

Horseshoe Bend Solar, LLC
Kentucky State Board on Electric
Generation and Transmission Application

Site Assessment Report

Case No. 2020-00190

December 2020



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1. Description of Proposed Facility

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:

The proposed facility is described in detail in Section 2 of the Application. The proposed site development plan is attached hereto as Attachment A, and is described in detail at numbers 3-7 below.

1. A detailed description of the surrounding land uses is identified in the Impact Study conducted by Kirkland Appraisals, LLC, and attached as Attachment B. A summary of the surrounding land use is contained in the chart below:

	Acreage	Parcels
Residential	3.13%	38.71%
Agricultural	35.78%	29.03%
Agri/Res	61.10%	32.26%

Pages 5-6 of the Kirkland Impact Study list the adjoining parcels, state whether each parcel has a residential home, and state the number of feet between each adjoining residential home and the solar facility.

To provide more information on the closest residential homes to the project, a map showing a 300' radius around the exterior of the project is attached as Attachment C. There are two non-participating residential homes within 300' of the Project, which are marked on the map. A table containing information on these residential homes and their distance from the Project is included in Attachment C.

In order to provide the Siting Board with a visualization of the surrounding area, Applicant took a number of photos from the roadways surrounding the proposed facility. These photos, along with a map index showing the location where each image was taken, are attached as Attachment D.

2. Attachment E contains the boundary survey, as well as the legal descriptions of the properties that are leasing land to the proposed facility.
3. The proposed site entrances are marked with orange dots on the site development plan attached hereto as Attachment A. In order to comply with the National Electric Safety Code, the entire site (all areas where equipment is located) will be fenced prior to construction and all entrances to the site will be gated, and locked at all times when workers are not active on site.
4. The preliminary site development plan is located in Attachment A. The applicant will provide a final site plan to the Siting Board prior to construction. The preliminary plan shows the following items that will not materially change during final design:
 - a. potential Project Footprint (described in detail below, and depicted on the site plan in Attachment A)
 - b. utility easement
 - c. Project setbacks from property lines and roads
 - d. Project setbacks from non-participating residential homes
 - e. vegetative buffer locations and specification¹
 - f. substation and interconnection equipment area
 - g. parcel boundaries

The Applicant proposes that any material changes to the locations of the above items would require approval from the Siting Board.

The preliminary site development plan also shows the preliminary locations of the following equipment that will change during the detailed design process. Until detailed civil engineering and equipment manufacturing sourcing selections are made prior to

¹ As described in Section 2 of the Application, the proposed vegetative buffer will consist of two staggered rows of evergreen shrubs. The buffer is designed to be approximately 15 feet wide, and the shrubs will be at least three feet in height at time of planting.

construction, Applicant is not able to provide the exact location of these items. The Applicant proposes that changes to the location of these items will not require approval from the Siting Board, as these modifications will not materially change the off-site visual or auditory perception of the facilities:

- h. interior access roads
- i. construction entrances
- j. solar panel, racking, inverter, energy storage, and transformer equipment areas (indicative locations for this equipment are shown on the preliminary facility layout, but actual locations will change within the Potential Project Footprint)
- k. security fence (the security fence will enclose all Project equipment, but its location may change from the specific locations shown on the preliminary facility layout based on changes in the location of the equipment within the Potential Project Footprint)

All equipment related to the Project will be placed within the Potential Project Footprint, with the exception of the fencing, vegetative buffers and pollinator plantings. The fencing, vegetative buffers and pollinator plantings may be placed outside the Potential Project Footprint², so that the Potential Project Footprint setbacks are measured to the nearest solar panel or other equipment.

The Potential Project Footprint in the site development plan conforms with the following proposed setbacks:

- 50 feet from adjacent roadways
- 25 feet from non-participating adjoining parcels
- 150 feet from non-participating residences

Applicant proposes the following additional setbacks for central inverters, if used, and energy storage systems within the Potential Project Footprint³:

- 150 feet from property boundaries
- 300 feet from non-participating residences

² Excluding fencing and vegetative buffers from solar project setbacks is fairly standard practice in jurisdictions that have planning and zoning and enact a solar ordinance. Fencing and vegetation are both typically found in residential neighborhoods, and are not typically regulated by setback restrictions.

³ In the Applicant's experience, most zoning jurisdictions in the US that have a solar ordinance do not include a specific setback for inverters or energy storage systems, in addition to the general property line setbacks that apply to all equipment within the solar project. Applicant is proposing the additional setback for central inverters and energy storage systems in order to provide the Siting Board and neighbors of the project with certainty about the nearest potential locations of this equipment.

The purpose of the Potential Project Footprint and associated setbacks is to provide the neighbors of the project and surrounding community with certainty as to the nearest locations they can expect to see solar panels and equipment. Although there are some areas of the site where the outer boundaries of the Potential Project Footprint are located near property lines, in many areas of this Project the Potential Project Footprint is set back from property lines by hundreds of feet, providing a larger buffer between the project and the surrounding community.

In proposing the suggested setbacks for this Project, the Applicant considered that the Potential Project Footprint is significantly set back from Highway 218, has natural setbacks to most of Jim Meadows Road, and is relatively close only to two (2) non-participating residences. Due to a number of site constraints such as topography, streams and wetlands, and in order to allow the Project landowners continued access to certain barns and areas on their properties that will remain in farm production, Applicant requires these proposed setbacks in order to build the Project at the proposed size.

5. The location and use of construction access points and internal roads are described in items 3 and 4 above. There are no railways that intersect with the Project site.
6. The Green County – Summer Shade 161kv transmission line will serve the facility and carry electricity generated by the Project. At this time, it is not anticipated that the Project will need to receive external utility services during typical plant operation. If electricity service is required during construction or operation of the Project, it will be contracted with the local utility, Taylor County RECC.
7. As stated in Section 5 of the Application, there is one residential neighborhood (as defined by KRS 278.700 (6)) within two thousand (2,000) of the Project. Pursuant to KRS 278.704 (4), Horseshoe Bend Solar will be moving the Siting Board for a deviation from this setback requirement.
8. Attachment F contains a report by GAI Consultants showing noise levels expected to be produced by the facility during construction and operation. It indicates that “Due to the nature of this Project including the construction, types of equipment to be installed, and planned operation, it is anticipated the impacts to the existing sound level environment will be minimal in GAI’s professional opinion based on the setback distances proposed.”

2. Compatibility with Scenic Surroundings

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

COMPLIANCE:

The Project is situated in a rural area, significantly set back from most roadways and surrounding homes and businesses, and will be nearly completely surrounded by existing vegetation. Once the Project is complete, it will likely only be visible from a short stretch of Jim Meadows Road and Roy Bagby Road, small county roadways.

There are 2 non-participating residential homes within 300 feet of the proposed location of solar panels and equipment, as shown on the map and table in Attachment C. One of the homes (Residence C marked on the map) has existing vegetation that will block much of the view of the solar facility. As noted in Section 6 of the Siting Board Application, representatives from Horseshoe Bend met with the owners of the other home (Residence A marked on the map) and explained the Project, setbacks and proposed vegetative buffer to the homeowners, who did not express concern or opposition to the Project.

An additional vegetative buffer is proposed at the historic family cemetery at the Southern end of the Project site. More information on this cemetery is provided in the Mitigation Measures section of this Site Assessment Report.

In order to provide the Siting Board with a feel for the scenic surroundings of the area, Applicant prepared a set of images taken from roadways around the Project site. See Attachment D for images taken from public areas around the proposed site, including Jim Meadows Road and Roy Bagby Road. These images are accompanied by a map that shows the location where each image was taken from, as well as the general direction of the image.

For more information about the compatibility of solar facilities with rural land, please refer to Sections III-VI from Attachment B which address appropriate setbacks, topography, harmony of use, and compatibility in detail.

An excerpt from Section IV, page 102, of Attachment B reads as follows:

“[L]arger solar farms using fixed or tracking panels are a passive use of the land that is in keeping with a rural/residential area. . . . The solar panels are all less than 15 feet high, which means that the visual impact of the solar panels will be similar in height to a typical greenhouse and lower than a single story residential dwelling. Were the subject property developed with single family housing, that development would have a much greater visual impact on the surrounding

area given that a two-story home with attic could be three to four times as high as these proposed panels.”

3. Property Value Impacts

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

COMPLIANCE: See Attachment B for a report studying potential property value impacts to owners adjacent to the proposed facility by a certified real estate appraiser. The conclusion of the report, Section VII on page 107, reads as follows:

“The matched pair analysis shows no 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 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.

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. Industrial uses rarely absorb negative impacts from adjoining uses.

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 property 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 no traffic.”

4. Anticipated Noise Levels at Property Boundary

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: See Attachment F for a report studying the anticipated peak and average noise levels associated with the facility's construction and operation at the property boundary. See the excerpt below for a brief summary, found on page 8 of Attachment F.

“Per evaluation based on KRS 278.708 (3)(a)(8) and (3)(d), KRS 278.710 (1)(b), KRS 278.708 (3)(e), and KRS 278.710 (1)(a), the Sound and Traffic Evaluation Report concludes that anticipated noise and traffic impacts for the construction and operation of the facility will be minimal, and further detailed sound and traffic studies will not be required.

Due to the nature of this Project including the construction, types of equipment to be installed, and planned operation, it is anticipated the impacts to the existing sound level environment will be minimal in GAI’s professional opinion based on the setback distances proposed”.

Horseshoe Bend's construction activity, process, and deliveries shall be limited to the hours of 7 a.m. and 9 p.m. daily.

