Resting angle: 5.0°
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.449866	-83.774561	957.60	5.00	962.60
2	38.449824	-83.771471	915.81	5.00	920.81
3	38.449135	-83.771514	918.36	5.00	923.36
4	38.449118	-83.772393	941.67	5.00	946.67
5	38.447992	-83.772393	925.99	5.00	930.99
6	38.448001	-83.772747	935.46	5.00	940.46
7	38.447026	-83.772790	932.12	5.00	937.12
8	38.447026	-83.773391	947.83	5.00	952.83
9	38.445287	-83.773413	938.80	5.00	943.80
10	38.445278	-83.773788	949.32	5.00	954.32
11	38.444430	-83.773799	946.73	5.00	951.73
12	38.444438	-83.774732	970.52	5.00	975.52
13	38.445245	-83.774711	969.69	5.00	974.69
14	38.445236	-83.775161	972.39	5.00	977.39
15	38.446261	-83.775140	954.53	5.00	959.53
16	38.446236	-83.775601	954.77	5.00	959.77
17	38.447093	-83.775569	962.50	5.00	967.50
18	38.447102	-83.776052	956.52	5.00	961.52
19	38.448160	-83.776020	942.40	5.00	947.40
20	38.448152	-83.776599	928.05	5.00	933.05
21	38.448933	-83.776578	918.99	5.00	923.99
22	38.448967	-83.774711	955.85	5.00	960.85

Name: PV array 4
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0°
Tracking axis tilt: 0.0°
Tracking axis panel offset: 0.0°
Max tracking angle: 52.0°
Resting angle: 5.0°
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.448598	-83.771129	918.18	5.00	923.18
2	38.447674	-83.771150	938.67	5.00	943.67
3	38.447674	-83.771891	923.37	5.00	928.37
4	38.446884	-83.771934	933.09	5.00	938.09
5	38.446884	-83.772223	930.95	5.00	935.95
6	38.445791	-83.772266	943.53	5.00	948.53
7	38.445791	-83.772674	937.05	5.00	942.05
8	38.444069	-83.772695	947.49	5.00	952.49
9	38.444069	-83.773200	940.08	5.00	945.08
10	38.442976	-83.773232	958.95	5.00	963.95
11	38.442976	-83.773522	951.72	5.00	956.72
12	38.442010	-83.773554	961.04	5.00	966.04
13	38.441985	-83.771322	986.62	5.00	991.62
14	38.442397	-83.771322	986.59	5.00	991.59
15	38.442388	-83.771043	981.53	5.00	986.53
16	38.442002	-83.771075	985.25	5.00	990.25
17	38.441985	-83.769595	967.36	5.00	972.36
18	38.441161	-83.769627	950.83	5.00	955.83
19	38.441170	-83.768833	946.83	5.00	951.83
20	38.440338	-83.768844	933.10	5.00	938.10
21	38.440329	-83.768136	948.86	5.00	953.86
22	38.441186	-83.768157	959.82	5.00	964.82
23	38.441195	-83.767631	969.25	5.00	974.25
24	38.442069	-83.767685	966.59	5.00	971.59
25	38.442086	-83.767084	966.32	5.00	971.32
26	38.443094	-83.767106	961.24	5.00	966.24
27	38.443077	-83.766698	967.99	5.00	972.99
28	38.444817	-83.766634	955.64	5.00	960.64
29	38.444783	-83.765829	965.73	5.00	970.73
30	38.445758	-83.765786	949.90	5.00	954.90
31	38.445766	-83.767149	935.33	5.00	940.33
32	38.444791	-83.767159	949.50	5.00	954.50
33	38.444791	-83.767631	938.09	5.00	943.09
34	38.443674	-83.767631	951.63	5.00	956.63
35	38.443674	-83.767803	947.27	5.00	952.27
36	38.442212	-83.767814	963.71	5.00	968.71
37	38.442170	-83.768747	955.81	5.00	960.81
38	38.443691	-83.768736	955.82	5.00	960.82
39	38.443657	-83.768490	948.77	5.00	953.77
40	38.445875	-83.768447	945.94	5.00	950.94
41	38.445875	-83.767578	929.62	5.00	934.62
42	38.446816	-83.767513	930.71	5.00	935.71
43	38.446791	-83.768093	943.17	5.00	948.17
44	38.447716	-83.768103	921.21	5.00	926.21
45	38.447674	-83.769402	938.48	5.00	943.48
46	38.448615	-83.769455	930.41	5.00	935.41