In order to inform the neighbors of the Project about potential noise impacts during construction and operation, Applicant proposes to send the following notices:

1. At or prior to the commencement of construction, Applicant shall send a letter to property owners within 1,500 feet of the property boundary, notifying them that the facility will be in construction and providing them with a point of contact that they can call or email if they have questions or concerns regarding construction noises or other impacts.
2. At or prior to the commencement of operation, Applicant shall send a letter to property owners within 500 feet of the property boundary, notifying them that the facility will be in operation and providing them with a point of contact that they can call or email if they have questions or concerns regarding operation noises or other impacts.

5. Effect on Road, Railways, and Fugitive Dust

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: See Attachment F for a report on the Project's impact on road and rail traffic, and anticipated levels of fugitive dust created by the traffic and degradation of roads caused by traffic created by the Project. See below for a brief summary of the report, page 8.

"The traffic assessment concludes that due to the traffic volume of construction and operation trips anticipated to be fewer than 200 vehicles per 14-hour workday along low-volume roads, and appropriate safety strategies such as providing work zone signage and flaggers will be implemented, traffic impacts during construction will be minor. There will only be workers occasionally on-site upon completion as the facility will not be staffed during normal operation."

Additionally, as noted in the report, Horseshoe Bend or its contractors will fix or pay for damage resulting from any vehicle transport to the project site, as may be required by the applicable transportation permits obtained from State and local road authorities.

The Project will not use railways for any construction or operation activities.

6. Mitigation Measures

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

COMPLIANCE: Proposed mitigation measures are listed below:

As described in Section 1 of this Site Assessment Report:

1. Setbacks for solar equipment from roads and property lines, with increased setbacks for certain equipment, and additional setbacks from 2 non-participating residential homes that are located relatively close to property lines.
Applicant proposes the following setbacks for solar equipment:
 - 50 feet from adjacent roadways
 - 25 feet from non-participating adjoining parcels
 - 150 feet from non-participating residencesApplicant proposes the following additional setbacks for central inverters, if used, and energy storage systems:
 - 150 feet from property boundaries
 - 300 feet from non-participating residencesThe security fencing, vegetative buffer and pollinator plantings shall not be subject to these setback restrictions.
2. Planting of native evergreen species as a visual buffer to mitigate viewshed impacts; see the site development plan in Attachment A for proposed planting areas, and Section 1 of the Application for the proposed specifications of the vegetative buffer. Plantings are primarily proposed in areas directly adjacent to the Project that lack existing vegetation. Members of the development team have met with neighbors to ensure they are aware of the Project and the locations of the proposed vegetative buffers.
3. Cultivation of at least 2 acres of native pollinator-friendly species onsite; see the site development plan in Attachment A for the anticipated pollinator area, and Section 1 of the Application for information about pollinators and solar.

Additional mitigation measures:

1. Complying with all applicable requirements of the National Electrical Safety Code, including requirements that apply to security fencing and signage. The community has provided feedback that frequent signage along the security fence is unsightly, and should be tempered in use. The National Electric Safety Code includes requirements on safety signage along the security fence, which the Project will comply with.
2. Leaving existing vegetation between solar equipment and neighboring residences in place, to the extent practicable, to help screen the Project and reduce visual impacts.
3. Setbacks of at least 100 feet from two historic cemeteries that are located on the Project site. Information on these cemeteries is provided below.
4. Retrofit plan, as described below.
5. Notices to neighbors regarding potential construction and operation noises, as well as limits on working hours during the construction period, as described in Section 4.
6. The Project will obtain and comply with permits regarding impacts to wetlands, waters of the US, and stormwater, as described below.
7. The Project has completed an assessment of the current and historical uses of the Project site (ESA Phase I), and will comply with its recommendations where they apply to the solar facility.

Historical Cemeteries

There are two historic cemeteries located on the site, which date back to the Revolutionary War and Civil War era. Both cemeteries are located at the Southern end of the project, and are marked on the site development plan in Attachment A. A report including historical research and images of the two cemeteries is attached as Attachment G. Horseshoe Bend proposes to maintain at least 100-foot setbacks from each of the cemeteries, and both cemeteries will remain accessible from DAR Cemetery Road, a public roadway. One of the cemeteries is located next to an agricultural field, and Horseshoe Bend proposes a vegetative buffer to block the view of the solar equipment in that location, as marked on the site plan in Attachment A. The other cemetery is located in a large stand of trees that due to topography, will not be impacted by the Project.

After various local enquiries, there is not a local DAR chapter that maintains the cemeteries. Based on field research performed by Copperhead Environmental Consulting, Inc. as noted in Attachment G, the latest burial to take place in either cemetery was in 1963.

Retrofit Plan

If Horseshoe Bend proposes to retrofit the current proposed facility, it shall demonstrate to the Siting Board that the retrofit facility will not result in a material change in the pattern or magnitude of impacts compared to the original project. Otherwise, a new Site Assessment Report will be submitted for Siting Board review.

Horseshoe Bend shall also prepare a new Site Assessment Report for Siting Board review if Horseshoe Bend intends to retire the currently proposed facility and employ a different technology.

Permits Regarding Impacts to Wetlands, Waters of the US, and Stormwater

The regulation and permitting of utility scale solar impacts to wetlands, waters of the US, and stormwater will be addressed separately to this Siting Board application, and is as follows: Horseshoe Bend Solar, LLC has engaged Copperhead Environmental Consulting, Inc., an environmental engineering company based in Garrard County, KY, to perform an on-site wetlands delineation and an Approved Jurisdictional Determination (AJD) application to the US Army Corps of Engineers (which is in progress). Other permit applications will follow to the appropriate regulatory body as described below, as the project prepares for construction.

A. Stormwater Discharges Associate with Construction Activity

Regulatory Agency: Kentucky Energy & Environment Cabinet – Department for Environmental Protection – Division of Water (DOW)

The Project will obtain a Kentucky Department of Environmental Protection Stormwater Construction General Permit (Permit) from the Kentucky DOW for this construction project because it disturbs one or more acres of land in compliance with the National Pollutant Discharge Elimination System (NPDES) of the Clean Water Act (CWA). The Kentucky Pollution Discharge Elimination System (KPDES) permit (KPDES No: KYR100000) is a General Permit for Stormwater Discharges Associated with Construction Activity.

B. Wetlands and Waters of the United States

Federal Regulatory Agency: United States Army Corps of Engineers – Louisville District

An Approved Jurisdictional Determination (AJD) has been requested through the U.S. Army Corps of Engineers (USACE) – Louisville District. The AJD process will include the USACE Louisville District determining which aquatic features are considered federally jurisdictional under the Clean Water Act (CWA). If project design proposes to impact aquatic features, features that are deemed federally jurisdictional, a Section 404 of the CWA permit will be needed from the USACE.

The type of USACE permit required will depend on amount of impact (e.g., acres or linear feet) to jurisdictional wetlands and/or Waters of the US. If the proposed activity has minimal impacts, it may be authorized under a Nationwide Permit. If Project impacts exceed threshold requirements of the Nationwide Permits, an Individual Permit may be necessary.

Kentucky Regulatory Agency: Kentucky Energy & Environment Cabinet – Department for Environmental Protection – Division of Water Division of Water

Depending on Project impacts and type of Section 404 permit necessary (discussed above), a Section 401 Water Quality Certification may be needed.

An applicant seeking a Section 401 Water Quality Certification must submit an Application for Permit to Construct Across or Along a Stream and/or Water Quality Certification to the Division of Water (DOW). DOW reviews projects jointly for potential impacts to water and floodplains. Projects proposing to minimally affect waters of the State may be authorized under General Certifications of USACE Nationwide Permits. General Certifications may include impact thresholds and specific conditions for the proposed activity. If the proposed activity qualifies for coverage under the Nationwide Permit and the corresponding General Certification, an applicant does not need anything from DOW. An applicant can request a letter from DOW that the project meets the requirements of a Nationwide Permit. An Individual Water Quality Certification is required if the activity does not qualify for General Certification.

Current and Historical Uses

Horseshoe Bend completed an Environmental Site Assessment (ESA) Phase 1 for the site. See Attachment H for the results of this study. The study provides information on the current and historical uses and conditions of the Project site. This assessment revealed no evidence of recognized environmental conditions in connection with the property. Horseshoe Bend will comply with the recommendations listed in the ESA Phase 1 report where they apply to the development of the solar facility.

Attachment A
Preliminary Project Layout

Drawing Legend

- Utility Easement
- Array Setbacks
- Vegetative Buffer
- Potential Project Footprint Area
- Parcel Boundary

Preliminary Boundaries

- Fence Boundary
- Access Roads
- Array Area
- Construction Entrance
- Inverter, Battery, and Transformer Equipment Areas



Solar panel equipment and road locations are indicative and may be adjusted within the Potential Project Footprint Area

Standard Notes

- (1) The Purpose of this plan is for a Power Generation Permit for review and approval by the Kentucky State Siting Board to construct a solar energy system. All information shown is for planning purposes only.
- (2) No lighting is proposed for the array area. The Interconnection Substation will have some lighting.
- (3) Site will be surrounded by 6' tall chain link fence with three strands of barbed wire or similar to meet National Electric Code requirements. The proposed access gate will be locked with a standard keyed or combination lock. Emergency personnel will be provided a key or combination for access.