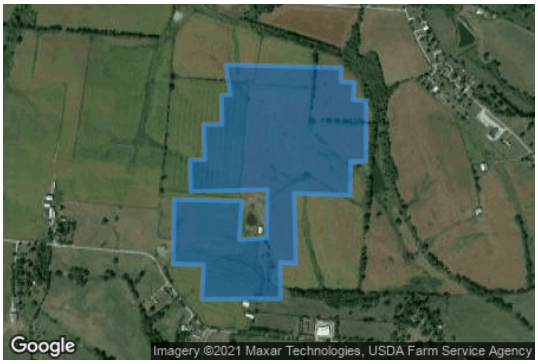
Name: PV array 5
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0°
Tracking axis tilt: 0.0°
Tracking axis panel offset: 0.0°
Max tracking angle: 52.0°
Resting angle: 5.0°
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.449205	-83.767503	921.85	5.00	926.85
2	38.447777	-83.767460	919.80	5.00	924.80
3	38.447781	-83.766778	934.61	5.00	939.61
4	38.446983	-83.766789	921.54	5.00	926.54
5	38.447004	-83.764944	939.79	5.00	944.79
6	38.447802	-83.764928	954.46	5.00	959.46
7	38.447806	-83.764466	952.46	5.00	957.46
8	38.448714	-83.764493	971.61	5.00	976.61
9	38.448668	-83.765314	965.22	5.00	970.22
10	38.449277	-83.765335	961.12	5.00	966.12

Name: PV array 6
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0°
Tracking axis tilt: 0.0°
Tracking axis panel offset: 0.0°
Max tracking angle: 52.0°
Resting angle: 5.0°
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material

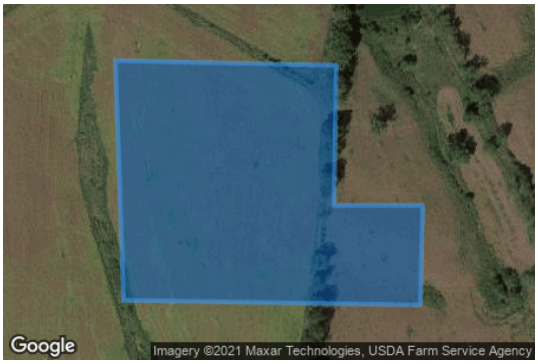
Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.448861	-83.762536	969.63	5.00	974.63
2	38.447836	-83.762569	965.91	5.00	970.91
3	38.447836	-83.762960	961.34	5.00	966.34
4	38.446916	-83.762933	957.15	5.00	962.15
5	38.446908	-83.763330	953.63	5.00	958.63
6	38.446168	-83.763373	942.61	5.00	947.61
7	38.446198	-83.760525	948.68	5.00	953.68
8	38.446904	-83.760589	959.82	5.00	964.82
9	38.446899	-83.760874	964.42	5.00	969.42
10	38.447861	-83.760874	976.87	5.00	981.87
11	38.447845	-83.761893	978.00	5.00	983.00
12	38.448891	-83.761898	973.83	5.00	978.83

Name: PV array 7
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0°
Tracking axis tilt: 0.0°
Tracking axis panel offset: 0.0°
Max tracking angle: 52.0°
Resting angle: 5.0°
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



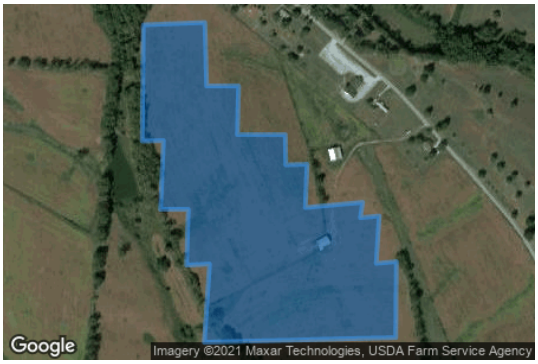
Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.445092	-83.765215	950.15	5.00	955.15
2	38.445008	-83.761031	946.04	5.00	951.04
3	38.444613	-83.761042	953.98	5.00	958.98
4	38.444597	-83.760548	943.94	5.00	948.94
5	38.444101	-83.760591	945.45	5.00	950.45
6	38.444076	-83.760119	931.48	5.00	936.48
7	38.442361	-83.760130	912.84	5.00	917.84
8	38.442353	-83.760688	913.31	5.00	918.31
9	38.441403	-83.760709	932.82	5.00	937.82
10	38.441454	-83.762737	934.24	5.00	939.24
11	38.439471	-83.762673	925.03	5.00	930.03
12	38.439504	-83.763241	926.71	5.00	931.71
13	38.438471	-83.763230	912.77	5.00	917.77
14	38.438454	-83.766084	947.59	5.00	952.59
15	38.439437	-83.766020	960.15	5.00	965.15
16	38.439454	-83.767125	944.12	5.00	949.12
17	38.441277	-83.767093	974.84	5.00	979.84
18	38.441235	-83.764636	960.18	5.00	965.18
19	38.440143	-83.764732	937.13	5.00	942.13
20	38.440185	-83.763735	938.60	5.00	943.60
21	38.441563	-83.763702	960.32	5.00	965.32
22	38.441504	-83.766492	977.77	5.00	982.77
23	38.442395	-83.766513	956.63	5.00	961.64
24	38.442412	-83.765977	961.72	5.00	966.72
25	38.443403	-83.766020	977.83	5.00	982.83
26	38.443403	-83.765355	981.42	5.00	986.42
27	38.444235	-83.765371	965.97	5.00	970.97
28	38.444244	-83.765039	956.88	5.00	961.88