Attachment B
Property Value Impact Report



Kirkland Appraisals, LLC

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December 1, 2020

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

RE: Horseshoe Solar Impact Study, Greensburg, Green County, KY

Ms. Harkrader,

At your request, I have considered the impact of a solar farm proposed to be constructed on approximately 550 acres out of a larger parent assemblage on Jim Meadows Road, Greensburg, Kentucky. Specifically, I have been asked to give my professional opinion on whether the proposed solar farm will have any impact on adjoining property value and whether “the location and character of the use, if developed according to the plan as submitted and approved, will be in harmony with the area in which it is to be located.”

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

This letter is a limited report of a real property appraisal consulting assignment and subject to the limiting conditions attached to this letter. My client is Carolina Solar Energy represented to me by Carson Harkrader. My findings support the Kentucky Siting Board Application. The effective date of this consultation is December 1, 2020.

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

Conclusion

The matched pair analysis shows no 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 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.

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. Industrial uses rarely absorb negative impacts from adjoining uses.

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 property 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 no traffic.

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

Sincerely,



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

Standards and Methodology

I conducted this analysis using the standards and practices established by the Kentucky Appraisal Board, 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.

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. NCDEQ does not consider the panels to be impervious surfaces that impede groundwater absorption or cause runoff.
- 5) Other factors. I have observed and studied many solar farms and have never observed any characteristic about such facilities that prevents or impedes neighbor from fully using their homes or farms or businesses for the use intended.

Proposed Use Description

The proposed solar farm is proposed to be constructed on approximately 550 acres out of a larger parent tract assemblage on Jim Meadows Road, Greensburg, Kentucky. Adjoining land is a mix of residential and agricultural uses.

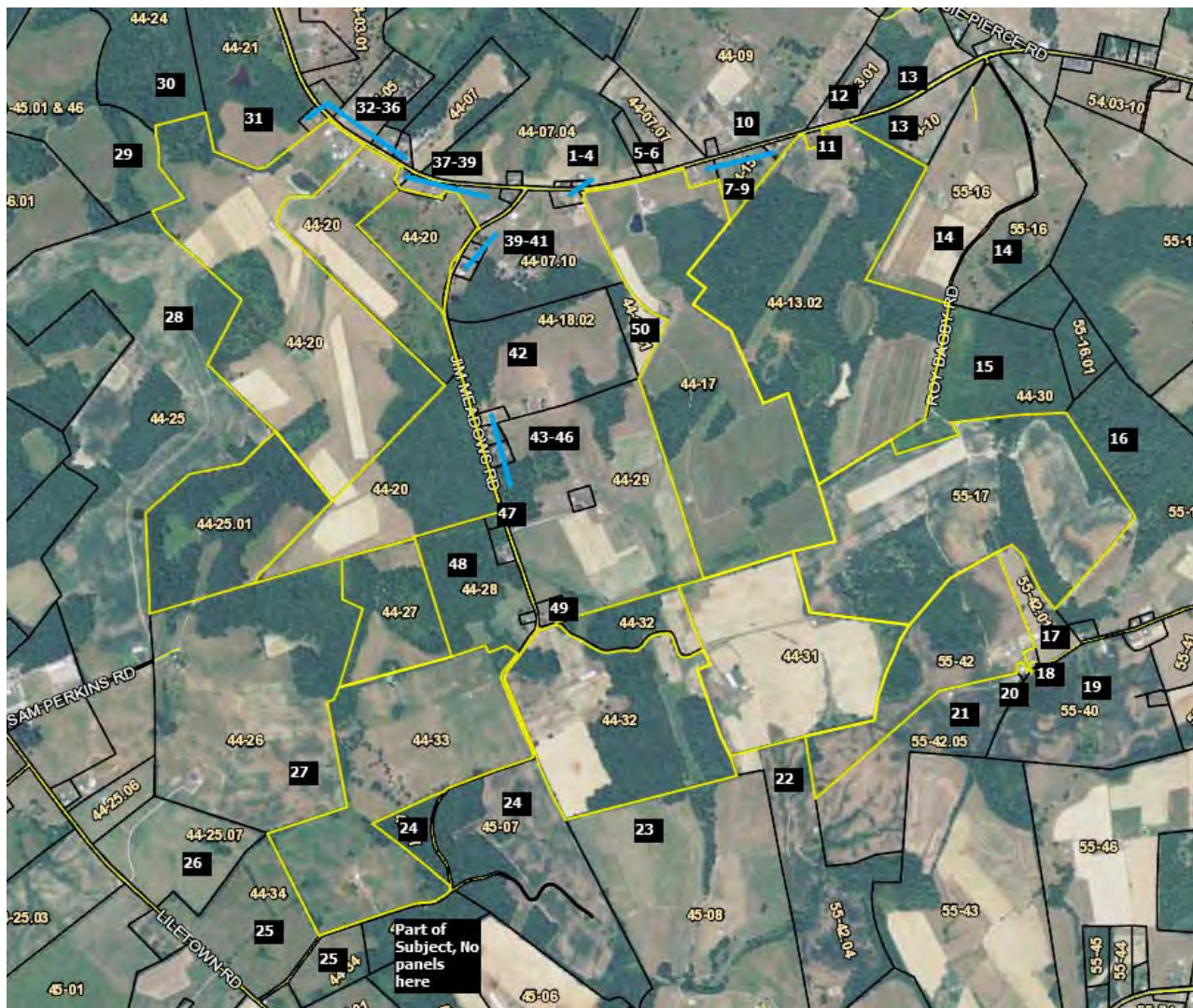
Adjoining Properties

I have considered adjoining uses and included a map to identify each parcel's location. The closest home will be at least 150 feet away and the average distance to adjoining homes is 1,104 feet. Matched pairs that I have researched show no impact for distances as close as 125 feet.

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

Adjoining Use Breakdown

	Acreage	Parcels
Residential	4.57%	54.00%
Agricultural	53.33%	26.00%
Agri/Res	42.11%	20.00%
Total	100.00%	100.00%



Surrounding Uses

#	MAP ID	Owner	GIS Data		Adjoin	Adjoin	Distance (ft)
			Acres	Present Use	Acres	Parcels	Home/Panel
1	44-07.11	Beard	1.06	Residential	0.08%	2.00%	1,945
2	44-17.02	Green Taylor	0.83	Residential	0.06%	2.00%	N/A
3	44-07.05	Davis	0.50	Residential	0.04%	2.00%	1,915
4	44-07.04	Schunke	99.17	Agricultural	7.08%	2.00%	N/A
5	44-07.12	Patterson	3.75	Residential	0.27%	2.00%	1,285
6	44-07.07	Davis	20.75	Agricultural	1.48%	2.00%	N/A
7	44-16	Young	1.50	Residential	0.11%	2.00%	775
8	44-15	Perkins	8.50	Residential	0.61%	2.00%	425
9	44-14	Morgan	0.50	Residential	0.04%	2.00%	375
10	44-09	Davis	72.00	Agri/Res	5.14%	2.00%	N/A
11	44-13	Thompson	0.39	Residential	0.03%	2.00%	565
12	44-13.01	Thompson	4.00	Residential	0.29%	2.00%	770
13	44-10	Curry	33.47	Agri/Res	2.39%	2.00%	2,070
14	55-16	Thompson	75.85	Agri/Res	5.42%	2.00%	2,025
15	44-30	Karnes	32.74	Agri/Res	2.34%	2.00%	150
16	55-18.02	Matney	93.00	Agricultural	6.64%	2.00%	N/A
17	55-42.01	Ervin	12.00	Residential	0.86%	2.00%	N/A
18	55-42.02	Ervin	0.37	Residential	0.03%	2.00%	960
19	55-40	Houk	42.37	Agricultural	3.03%	2.00%	N/A
20	55-42.03	Ervin	0.92	Residential	0.07%	2.00%	1,175
21	55-42.05	Paxton	34.10	Agricultural	2.44%	2.00%	N/A
22	55-42.04	Houk	45.66	Agricultural	3.26%	2.00%	N/A
23	45-08	Thompson	104.00	Agri/Res	7.43%	2.00%	2,565
24	45-07	Judd	60.75	Agri/Res	4.34%	2.00%	1,005
25	44-34	Lile	42.00	Agricultural	3.00%	2.00%	N/A
26	44-25.07	Froggett	27.63	Agricultural	1.97%	2.00%	N/A
27	44-26	Froggett	110.00	Agri/Res	7.86%	2.00%	1,505
28	44-25	Froggett	141.88	Agricultural	10.13%	2.00%	N/A
29	31-45.01&46	Unknown	61.00	Agricultural	4.36%	2.00%	N/A
30	44-24	Davis	41.90	Agricultural	2.99%	2.00%	N/A
31	44-21	Mars	37.00	Agri/Res	2.64%	2.00%	1,890
32	44-22	Cox	1.00	Residential	0.07%	2.00%	1,045
33	44-04	Perkins	2.00	Residential	0.14%	2.00%	1,355
34	44-05	Hunt	9.00	Residential	0.64%	2.00%	1,290
35	44-06	Lee	1.00	Residential	0.07%	2.00%	930
36	44-06.01	Curry	1.00	Residential	0.07%	2.00%	920
37	44-19.01	Skaggs	0.53	Residential	0.04%	2.00%	735
38	44-07.01	Davis	1.50	Residential	0.11%	2.00%	855
39	44-07.10	Coomer	23.75	Agri/Res	1.70%	2.00%	1,055

#	MAP ID	Owner	GIS Data		Adjoin	Adjoin	Distance (ft)
			Acres	Present Use	Acres	Parcels	Home/Panel
40	44-07.08	Judd	1.50	Residential	0.11%	2.00%	N/A
41	44-07.06	Judd	1.50	Residential	0.11%	2.00%	685
42	44-18.02	McKinnety	40.00	Agri/Res	2.86%	2.00%	1,185
43	44-18	Lowe	1.00	Residential	0.07%	2.00%	740
44	44-29.03	Lowe	1.00	Residential	0.07%	2.00%	N/A
45	44-29.04	Wright	1.00	Residential	0.07%	2.00%	785
46	44-29	Lowe	71.00	Agricultural	5.07%	2.00%	N/A
47	44-28.03	Bishop	0.58	Residential	0.04%	2.00%	N/A
48	44-28	Meadows	26.12	Agricultural	1.87%	2.00%	N/A
49	44-29.01	Meadows	1.00	Residential	0.07%	2.00%	150
50	44-17.01	Unknown	5.99	Residential	0.43%	2.00%	N/A
		Total	1400.061		100.00%	100.00%	1,104

I. Summary of Solar Projects in Kentucky

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

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 as compared to most of the states that I have searched before 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 NC 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 impact at the subject site.

Solar #	County	City	Name	Output (MW)	Total Used		Avg. Dist to home	Closest Home	Topo Shift	Adjoining Use by Acre			
					Acres	Acres				Res	Agri	Agri/Res	Com
611	Warren	Bowling Green	Bowling Green	2	17.36	17.36	720	720	12	1%	64%	0%	36%
612	Clarky	Winchester	Cooperative Solar I	8.5	181.5	63	2,110	2,040	40	0%	96%	3%	0%
613	Kenton	Walton	Walton 2	2	58.03	58.03	891	120	90	21%	0%	60%	19%
614	Grant	Crittenden	Crittenden	2.7	181.7	34.1	1,035	345	40	22%	27%	51%	0%
Total Number of Solar Farms				4									
Average				3.80	109.6	43.1	1189	806	46	11%	47%	29%	14%
Median				2.35	119.8	46.1	963	533	40	11%	46%	27%	10%
High				8.50	181.7	63.0	2110	2040	90	22%	96%	60%	36%
Low				2.00	17.4	17.4	720	120	12	0%	0%	0%	0%

611: 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%

612: 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%

613: 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%

614: 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%

II. 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 property. 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

Wherever I have looked at solar farms, I have derived a breakdown of the adjoining uses to show what adjoining uses are typical for solar farms and what uses would likely be considered consistent with a solar farm use similar to the breakdown that I've shown for the subject property on the previous page. A summary showing the results of compiling that data over hundreds of solar farms is shown later in the Harmony of Use section of this report.

I also consider whether the properties adjoining a solar farm in one location have characteristics similar to the properties abutting or adjoining the proposed site so that I can make an assessment of market impact on each proposed site. Notably, in most cases solar farms are placed in areas very similar to the site in question, which is surrounded by low density residential and agricultural uses. In my over 600 studies, I have found a striking repetition of that same typical adjoining 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 broken this down to show the data in Kentucky first and then followed that up with data from across the country including Kentucky for additional support.

A. *Kentucky Data*

1. Matched Pair – Crittenden Solar, Crittenden, KY



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

I have identified four home sales to the north of this solar farm on Claiborne 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 Claiborne 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 on lots being marketed for \$28,000 to \$29,000.

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%	

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

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

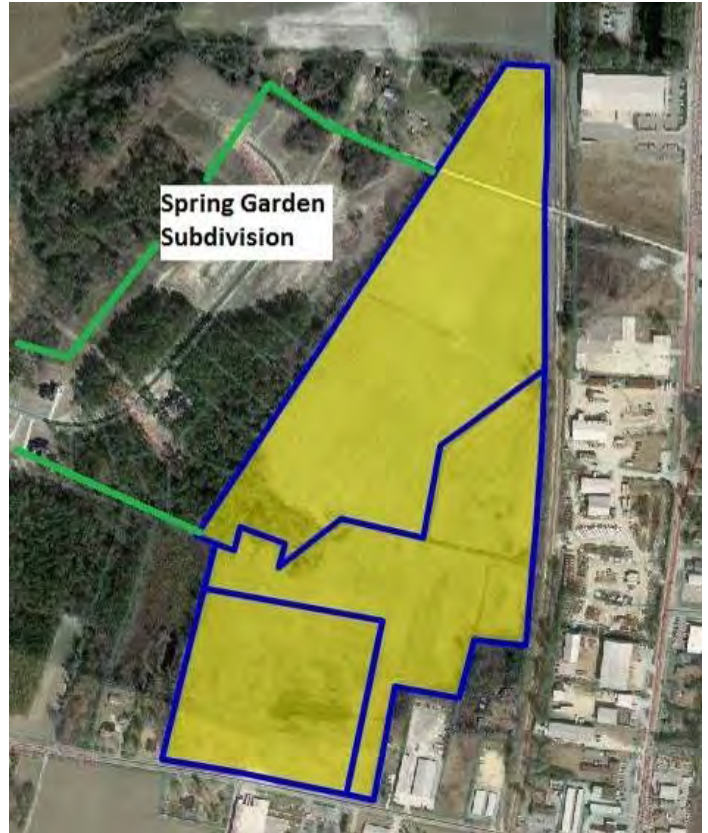
The four matched pairs considered in this analysis includes two that show no impact on value, one that shows a negative impact on value, and one that shows a positive impact. The negative indication supported by one matched pair is -7% and the positive impact of another is +7%. The two neutral indications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

Furthermore, the comments of the local 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.

B. National Data

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

This 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.

	<p>Americana SqFt: 3,194 Bed / Bath: 3 / 3.5</p>	<p>Price: \$237,900 View Now »</p>		<p>Washington SqFt: 3,292 Bed / Bath: 4 / 3.5</p>	<p>Price: \$244,900 View Now »</p>
	<p>Presidential SqFt: 3,400 Bed / Bath: 5 / 3.5</p>	<p>Price: \$247,900 View Now »</p>		<p>Kennedy SqFt: 3,494 Bed / Bath: 5 / 3</p>	<p>Price: \$249,900 View Now »</p>
	<p>Virginia SqFt: 3,449 Bed / Bath: 5 / 3</p>	<p>Price: \$259,900 View Now »</p>			

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 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. This is similar to the discount you see in any market where there is a discount for buying larger volumes. So when you buy a 2 liter coke you pay less per ounce than if you buy a 16 oz. coke. 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		
												Avg	
	Adjoins	103 Granville Pl										Total	% Diff
	Not	2219 Granville	\$4,382		\$1,300	\$0						\$265,000	-2%
	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		
												Avg	
	Adjoins	104 Erin										Total	% Diff
	Not	2219 Granville	-\$4,448		\$2,600	\$16,238						\$280,000	0%
	Not	634 Friendly	-\$17,370		-\$5,340	\$34,702	-\$10,000					\$274,390	2%
	Not	2403 Granville	-\$15,029		\$0	\$48,285						\$268,992	4%
												\$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		
												Avg	
	Adjoins	2312 Granville										Total	% Diff
	Not	2219 Granville	\$2,476		\$1,300	\$10,173						\$284,900	1%
	Not	634 Friendly	-\$10,260		-\$6,675	\$27,986	-\$10,000					\$273,948	4%
	Not	2403 Granville	-\$7,972		-\$1,325	\$47,956						\$268,051	6%
												\$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		
												Avg	
	Adjoins	2310 Granville										Total	% Diff
	Not	2219 Granville	\$10,758		\$1,300	\$0						\$280,000	1%
	Not	634 Friendly	-\$1,755		-\$6,675	\$16,721	-\$10,000					\$272,058	3%
	Not	2403 Granville	\$469		-\$1,325	\$31,356						\$265,291	5%
												\$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 is not impacted by the presence of the solar farm based on this data.

Address	Initial Sale		Second Sale		Year Diff	Apprec.	% Apprec.	Apprec. %/Year
	Date	Price	Date	Price				
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 – White Cross Solar Farm, Chapel Hill, NC



A new solar farm was built at 2159 White Cross Road in Chapel Hill, Orange County in 2013. After construction, the owner of the underlying land sold the balance of the tract not encumbered by the solar farm in July 2013 for \$265,000 for 47.20 acres, or \$5,606 per acre. This land adjoins the solar farm to the south and was clear cut of timber around 10 years ago. I compared this purchase to a nearby transfer of 59.09 acres of timber land just south along White Cross Road that sold in November 2010 for \$361,000, or \$6,109 per acre. After purchase, this land was divided into three mini farm tracts of 12 to 20 acres each. These rates are very similar and the difference in price per acre is attributed to the timber value and not any impact of the solar farm.

Type	TAX ID	Owner	Acres	Date	Price	\$/Acre	Notes	Conf By
Adjoins Solar	9748336770	Haggerty	47.20	Jul-13	\$265,000	\$5,614	Clear cut	Betty Cross, broker
Not Near Solar	9747184527	Purcell	59.09	Nov-10	\$361,000	\$6,109	Wooded	Dickie Andrews, broker

The difference in price is attributed to the trees on the older sale.

No impact noted for the adjacency to a solar farm according to the broker.

I looked at a number of other nearby land sales without proximity to a solar farm for this matched pair, but this land sale required the least allowance for differences in size, utility and location.