Name: PV array 8
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0°
Tracking axis tilt: 0.0°
Tracking axis panel offset: 0.0°
Max tracking angle: 52.0°
Resting angle: 5.0°
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.441244	-83.762078	929.27	5.00	934.27
2	38.441210	-83.760071	918.01	5.00	923.01
3	38.440219	-83.760093	925.20	5.00	930.20
4	38.440219	-83.759288	901.32	5.00	906.32
5	38.439513	-83.759310	898.44	5.00	903.44
6	38.439546	-83.762002	912.22	5.00	917.22

Name: PV array 9
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0°
Tracking axis tilt: 0.0°
Tracking axis panel offset: 0.0°
Max tracking angle: 52.0°
Resting angle: 5.0°
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.444025	-83.759310	929.58	5.00	934.58
2	38.442378	-83.759331	928.17	5.00	933.17
3	38.442387	-83.758945	928.56	5.00	933.56
4	38.441412	-83.758998	913.22	5.00	918.22
5	38.441412	-83.758494	911.68	5.00	916.68
6	38.440622	-83.758526	904.58	5.00	909.58
7	38.440639	-83.758108	915.84	5.00	920.84
8	38.439529	-83.758204	885.10	5.00	890.10
9	38.439597	-83.754728	890.68	5.00	895.68
10	38.440672	-83.754718	892.18	5.00	897.18
11	38.440647	-83.755082	898.57	5.00	903.57
12	38.441319	-83.755029	894.99	5.00	899.99
13	38.441294	-83.755372	903.45	5.00	908.45
14	38.441513	-83.755329	902.72	5.00	907.72
15	38.441437	-83.756370	926.47	5.00	931.47
16	38.442050	-83.756338	924.05	5.00	929.05
17	38.442042	-83.756724	931.32	5.00	936.32
18	38.442471	-83.756735	927.57	5.00	932.57
19	38.442471	-83.757604	941.66	5.00	946.66
20	38.443160	-83.757582	937.25	5.00	942.25
21	38.443160	-83.758162	946.59	5.00	951.59
22	38.444059	-83.758194	948.49	5.00	953.49

Discrete Observation Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
OP 1	1	38.449233	-83.795254	911.46	6.00
OP 2	2	38.441918	-83.792721	979.87	6.00
OP 3	3	38.441888	-83.789663	989.55	6.00
OP 4	4	38.442019	-83.788489	993.80	6.00
OP 5	5	38.442000	-83.787026	991.52	6.00
OP 6	6	38.442097	-83.782745	976.31	6.00
OP 7	7	38.440819	-83.781844	971.56	6.00
OP 8	8	38.441538	-83.780079	943.51	6.00
OP 9	9	38.440521	-83.777853	951.65	6.00
OP 10	10	38.441199	-83.781131	948.26	6.00
OP 11	11	38.437013	-83.771610	967.16	6.00
OP 12	12	38.438702	-83.767526	930.48	6.00
OP 13	13	38.437559	-83.766234	935.93	6.00
OP 14	14	38.434186	-83.765911	893.71	6.00
OP 15	15	38.437897	-83.758219	937.39	6.00
OP 16	16	38.436573	-83.756658	931.62	6.00
OP 17	17	38.436523	-83.753659	876.96	6.00
OP 18	18	38.436745	-83.748541	918.72	6.00
OP 19	19	38.439199	-83.751548	913.93	6.00
OP 20	20	38.439800	-83.752058	915.92	6.00
OP 21	21	38.442147	-83.754103	921.36	6.00
OP 22	22	38.443000	-83.755578	920.03	6.00
OP 23	23	38.444126	-83.756781	941.15	6.00
OP 24	24	38.444651	-83.757848	959.35	6.00
OP 25	25	38.445744	-83.758009	975.87	6.00
OP 26	26	38.446311	-83.758352	964.55	6.00
OP 27	27	38.447853	-83.758830	979.92	6.00
OP 28	28	38.448243	-83.758867	979.96	6.00
OP 29	29	38.450836	-83.760037	974.64	6.00
OP 30	30	38.451188	-83.762295	962.43	6.00
OP 31	31	38.453616	-83.773925	934.93	6.00
OP 32	32	38.453532	-83.750172	956.89	6.00
OP 33	33	38.457145	-83.749088	975.75	6.00
OP 34	34	38.458523	-83.750847	937.64	6.00
OP 35	35	38.460321	-83.753798	961.77	6.00
OP 36	36	38.453205	-83.770342	938.61	6.00
OP 37	37	38.451583	-83.766415	939.21	6.00
OP 38	38	38.440266	-83.750297	919.19	6.00
OP 39	39	38.442422	-83.751979	905.46	6.00
OP 40	40	38.441582	-83.748374	888.39	6.00

Route Receptor(s)

Name: Route 1
Path type: Two-way
Observer view angle: 50.0°

Note: Route receptors are excluded from this FAA policy review. Use the 2-mile flight path receptor to simulate flight paths according to FAA guidelines.