Matched Pair Summary

	Adjoins Solar Farm		Nearby Solar Farm	
	Average	Median	Average	Median
Sales Price	\$5,614	\$5,614	\$6,109	\$6,109
Adjustment for Timber	\$500	\$500		
Adjusted	\$6,114	\$6,114	\$6,109	\$6,109
Tract Size	47.20	47.20	59.09	59.09

Percentage Differences

Median Price Per Acre 0%

This matched pair again supports the conclusion that adjacency to a solar farm has no impact on adjoining residential/agricultural land.

3. Matched Pair – Wagstaff Farm, Roxboro, NC



This solar farm is located at the northeast corner of a 594-acre farm with approximately 30 acres of solar farm area. This solar farm was approved and constructed in 2013.

After approval, 18.82 acres were sold out of the parent tract to an adjoining owner to the south. This sale was at a similar price to nearby land to the east that sold in the same time from for the same price per acre as shown below.

Type	TAX ID	Owner	Acres	Present Use	Date Sold	Price	\$/AC
Adjoins Solar	0918-17-11-7960	Piedmont	18.82	Agricultural	8/19/2013	\$164,000	\$8,714
Not Near Solar	0918-00-75-9812 et al	Blackwell	14.88	Agricultural	12/27/2013	\$130,000	\$8,739

Matched Pair Summary

	Adjoins Solar Farm		Nearby Solar Farm	
	Average	Median	Average	Median
Sales Price	\$8,714	\$8,714	\$8,739	\$8,739
Tract Size	18.82	18.82	14.88	14.88

Percentage Differences

Median Price Per Acre 0%

This matched pair again supports the conclusion that adjacency to a solar farm has no impact on adjoining residential/agricultural land.

4. Matched Pair – Mulberry, Selmer, TN



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

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 Hearnberger 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%

From the above map, I identified four recent sales of homes that occurred adjoining the solar farm both before and after the announcement of the solar farm. I have adjusted each of these for differences in size and age in order to compare these sales among themselves. As shown below after adjustment, the median value is \$130,776 and the sales prices are consistent with one outlier which is also the least comparable home considered. The close grouping and the similar price per point overall as well as the similar price per square foot both before and after the solar farm.

Matched Pairs

#	TAX ID	Owner	Date Sold	Sales Price	Acres	Built	GBA	\$/GBA	Style	Parking
6&7	0900 A 011.00	Henson	Jul-14	\$130,000	2.65	2007	1,511	\$86.04	1 Story	2 Garage
12	0900 A 003.00	Amerson	Aug-12	\$130,000	1.20	2011	1,586	\$81.97	1 Story	2 Garage
15	099C A 003.00	Smallwood	May-12	\$149,900	1.00	2002	1,596	\$93.92	1 Story	4 Garage
16	099C A 002.00	Hessing	Jun-15	\$130,000	1.00	1999	1,782	\$72.95	1 Story	2 Garage
		Average		\$134,975	1.46	2005	1,619	\$83.72		
		Median		\$130,000	1.10	2005	1,591	\$84.00		

Adjustments*

#	TAX ID	Owner	Date Sold	Sales Price	Acres	Built	GBA	Style	Parking	Total
6&7	0900 A 011.00	Henson	Jul-14	\$130,000	-\$7,500	\$2,600	\$6,453	\$0	\$0	\$131,553
12	0900 A 003.00	Amerson	Aug-12	\$130,000	\$0	\$0	\$0	\$0	\$0	\$130,000
15	099C A 003.00	Smallwood	May-12	\$149,900	\$0	\$6,746	-\$939	\$0	-\$15,000	\$140,706
16	099C A 002.00	Hessing	Jun-15	\$130,000	\$0	\$7,800	-\$14,299	\$0	\$0	\$123,501
		Average		\$134,975	-\$1,875	\$4,286	-\$2,196	\$0	-\$3,750	\$131,440
		Median		\$130,000	\$0	\$4,673	-\$470	\$0	\$0	\$130,776

* I adjusted all of the comparables to a base line 2011 Year Built and 1,586 s.f. based on Lot 12

I also considered a number of similar home sales nearby that were both before and after the solar farm was announced as shown below. These homes are generally newer in construction and include a number of larger homes but show a very similar price point per square foot.

Nearby Sales Before Solar Farm Announced

TAX ID	Owner	Date Sold	Sales Price	Acres	Built	GBA	\$/GBA	Style	Parking
099B A 019	Durrance	Sep-12	\$165,000	1.00	2012	2,079	\$79.37	1 Story	2 Garage
099B A 021	Berryman	Apr-12	\$212,000	2.73	2007	2,045	\$103.67	1 Story	2 Garage
0900 A 060	Nichols	Feb-13	\$165,000	1.03	2012	1,966	\$83.93	1 Story	2 Garage
	Average		\$180,667	1.59	2010	2,030	\$88.99		
	Median		\$165,000	1.03	2012	2,045	\$83.93		

Nearby Sales After Solar Farm Announced

TAX ID	Owner	Date Sold	Sales Price	Acres	Built	GBA	\$/GBA	Style	Parking
090N A 040	Carrithers	Mar-15	\$120,000	1.00	2010	1,626	\$73.80	1 Story	2 Garage
099C A 043	Cherry	Feb-15	\$148,900	2.34	2008	1,585	\$93.94	1 Story	2 Garage
	Average		\$134,450	1.67	2009	1,606	\$83.87		
	Median		\$134,450	1.67	2009	1,606	\$83.87		

I then adjusted these nearby sales using the same criteria as the adjoining sales to derive the following breakdown of adjusted values based on a 2011 year built 1,586 square foot home. The adjusted values are consistent with a median rate of \$128,665, which is actually lower than the values for the homes that back up to the solar farm.

Nearby Sales Adjusted				Adjustments*					
TAX ID	Owner	Date Sold	Sales Price	Acres	Built	GBA	Style	Parking	Total
099B A 019	Durrance	Sep-12	\$165,000	\$0	-\$825	-\$39,127	\$0	\$0	\$125,048
099B A 021	Berryman	Apr-12	\$212,000	-\$7,500	\$4,240	-\$47,583	\$0	\$0	\$161,157
090O A 060	Nichols	Feb-13	\$165,000	\$0	-\$825	-\$31,892	\$0	\$0	\$132,283
090N A 040	Carrithers	Mar-15	\$120,000	\$0	\$600	-\$2,952	\$0	\$0	\$117,648
099C A 043	Cherry	Feb-15	\$148,900	-\$7,500	\$2,234	\$94	\$0	\$0	\$143,727
	Average		\$165,500	-\$1,875	\$798	-\$30,389	\$0	\$0	\$134,034
	Median		\$165,000	\$0	-\$113	-\$35,510	\$0	\$0	\$128,665

* I adjusted all of the comparables to a base line 2011 Year Built and 1,586 s.f. based on Lot 12

If you consider just the 2015 nearby sales, the range is \$117,648 to \$143,727 with a median of \$130,688. If you consider the recent adjoining sales the range is \$123,501 to \$131,553 with a median of \$127,527.

This difference is less than 3% in the median and well below the standard deviation in the sales. The entire range of the adjoining sales prices is overlapped by the range from the nearby sales. These are consistent data sets and summarized below.

Matched Pair Summary

	Adjoins Solar Farm		Nearby After Solar Farm	
	Average	Median	Average	Median
Sales Price	\$134,975	\$130,000	\$134,450	\$134,450
Year Built	2005	2005	2009	2009
Size	1,619	1,591	1,606	1,606
Price/SF	\$83.72	\$84.00	\$83.87	\$83.87

Based on the data presented above, I find that the price per square foot for finished homes is not being impacted negatively by the announcement of the solar farm. The difference in pricing in homes in the neighborhood is accounted for by differences in size, building age, and lot size. The median price for a home after those factors are adjusted for are consistent throughout this subdivision and show no impact due to the proximity of the solar farm. This is consistent with the comments from the broker I spoke with for this subdivision as well.

I have also 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	Acres	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.

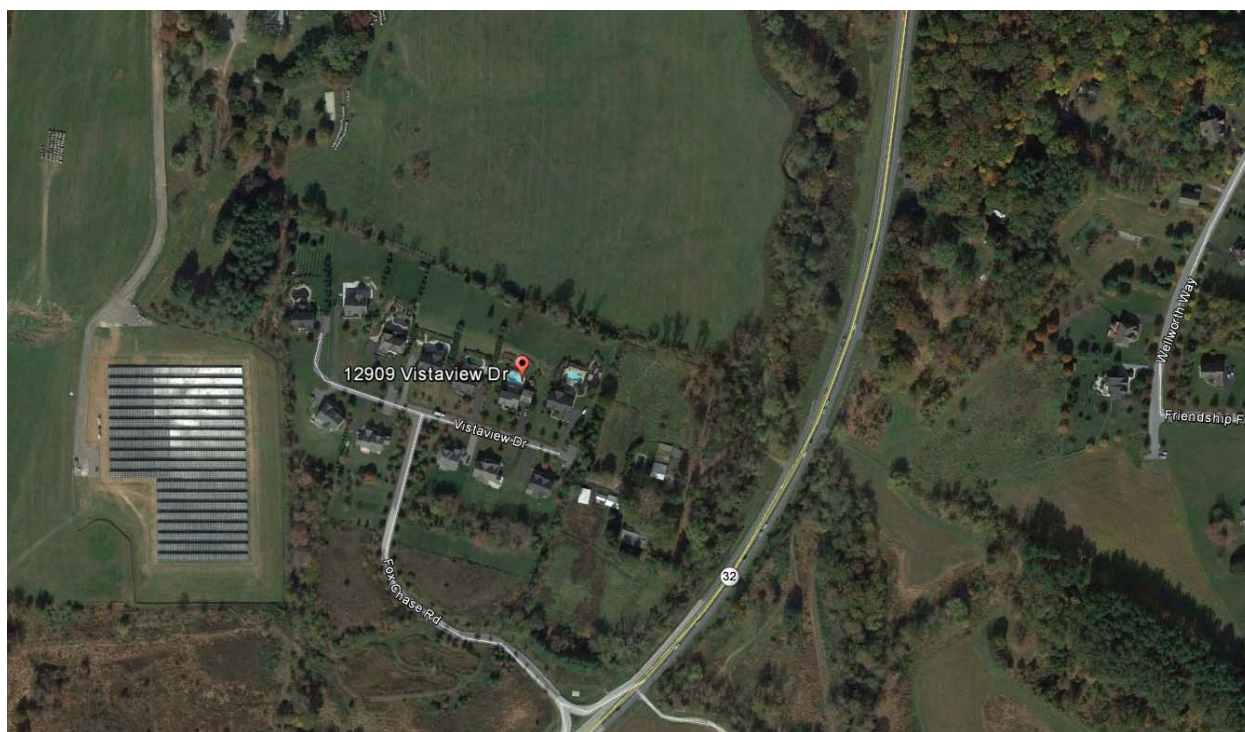
The average indicated impact from these three sets of matched pairs is +4%, which suggests a mild positive relationship due to adjacency to the solar farm.

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	\$/AC	4/18/2019
						Adj for Time		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%	

5. Matched Pair – Nixon’s Solar Farm, West Friendship, MD



This smaller 2 MW solar farm being developed in phases mostly adjoins agricultural and residential uses as shown above. This is part of what will eventually be a 10 MW facility.

I compared a recent sale of 12909 Vistaview Drive to 2713 Friendship Farm Court. While this does not look at an adjacent home sale, it is close proximity and based on the matched pair data in the report it shows a \$16,640 positive impact on value due to proximity to the solar farm, or 2.16%. This is within typical market friction and supports an indication of no impact on property value.

I have shown this data below.

Nixon’s Farm Solar Farm, West Friendship, MD

Nearby Residential Sale After Solar Farm Construction

Address	Solar Farm	Acres	Date Sold	Sales Price*	Built	GBA	\$/GBA	Style	BR/BA	Park
12909 Vistaview	Nearby	0.92	9/12/2014	\$771,640	2003	2,692	\$286.64	Colonial	4/3.5	2 Car Det
2713 Friendship Farm	Not	0.98	6/20/2014	\$690,000	2000	2,792	\$247.13	Colonial	4/2.5	2 Car Att

*\$3,360 concession deducted from sale price for Vistaview

Adjoining Sales Adjusted

Address	Date Sold	Sales Price	Time	Adjustments			BR/BA	Other	Total
				Acres	YB				
12909 Vistaview	9/12/2014	\$771,640							\$771,640
2713 Friendship Farm	6/20/2014	\$690,000		\$0	\$0	\$0	\$10,000	\$55,000	\$755,000
Difference Attributable to Location									\$16,640 2.16%

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



This solar farm 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.

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	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	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

Address	Date Sold	Sales Price	Time	Adjustments				Total
				GLA	Bsmt	Upgrades	Other	
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.

7. Matched Pair – Talbot County Community Center Solar Farm, Easton, MD



This solar farm mostly adjoins agricultural and residential uses but also the Community center and located across the street from a golf course which can be seen just to the east. I looked at a 2012 sale of a home 1,000 feet to the west of the solar farm with a slight positive impact on value nearby the solar farm.

I have shown this data below.

Talbot County Community Center, Easton, MD

Nearby Residential Sale After Solar Farm Construction

Address	Solar Farm	Acres	Date Sold	Sales Price*	Built	GBA	\$/GBA	Style	BR/BA	Park	Upgrades
10193 Hiners	Nearby	1.06	10/31/2012	\$136,092	1947	776	\$175.38	Bungalow	2/1	3 Car Det	N/A
10711 Hiners	Not	0.60	12/15/2012	\$135,000	1957	832	\$162.26	Bungalow	2/1	1 Car Det	Upd. Bath

*\$5,908 concessions deducted from 10193 Hiners sales price

Adjoining Sales Adjusted

Address	Date Sold	Sales Price	Age	Adjustments				Total
				Acres	Park	Upgrades	Other	
10193 Hiners	10/31/2012	\$136,092						\$136,092
10711 Hiners	12/15/2012	\$135,000	-\$6,750	\$4,000	\$6,000	-\$3,000	\$0	\$135,250

Difference Attributable to Location \$842

8. Matched Pair – Alamo II, San Antonio, Texas



This project is located at 8203 Binz-Engleman Road, Converse, Texas, on 98.37 acres with a 4.4 MW output. This project is located with small lot residential development on to the north west and south. There appears to be minimal landscaping along this project. The closest home to the north is 83 feet from the solar panels, while the homes to the west are 110 feet and the homes to the south are 175 feet away from the solar panels.

This solar farm strongly shows an acceptance of nearby residential development in close proximity to solar farms as this solar farm has minimal landscaping, close proximity, small adjoining lot sizes, and the development of homes on three sides of the solar farm.

Adjoining Use Breakdown

Acreage	Parcels
Residential	94.64%
Agricultural	5.36%
Total	100.00%

I have considered home sales in the three adjoining subdivisions to look at matched pair data. There are sales and resales of homes in Glenloch and Mustang Valley subdivisions to the south and west of this solar farm.

I have considered multiple matched pairs from these subdivisions to show typical appreciation and no impact on property value both before and after the solar farm was constructed in 2013. I have

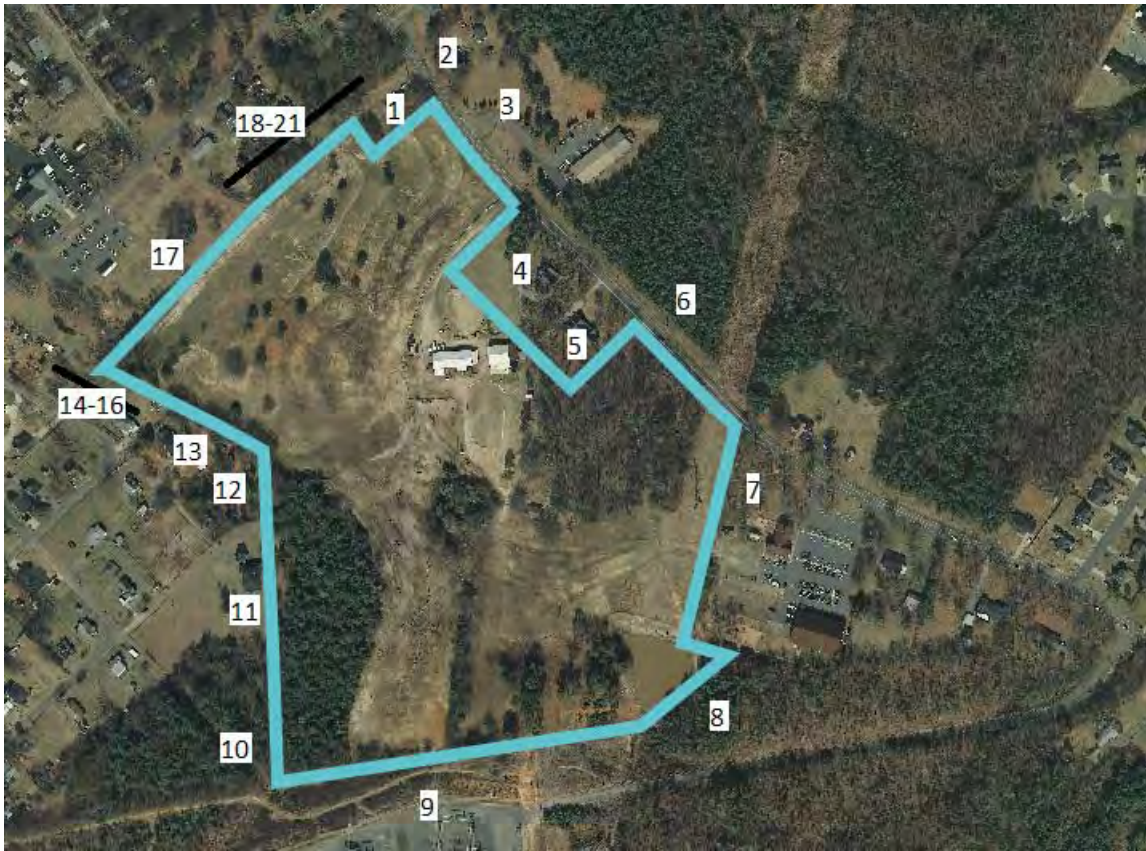
looked at a number of home sales and resales in the larger subdivisions, but I have focused on those directly adjoining/facing the solar farm in the examples shown below. These are sales and resales of the homes adjoining the solar farm both before and after the solar farm project in 2013.

The comparables shown below are compared to an earlier sale prior to the solar farm announcement or construction followed by a second sale after the solar farm. The first two have solar farms in the Backyard (B), while the other has the solar farm in the Side yard (S). All of these sales show appreciation that falls within the typical annual appreciation for homes in this area over this time period.