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.453117	-83.774605	927.10	4.00	931.10
2	38.452894	-83.774449	923.06	4.00	927.06
3	38.452846	-83.774001	916.55	4.00	920.55
4	38.452655	-83.770748	933.21	4.00	937.21
5	38.452570	-83.770013	945.55	4.00	949.55
6	38.452366	-83.766731	958.58	4.00	962.58
7	38.452273	-83.766449	952.98	4.00	956.98
8	38.451200	-83.764547	937.65	4.00	941.65
9	38.451085	-83.764158	946.08	4.00	950.08
10	38.450822	-83.759895	974.80	4.00	978.80
11	38.450719	-83.759502	977.61	4.00	981.61
12	38.450483	-83.759263	983.22	4.00	987.22
13	38.447849	-83.759027	977.77	4.00	981.77
14	38.446920	-83.758781	960.64	4.00	964.64
15	38.445887	-83.758325	971.83	4.00	975.83
16	38.445168	-83.757826	960.29	4.00	964.29
17	38.444282	-83.756501	937.92	4.00	941.92
18	38.443173	-83.754827	925.53	4.00	929.53
19	38.442597	-83.754140	922.93	4.00	926.93
20	38.441185	-83.752563	924.66	4.00	928.66
21	38.438327	-83.750306	926.26	4.00	930.26
22	38.437935	-83.749829	920.79	4.00	924.79

Name: Route 2
Path type: Two-way
Observer view angle: 50.0°

Note: Route receptors are excluded from this FAA policy review. Use the 2-mile flight path receptor to simulate flight paths according to FAA guidelines.

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.438178	-83.750260	923.89	4.00	927.89
2	38.436674	-83.753665	870.35	4.00	874.35
3	38.437582	-83.765896	933.02	4.00	937.02
4	38.437849	-83.766305	941.21	4.00	945.21
5	38.438910	-83.767316	941.04	4.00	945.04
6	38.439173	-83.767493	941.31	4.00	945.31
7	38.439509	-83.767721	931.29	4.00	935.29
8	38.439700	-83.768027	932.51	4.00	936.51
9	38.440308	-83.775840	971.29	4.00	975.29
10	38.440837	-83.777536	940.29	4.00	944.29
11	38.441014	-83.778635	931.46	4.00	935.46
12	38.441500	-83.785456	982.19	4.00	986.19
13	38.441749	-83.789247	991.06	4.00	995.06
14	38.441539	-83.789977	987.51	4.00	991.51
15	38.441069	-83.791629	964.36	4.00	968.36
16	38.441098	-83.793019	979.88	4.00	983.88
17	38.441175	-83.794491	958.19	4.00	962.19
18	38.440724	-83.796462	971.42	4.00	975.42

Name: Route 3
Path type: Two-way
Observer view angle: 50.0°

Note: Route receptors are excluded from this FAA policy review. Use the 2-mile flight path receptor to simulate flight paths according to FAA guidelines.

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.440333	-83.742563	894.14	4.00	898.14
2	38.443782	-83.742706	874.05	4.00	878.05
3	38.444849	-83.742952	874.40	4.00	878.40
4	38.445942	-83.743666	872.90	4.00	876.90
5	38.452252	-83.748569	923.70	4.00	927.70
6	38.453336	-83.749084	937.23	4.00	941.23
7	38.454882	-83.749234	953.32	4.00	957.32
8	38.456478	-83.749427	963.14	4.00	967.14
9	38.457898	-83.749856	951.83	4.00	955.83
10	38.459225	-83.750532	937.58	4.00	941.58
11	38.460200	-83.751358	927.42	4.00	931.43
12	38.464476	-83.755532	879.76	4.00	883.76
13	38.464636	-83.755639	877.97	4.00	881.97

Name: Route 4
Path type: Two-way
Observer view angle: 50.0°

Note: Route receptors are excluded from this FAA policy review. Use the 2-mile flight path receptor to simulate flight paths according to FAA guidelines.

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.466867	-83.773034	978.98	4.00	982.99
2	38.453216	-83.774599	929.30	4.00	933.30

GLARE ANALYSIS RESULTS

Summary of Glare

PV Array Name	Tilt (°)	Orient (°)	"Green" Glare min	"Yellow" Glare min	Energy kWh
PV array 1	SA tracking	SA tracking	0	0	-
PV array 10	SA tracking	SA tracking	0	0	-
PV array 2	SA tracking	SA tracking	0	0	-
PV array 3	SA tracking	SA tracking	0	0	-
PV array 4	SA tracking	SA tracking	0	0	-
PV array 5	SA tracking	SA tracking	0	0	-
PV array 6	SA tracking	SA tracking	0	0	-
PV array 7	SA tracking	SA tracking	0	0	-
PV array 8	SA tracking	SA tracking	0	0	-
PV array 9	SA tracking	SA tracking	0	0	-

Total annual glare received by each receptor

Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
OP 1	0	0
OP 2	0	0
OP 3	0	0
OP 4	0	0
OP 5	0	0
OP 6	0	0
OP 7	0	0
OP 8	0	0
OP 9	0	0
OP 10	0	0
OP 11	0	0

Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
OP 12	0	0
OP 13	0	0
OP 14	0	0
OP 15	0	0
OP 16	0	0
OP 17	0	0
OP 18	0	0
OP 19	0	0
OP 20	0	0
OP 21	0	0
OP 22	0	0
OP 23	0	0
OP 24	0	0
OP 25	0	0
OP 26	0	0
OP 27	0	0
OP 28	0	0
OP 29	0	0
OP 30	0	0
OP 31	0	0
OP 32	0	0
OP 33	0	0
OP 34	0	0
OP 35	0	0
OP 36	0	0
OP 37	0	0
OP 38	0	0
OP 39	0	0
OP 40	0	0
Route 1	0	0
Route 2	0	0
Route 3	0	0
Route 4	0	0

Results for: PV array 1

Receptor	Green Glare (min)	Yellow Glare (min)
OP 1	0	0
OP 2	0	0
OP 3	0	0

Receptor	Green Glare (min)	Yellow Glare (min)
OP 4	0	0
OP 5	0	0
OP 6	0	0
OP 7	0	0
OP 8	0	0
OP 9	0	0
OP 10	0	0
OP 11	0	0
OP 12	0	0
OP 13	0	0
OP 14	0	0
OP 15	0	0
OP 16	0	0
OP 17	0	0
OP 18	0	0
OP 19	0	0
OP 20	0	0
OP 21	0	0
OP 22	0	0
OP 23	0	0
OP 24	0	0
OP 25	0	0
OP 26	0	0
OP 27	0	0
OP 28	0	0
OP 29	0	0
OP 30	0	0
OP 31	0	0
OP 32	0	0
OP 33	0	0
OP 34	0	0
OP 35	0	0
OP 36	0	0
OP 37	0	0
OP 38	0	0
OP 39	0	0
OP 40	0	0
Route 1	0	0
Route 2	0	0
Route 3	0	0
Route 4	0	0

Point Receptor: OP 1

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 2

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 3

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 4

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 5

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 6

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 7

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 8

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 9

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 10

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 11

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 12

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 13

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 14

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 15

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 16

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 17

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 18

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 19

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 20

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 21

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 22

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 23

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 24

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 25

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 26

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 27

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 28

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 29

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 30

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 31

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 32

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 33

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 34

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 35

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 36

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 37

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 38

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 39

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 40

0 minutes of yellow glare
0 minutes of green glare

Route: Route 1

0 minutes of yellow glare
0 minutes of green glare

Route: Route 2

0 minutes of yellow glare
0 minutes of green glare

Route: Route 3

0 minutes of yellow glare
0 minutes of green glare

Route: Route 4

0 minutes of yellow glare
0 minutes of green glare

Results for: PV array 10

Receptor	Green Glare (min)	Yellow Glare (min)
OP 1	0	0
OP 2	0	0
OP 3	0	0
OP 4	0	0
OP 5	0	0
OP 6	0	0
OP 7	0	0
OP 8	0	0
OP 9	0	0
OP 10	0	0
OP 11	0	0

Receptor	Green Glare (min)	Yellow Glare (min)
OP 12	0	0
OP 13	0	0
OP 14	0	0
OP 15	0	0
OP 16	0	0
OP 17	0	0
OP 18	0	0
OP 19	0	0
OP 20	0	0
OP 21	0	0
OP 22	0	0
OP 23	0	0
OP 24	0	0
OP 25	0	0
OP 26	0	0
OP 27	0	0
OP 28	0	0
OP 29	0	0
OP 30	0	0
OP 31	0	0
OP 32	0	0
OP 33	0	0
OP 34	0	0
OP 35	0	0
OP 36	0	0
OP 37	0	0
OP 38	0	0
OP 39	0	0
OP 40	0	0
Route 1	0	0
Route 2	0	0
Route 3	0	0
Route 4	0	0

Point Receptor: OP 1

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 2

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 3

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 4

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 5

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 6

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 7

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 8

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 9

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 10

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 11

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 12

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 13

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 14

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 15

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 16

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 17

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 18

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 19

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 20

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 21

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 22

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 23

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 24

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 25

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 26

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 27

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 28

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 29

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 30

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 31

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 32

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 33

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 34

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 35

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 36

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 37

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 38

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 39

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 40

0 minutes of yellow glare
0 minutes of green glare

Route: Route 1

0 minutes of yellow glare
0 minutes of green glare

Route: Route 2

0 minutes of yellow glare
0 minutes of green glare

Route: Route 3

0 minutes of yellow glare
0 minutes of green glare

Route: Route 4

0 minutes of yellow glare
0 minutes of green glare

Results for: PV array 2

Receptor	Green Glare (min)	Yellow Glare (min)
OP 1	0	0
OP 2	0	0
OP 3	0	0
OP 4	0	0
OP 5	0	0
OP 6	0	0
OP 7	0	0
OP 8	0	0
OP 9	0	0
OP 10	0	0
OP 11	0	0
OP 12	0	0
OP 13	0	0
OP 14	0	0
OP 15	0	0
OP 16	0	0
OP 17	0	0
OP 18	0	0
OP 19	0	0
OP 20	0	0
OP 21	0	0