7703 Redstone Mnr (B)			7807 Redstone Mnr (B)			7734 Sundew Mist (S)		
	<u>Date</u>	<u>Price</u>		<u>Date</u>	<u>Price</u>		<u>Date</u>	<u>Price</u>
Sale	10/3/2012	\$149,980	Sale	5/11/2012	\$136,266	Sale	5/23/2012	\$117,140
Sale	3/24/2016	\$166,000	Sale	8/11/2014	\$147,000	Sale	11/18/2014	\$134,000
	<u>Time - YRS</u>	<u>% Incr.</u>		<u>Time - YRS</u>	<u>% Incr.</u>		<u>Time - YRS</u>	<u>% Incr.</u>
	3.47	10.7%		2.25	7.9%		2.49	14.4%
	<u>Per Year</u>	<u>3.1%</u>		<u>Per Year</u>	<u>3.5%</u>		<u>Per Year</u>	<u>5.8%</u>
Years	3.5	<u>10.8%</u>	Years	2.5	<u>8.7%</u>	Years	2	<u>11.6%</u>

I therefore conclude that this set of matched pairs shows no impact on property value and that homes in the area are showing typical appreciation consistent with other homes not in the vicinity of solar farms.

9. Matched Pair – Neal Hawkins Solar, Gastonia, NC



This 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.

10. 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 support 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%		

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
53	Adjoins	105 Pinto	4.99	12/16/2016	\$206,000	1978	1,484	\$138.81	3/2	Det Gar	Ranch		2,020
	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	0.99	6/9/2015	\$219,900	1988	1,910	\$115.13	3/2	Gar/3Gar	Ranch		
	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	
	Adjoins	105 Pinto								\$206,000		11%	
	Not	111 Spur	\$6,918	\$10,000	-\$6,755	-\$25,359				\$177,803	14%		
	Not	103 Marshall	-\$2,268	\$10,000	-\$24,500	-\$8,227		\$5,000		\$176,005	15%		
	Not	127 Ranchland	\$13,738	\$10,000	-\$10,995	-\$24,523		-\$10,000		\$198,120	4%		

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%	

11. Matched Pair – White Cross II, Chapel Hill, NC



This project is located in rural Orange County on White Cross Road with a 2.8 MW facility. This project is a few parcels south of White Cross Solar Farm that was developed by a different company. An adjoining home sold after construction as presented below.

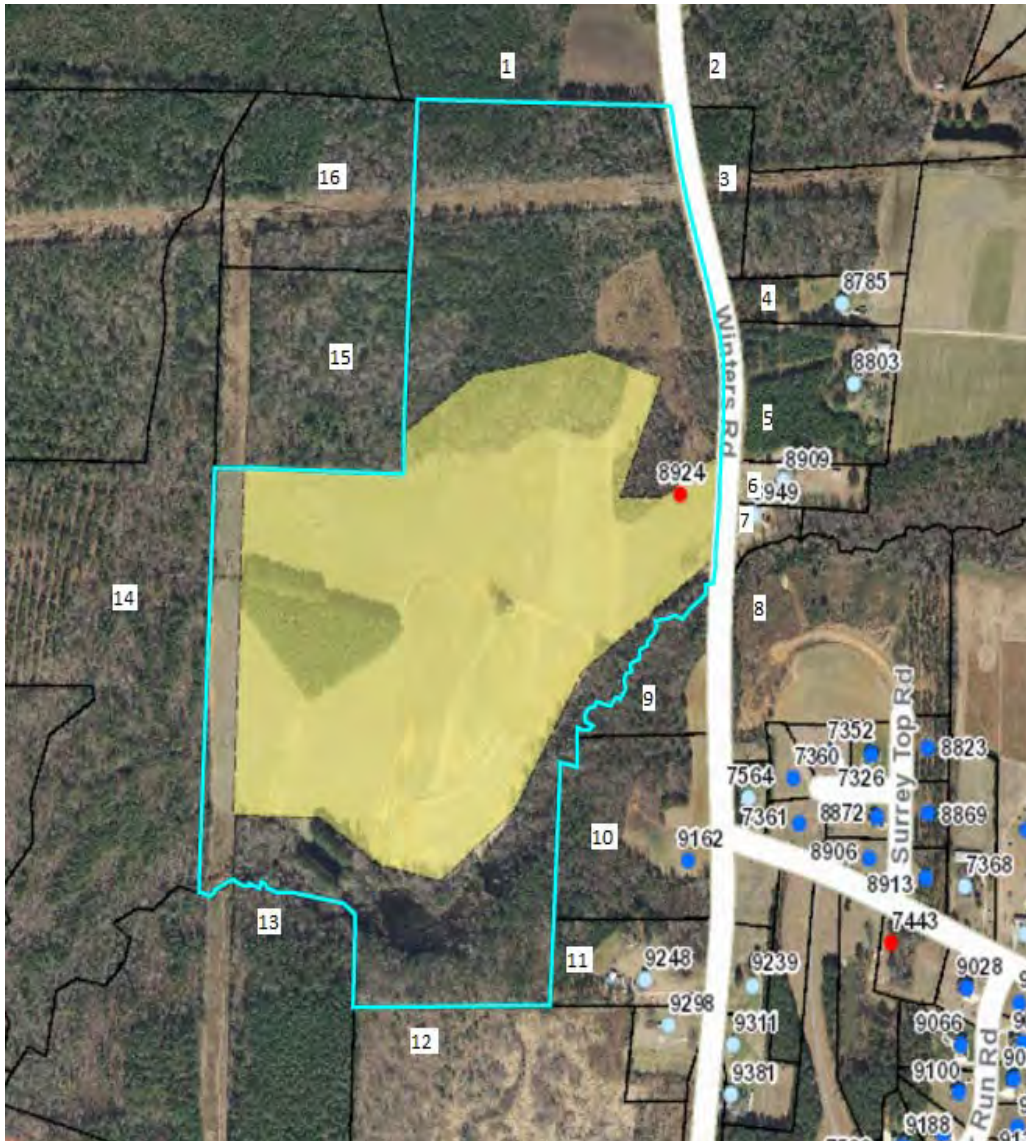
Adjoining Residential Sales After Solar Farm Completed

Solar	TAX ID/Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style
Adjoins	97482114578	11.78	2/29/2016	\$340,000	1994	1,601	\$212.37	3/3	Garage	Ranch
Not	4200B Old Greensbor	12.64	12/28/2015	\$380,000	2000	2,075	\$183.13	3/2.5	Garage	Ranch

Adjoining Residential Sales After Solar Farm Adjoining Sales Adjusted

Solar	TAX ID/Address	Sales Price	Time	Acres	YB	GLA	BR/BA	Park	Total	% Diff
Adjoins	97482114578	\$340,000							\$340,000	
Not	4200B Old Greensbor	\$380,000	\$3,800	\$0	-\$15,960	-\$43,402	\$5,000	\$0	\$329,438	3%

12. 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. 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.

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	§	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 was 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.

13. 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, 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.

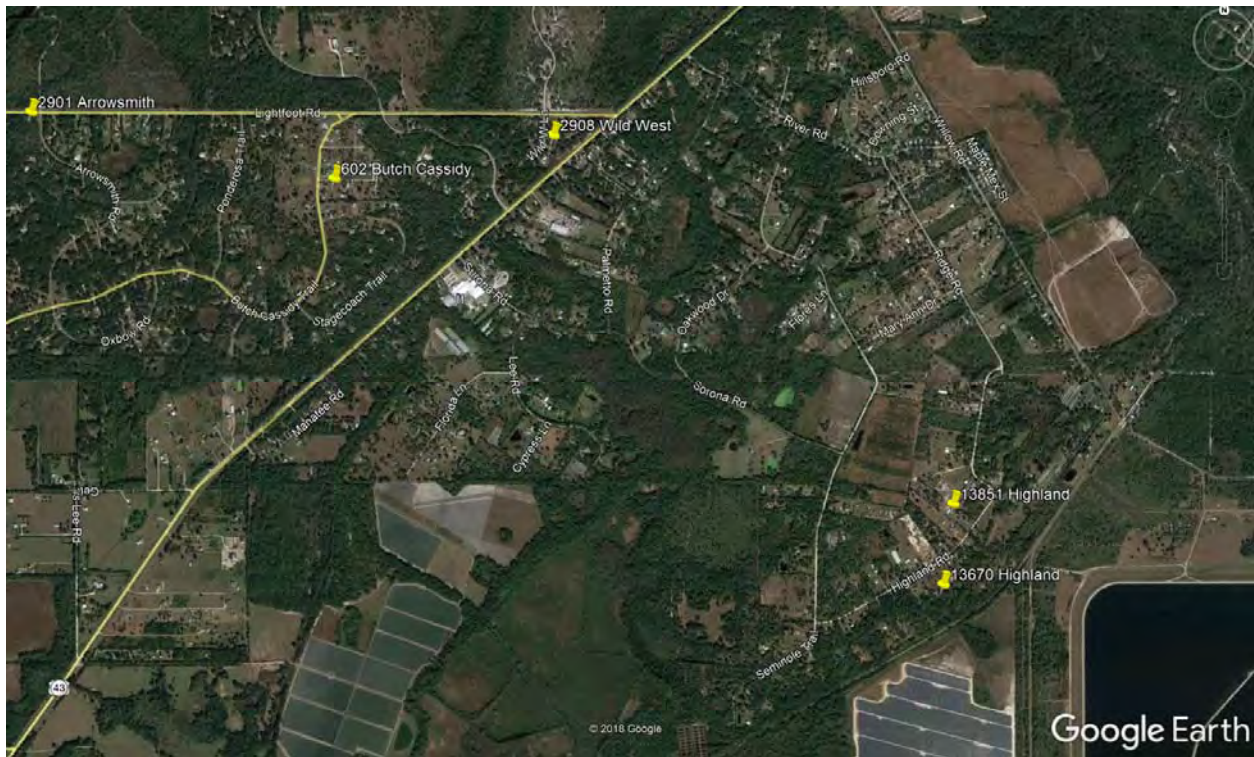
Solar	TAX ID/Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Note
Adjoins	13670 Highland	5.00	8/21/2017	\$255,000	1997	1,512	\$168.65	3/3	Carport/Wrkshp	Ranch	Renov.
Not	2901 Arrowsmith	1.91	1/31/2018	\$225,000	1979	1,636	\$137.53	3/2	2 Garage/Wrkshp	Ranch	
Not	602 Butch Cassidy	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.