Receptor	Green Glare (min)	Yellow Glare (min)
OP 22	0	0
OP 23	0	0
OP 24	0	0
OP 25	0	0
OP 26	0	0
OP 27	0	0
OP 28	0	0
OP 29	0	0
OP 30	0	0
OP 31	0	0
OP 32	0	0
OP 33	0	0
OP 34	0	0
OP 35	0	0
OP 36	0	0
OP 37	0	0
OP 38	0	0
OP 39	0	0
OP 40	0	0
Route 1	0	0
Route 2	0	0
Route 3	0	0
Route 4	0	0

Point Receptor: OP 1

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 2

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 3

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 4

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 5

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 6

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 7

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 8

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 9

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 10

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 11

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 12

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 13

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 14

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 15

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 16

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 17

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 18

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 19

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 20

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 21

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 22

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 23

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 24

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 25

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 26

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 27

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 28

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 29

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 30

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 31

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 32

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 33

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 34

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 35

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 36

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 37

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 38

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 39

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 40

0 minutes of yellow glare
0 minutes of green glare

Route: Route 1

0 minutes of yellow glare
0 minutes of green glare

Route: Route 2

0 minutes of yellow glare
0 minutes of green glare

Route: Route 3

0 minutes of yellow glare
0 minutes of green glare

Route: Route 4

0 minutes of yellow glare
0 minutes of green glare

Results for: PV array 3

Receptor	Green Glare (min)	Yellow Glare (min)
OP 1	0	0
OP 2	0	0
OP 3	0	0
OP 4	0	0
OP 5	0	0
OP 6	0	0
OP 7	0	0
OP 8	0	0
OP 9	0	0
OP 10	0	0
OP 11	0	0
OP 12	0	0
OP 13	0	0
OP 14	0	0
OP 15	0	0
OP 16	0	0
OP 17	0	0
OP 18	0	0
OP 19	0	0
OP 20	0	0
OP 21	0	0
OP 22	0	0
OP 23	0	0
OP 24	0	0
OP 25	0	0
OP 26	0	0
OP 27	0	0
OP 28	0	0
OP 29	0	0
OP 30	0	0

Receptor	Green Glare (min)	Yellow Glare (min)
OP 31	0	0
OP 32	0	0
OP 33	0	0
OP 34	0	0
OP 35	0	0
OP 36	0	0
OP 37	0	0
OP 38	0	0
OP 39	0	0
OP 40	0	0
Route 1	0	0
Route 2	0	0
Route 3	0	0
Route 4	0	0

Point Receptor: OP 1

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 2

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 3

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 4

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 5

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 6

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 7

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 8

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 9

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 10

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 11

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 12

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 13

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 14

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 15

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 16

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 17

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 18

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 19

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 20

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 21

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 22

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 23

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 24

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 25

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 26

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 27

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 28

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 29

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 30

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 31

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 32

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 33

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 34

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 35

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 36

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 37

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 38

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 39

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 40

0 minutes of yellow glare
0 minutes of green glare

Route: Route 1

0 minutes of yellow glare
0 minutes of green glare

Route: Route 2

0 minutes of yellow glare
0 minutes of green glare

Route: Route 3

0 minutes of yellow glare
0 minutes of green glare

Route: Route 4

0 minutes of yellow glare
0 minutes of green glare

Results for: PV array 4

Receptor	Green Glare (min)	Yellow Glare (min)
OP 1	0	0
OP 2	0	0
OP 3	0	0
OP 4	0	0
OP 5	0	0
OP 6	0	0
OP 7	0	0
OP 8	0	0
OP 9	0	0
OP 10	0	0
OP 11	0	0
OP 12	0	0
OP 13	0	0
OP 14	0	0
OP 15	0	0
OP 16	0	0
OP 17	0	0
OP 18	0	0
OP 19	0	0
OP 20	0	0
OP 21	0	0
OP 22	0	0
OP 23	0	0
OP 24	0	0
OP 25	0	0
OP 26	0	0
OP 27	0	0
OP 28	0	0
OP 29	0	0
OP 30	0	0
OP 31	0	0
OP 32	0	0
OP 33	0	0
OP 34	0	0
OP 35	0	0
OP 36	0	0
OP 37	0	0
OP 38	0	0
OP 39	0	0

Receptor	Green Glare (min)	Yellow Glare (min)
OP 40	0	0
Route 1	0	0
Route 2	0	0
Route 3	0	0
Route 4	0	0

Point Receptor: OP 1

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 2

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 3

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 4

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 5

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 6

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 7

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 8

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 9

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 10

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 11

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 12

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 13

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 14

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 15

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 16

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 17

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 18

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 19

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 20

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 21

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 22

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 23

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 24

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 25

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 26

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 27

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 28

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 29

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 30

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 31

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 32

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 33

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 34

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 35

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 36

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 37

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 38

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 39

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 40

0 minutes of yellow glare
0 minutes of green glare

Route: Route 1

0 minutes of yellow glare
0 minutes of green glare

Route: Route 2

0 minutes of yellow glare
0 minutes of green glare

Route: Route 3

0 minutes of yellow glare
0 minutes of green glare

Route: Route 4

0 minutes of yellow glare
0 minutes of green glare

Results for: PV array 5

Receptor	Green Glare (min)	Yellow Glare (min)
OP 1	0	0
OP 2	0	0
OP 3	0	0
OP 4	0	0
OP 5	0	0

Receptor	Green Glare (min)	Yellow Glare (min)
OP 6	0	0
OP 7	0	0
OP 8	0	0
OP 9	0	0
OP 10	0	0
OP 11	0	0
OP 12	0	0
OP 13	0	0
OP 14	0	0
OP 15	0	0
OP 16	0	0
OP 17	0	0
OP 18	0	0
OP 19	0	0
OP 20	0	0
OP 21	0	0
OP 22	0	0
OP 23	0	0
OP 24	0	0
OP 25	0	0
OP 26	0	0
OP 27	0	0
OP 28	0	0
OP 29	0	0
OP 30	0	0
OP 31	0	0
OP 32	0	0
OP 33	0	0
OP 34	0	0
OP 35	0	0
OP 36	0	0
OP 37	0	0
OP 38	0	0
OP 39	0	0
OP 40	0	0
Route 1	0	0
Route 2	0	0
Route 3	0	0
Route 4	0	0

Point Receptor: OP 1

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 2

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 3

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 4

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 5

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 6

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 7

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 8

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 9

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 10

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 11

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 12

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 13

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 14

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 15

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 16

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 17

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 18

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 19

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 20

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 21

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 22

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 23

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 24

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 25

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 26

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 27

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 28

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 29

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 30

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 31

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 32

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 33

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 34

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 35

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 36

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 37

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 38

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 39

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 40

0 minutes of yellow glare
0 minutes of green glare

Route: Route 1

0 minutes of yellow glare
0 minutes of green glare

Route: Route 2

0 minutes of yellow glare
0 minutes of green glare

Route: Route 3

0 minutes of yellow glare
0 minutes of green glare

Route: Route 4

0 minutes of yellow glare
0 minutes of green glare

Results for: PV array 6

Receptor	Green Glare (min)	Yellow Glare (min)
OP 1	0	0
OP 2	0	0
OP 3	0	0
OP 4	0	0
OP 5	0	0
OP 6	0	0
OP 7	0	0
OP 8	0	0
OP 9	0	0
OP 10	0	0
OP 11	0	0
OP 12	0	0
OP 13	0	0
OP 14	0	0

Receptor	Green Glare (min)	Yellow Glare (min)
OP 15	0	0
OP 16	0	0
OP 17	0	0
OP 18	0	0
OP 19	0	0
OP 20	0	0
OP 21	0	0
OP 22	0	0
OP 23	0	0
OP 24	0	0
OP 25	0	0
OP 26	0	0
OP 27	0	0
OP 28	0	0
OP 29	0	0
OP 30	0	0
OP 31	0	0
OP 32	0	0
OP 33	0	0
OP 34	0	0
OP 35	0	0
OP 36	0	0
OP 37	0	0
OP 38	0	0
OP 39	0	0
OP 40	0	0
Route 1	0	0
Route 2	0	0
Route 3	0	0
Route 4	0	0

Point Receptor: OP 1

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 2

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 3

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 4

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 5

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 6

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 7

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 8

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 9

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 10

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 11

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 12

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 13

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 14

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 15

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 16

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 17

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 18

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 19

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 20

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 21

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 22

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 23

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 24

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 25

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 26

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 27

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 28

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 29

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 30

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 31

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 32

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 33

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 34

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 35

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 36

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 37

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 38

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 39

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 40

0 minutes of yellow glare
0 minutes of green glare

Route: Route 1

0 minutes of yellow glare
0 minutes of green glare

Route: Route 2

0 minutes of yellow glare
0 minutes of green glare

Route: Route 3

0 minutes of yellow glare
0 minutes of green glare

Route: Route 4

0 minutes of yellow glare
0 minutes of green glare

Results for: PV array 7

Receptor	Green Glare (min)	Yellow Glare (min)
OP 1	0	0
OP 2	0	0
OP 3	0	0
OP 4	0	0
OP 5	0	0
OP 6	0	0
OP 7	0	0
OP 8	0	0
OP 9	0	0
OP 10	0	0
OP 11	0	0
OP 12	0	0
OP 13	0	0
OP 14	0	0
OP 15	0	0
OP 16	0	0
OP 17	0	0
OP 18	0	0
OP 19	0	0
OP 20	0	0
OP 21	0	0

Receptor	Green Glare (min)	Yellow Glare (min)
OP 22	0	0
OP 23	0	0
OP 24	0	0
OP 25	0	0
OP 26	0	0
OP 27	0	0
OP 28	0	0
OP 29	0	0
OP 30	0	0
OP 31	0	0
OP 32	0	0
OP 33	0	0
OP 34	0	0
OP 35	0	0
OP 36	0	0
OP 37	0	0
OP 38	0	0
OP 39	0	0
OP 40	0	0
Route 1	0	0
Route 2	0	0
Route 3	0	0
Route 4	0	0

Point Receptor: OP 1

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 2

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 3

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 4

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 5

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 6

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 7

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 8

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 9

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 10

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 11

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 12

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 13

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 14

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 15

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 16

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 17

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 18

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 19

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 20

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 21

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 22

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 23

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 24

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 25

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 26

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 27

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 28

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 29

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 30

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 31

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 32

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 33

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 34

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 35

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 36

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 37

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 38

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 39

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 40

0 minutes of yellow glare
0 minutes of green glare

Route: Route 1

0 minutes of yellow glare
0 minutes of green glare

Route: Route 2

0 minutes of yellow glare
0 minutes of green glare

Route: Route 3

0 minutes of yellow glare
0 minutes of green glare

Route: Route 4

0 minutes of yellow glare
0 minutes of green glare

Results for: PV array 8

Receptor	Green Glare (min)	Yellow Glare (min)
OP 1	0	0
OP 2	0	0
OP 3	0	0
OP 4	0	0
OP 5	0	0
OP 6	0	0
OP 7	0	0
OP 8	0	0
OP 9	0	0
OP 10	0	0
OP 11	0	0
OP 12	0	0
OP 13	0	0
OP 14	0	0
OP 15	0	0
OP 16	0	0
OP 17	0	0
OP 18	0	0
OP 19	0	0
OP 20	0	0
OP 21	0	0
OP 22	0	0
OP 23	0	0
OP 24	0	0
OP 25	0	0
OP 26	0	0
OP 27	0	0
OP 28	0	0
OP 29	0	0
OP 30	0	0

Receptor	Green Glare (min)	Yellow Glare (min)
OP 31	0	0
OP 32	0	0
OP 33	0	0
OP 34	0	0
OP 35	0	0
OP 36	0	0
OP 37	0	0
OP 38	0	0
OP 39	0	0
OP 40	0	0
Route 1	0	0
Route 2	0	0
Route 3	0	0
Route 4	0	0

Point Receptor: OP 1

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 2

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 3

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 4

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 5

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 6

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 7

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 8

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 9

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 10

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 11

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 12

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 13

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 14

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 15

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 16

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 17

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 18

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 19

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 20

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 21

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 22

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 23

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 24

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 25

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 26

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 27

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 28

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 29

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 30

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 31

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 32

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 33

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 34

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 35

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 36

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 37

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 38

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 39

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 40

0 minutes of yellow glare
0 minutes of green glare

Route: Route 1

0 minutes of yellow glare
0 minutes of green glare

Route: Route 2

0 minutes of yellow glare
0 minutes of green glare

Route: Route 3

0 minutes of yellow glare
0 minutes of green glare

Route: Route 4

0 minutes of yellow glare
0 minutes of green glare

Results for: PV array 9

Receptor	Green Glare (min)	Yellow Glare (min)
OP 1	0	0
OP 2	0	0
OP 3	0	0
OP 4	0	0
OP 5	0	0
OP 6	0	0
OP 7	0	0
OP 8	0	0
OP 9	0	0
OP 10	0	0
OP 11	0	0
OP 12	0	0
OP 13	0	0
OP 14	0	0
OP 15	0	0
OP 16	0	0
OP 17	0	0
OP 18	0	0
OP 19	0	0
OP 20	0	0
OP 21	0	0
OP 22	0	0
OP 23	0	0
OP 24	0	0
OP 25	0	0
OP 26	0	0
OP 27	0	0
OP 28	0	0
OP 29	0	0
OP 30	0	0
OP 31	0	0
OP 32	0	0
OP 33	0	0
OP 34	0	0
OP 35	0	0
OP 36	0	0
OP 37	0	0
OP 38	0	0
OP 39	0	0

Receptor	Green Glare (min)	Yellow Glare (min)
OP 40	0	0
Route 1	0	0
Route 2	0	0
Route 3	0	0
Route 4	0	0

Point Receptor: OP 1

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 2

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 3

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 4

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 5

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 6

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 7

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 8

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 9

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 10

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 11

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 12

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 13

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 14

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 15

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 16

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 17

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 18

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 19

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 20

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 21

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 22

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 23

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 24

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 25

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 26

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 27

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 28

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 29

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 30

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 31

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 32

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 33

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 34

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 35

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 36

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 37

0 minutes of yellow glare

0 minutes of green glare

Point Receptor: OP 38

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 39

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 40

0 minutes of yellow glare
0 minutes of green glare

Route: Route 1

0 minutes of yellow glare
0 minutes of green glare

Route: Route 2

0 minutes of yellow glare
0 minutes of green glare

Route: Route 3

0 minutes of yellow glare
0 minutes of green glare

Route: Route 4

0 minutes of yellow glare
0 minutes of green glare

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
Several calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual results and glare occurrence may differ.
Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
Refer to the Help page at **www.forgesolar.com/help/** for assumptions and limitations not listed here.