Solar	TAX ID/Address	Adjoining Sales Adjusted					BR/BA	Park	Note	Total	% Diff
		Time	Acres	YB	GLA						
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.



14. 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.

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	2xCarp	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%

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 and within the typical range of real estate transactions. I therefore conclude that these matched pairs show no impact on value.

I note that the home at 4380 Joyner Road is 275 feet from the closest proposed solar panel.

I also considered the recent sale of a lot on 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. 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 other lots on Kristi Lane are likely to sale soon at similar prices. Ms. Dabbs indicated that they have had these lots on the market for about 5 years at asking prices that were probably a little high and they are now selling and they have another under contract.

15. Matched Pair – Yamhill II, Amity, OR



This solar farm has a 1.2 MW output and is located on a 186.60 acre tract using less than 10 of those acres. The project was built in 2011.

I have considered the recent sale of Parcel 11 shown above, which sold on July 22, 2015 after the solar farm was built. The property sold for \$326,456 for a 2.12 acre site with a home built in 1912 with 2,154 s.f. and 4 BR and 2 BA. It was noted as a recently remodeled residence with outbuildings that sold for \$151.56 per square foot. I compared this to a number of similar older residences on similar acreage as shown below.

Adjoining Residential Sales After Solar Farm Approved										Adjust for	Adjusted	Adjusted
Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Time	Sales	\$/SF	
Adjoins	12001 SW Bellevue, Amity	2.12	7/22/2015	\$326,456	1912	2,154	\$151.56	4/2				
Not	19915 SW Muddy, McMinnville	1.82	2/28/2011	\$213,400	1910	1,798	\$118.69	3/2	27%	\$271,018	\$150.73	
Not	22600 Hopewell, Salem	1.00	10/15/2014	\$256,000	1910	1,966	\$130.21	3/2	5%	\$268,800	\$136.72	
Not	22355 Hopewell, Salem	1.00	11/13/2015	\$320,000	1930	2,592	\$123.46	3/2	-2%	\$313,600	\$120.99	
Not	9955 Bethel, Amity	2.86	2/17/2016	\$289,900	1936	2,028	\$142.95	3/2	-4%	\$278,304	\$137.23	
Not	3361 Lone Oak, McMinnville	2.91	3/1/2016	\$465,000	1937	2,950	\$157.63	3/2	-7%	\$432,450	\$146.59	
										Average	\$138.45	
										Median	\$137.23	

The sales prices of the comparables were only adjusted for time and provide a range of adjusted values of \$120.99 per square foot to \$150.73 per square foot. The subject property sold for above the high end of this range despite being on the older end of the range of comparables. Considering 9955 Bethel as the most similar in acreage, age and size and the price per square foot which adjusted to the median rate at \$137.23 per square foot. Applying that rate to the subject property square footage, the indicated value is \$295,593 for that matched pair, suggesting a 9% enhancement due to the adjacency to the solar farm.

This set of matched pair data falls in line with the data seen in other states. The home is 700 feet from the closest solar panel.

16. Matched Pair – Marion Solar, Aurora, OR



This solar farm has a 0.3 MW output and is located on a 2-acre portion of a 31.76-acre tract. The project was built in 2014.

I have considered the recent sale of Parcels 5 and 6 shown above, which sold on August 6, 2014 after the solar farm was built for \$259,000, or \$16,444 per acre for a combined 15.75 acres. This was sold as vacant agricultural land with a permitted home site.

I compared this to a number of similar land sales as shown below.

Adjoining Residential Land Sales After Solar Farm Approved								Adj for	Adjusted	Adjusted
Solar	Address	Acres	Date Sold	Sales Price	\$/Ac	Soils	Homesite	Time	Sales	\$/SF
Adjoins	18916 Butteville, Aurora	15.75	8/6/2014	\$259,000	\$16,444	2&3	Est.			
Not	15961 Wilsonville, Wilsonville	50.50	5/20/2014	\$950,000	\$18,812	2&3	Est.	1.5%	\$964,250	\$19,094
Not	11471 Wilco, Mt. Angel	13.31	11/10/2014	\$159,500	\$11,983	2&4	N/A	-1.5%	\$157,108	\$11,804
Not	Waconda, Salem	11.86	9/9/2015	\$215,000	\$18,128	2	N/A	-6.5%	\$201,025	\$16,950
									Average	\$15,949
									Median	\$16,950

The sales price for the subject property is in line and between the average and median rates from the comparables. The sale at 11471 Wilco is the most similar in terms of acreage, time, and location. The sale on Waconda is similar in size, but newer and required more adjustment. I therefore conclude that no impact due to the proximity of the solar farm.

17. Matched Pair – Clackamas II, Aurora, OR



This solar farm has a 0.22 MW output and is located on a 1-acre portion of a 156.32-acre tract. The project was built in 2014.

I have considered the homesales along SW Fairway Drive both before and after the solar farm was announced to see if there was any impact on total sales price or price per square foot. As can be seen in the chart below, the sales prices continued to trend upward after the announcement and the price per square foot continued to trend upward. These homes are all approximately 125 feet from the closest solar panel.

I adjusted these based on 0.75% per month difference in date of sale to January 1, 2014. The indicated average and median rate are right in line with the sales before and after the solar farm was built. These comparables strongly indicate no impact in sales price.

Adjoining Residential Sales Before and After Solar Farm Announced

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Adjust Time	Adjusted Sales	Adjusted \$/SF
Prior	7500 SW Fairway	0.20	12/9/2011	\$365,000	1992	2,435	\$149.90	18.8%	\$433,620	\$178.08
Prior	7580 SW Fairway	0.30	11/21/2012	\$335,000	1990	2,256	\$148.49	11%	\$370,175	\$164.08
Prior	7480 SW Fairway	0.19	6/27/2013	\$365,000	1992	2,244	\$162.66	5%	\$384,345	\$171.28
							\$153.68	Average		\$171.15
							\$149.90	Median		\$171.28
After	7620 SW Fairway	0.27	7/1/2013	\$365,000	1992	2,212	\$165.01	3.8%	\$378,870	\$171.28
After	7700 SW Fairway	0.18	6/11/2014	\$377,100	1991	2,328	\$161.98	-2%	\$371,444	\$159.55
After	7380 SW Fairway	0.19	7/18/2014	\$415,000	1989	2,115	\$196.22	-6%	\$390,100	\$184.44
							\$174.40	Average		\$171.76
							\$165.01	Median		\$171.28

18. 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.

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	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.

19. 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.

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

TAX ID	Date Sold	Adjustments		\$/Sf
		Time	Total	
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.

Land Sale Adjustment Chart

TAX ID	Date Sold	Adjustments		Total	\$/Acre
		<u>Time</u>			
64-06-19-200-003.000-015	Feb-14	<u>\$8,976</u>		\$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	
	<u>Average</u>	<u>Median</u>	<u>Average</u>	<u>Median</u>
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.

20. 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.

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.

21. Matched Pair – Beetle-Shelby Solar, Cleveland County, NC



This project is located on Bachelor Road at Timber Drive, Mooresboro, NC. This is a 4 MW facility on a parent tract of 24 acres.

I have considered a custom home on a nearby property adjoining this solar farm. This home is located on 10.08 acres, was built in 2013, and has a gross living area of 3,196 s.f. This property sold on October 1, 2018 \$416,000. I compared this to several nearby homes of similar size on large lots as shown below.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
Adjoins	1715 Timber	10.08	10/1/2018	\$416,000	2013	3,196	\$130.16	4/3.5	2xGar	1.5 story	Pool, Scrn Prch
Not	1021 Posting	2.45	2/15/2019	\$414,000	2000	4,937	\$83.86	4/4.5	2xGar	1.5 story	Scrn Prch
Not	2521 Wood	3.25	7/30/2017	\$350,000	2003	3,607	\$97.03	4/4	4xGar	1.5 story	Pool, sunroom
Not	356 Whitaker	7.28	1/9/2017	\$340,000	1997	3,216	\$105.72	4/4	2xGar	Ranch	Pole barn

Adjoining Sales Adjusted

Time	Acres	YB	GLA	BR/BA	Park	Other	Total	% Diff
							\$416,000	
	\$15,000	\$37,674	-\$58,398	-\$10,000			\$398,276	4%
\$10,500	\$12,000	\$24,500	-\$15,952	-\$5,000	-\$5,000		\$371,048	11%
\$15,300	\$5,000	\$38,080	-\$846	-\$5,000			\$392,534	6%
							Average	7%

The data on these sales all show that the subject property adjoining the solar farm sold for more than these other comparable sales. These sales suggest a mild increase in value due to proximity to the solar farm; however, the subject property is a custom home with upgrades that would balance out that difference. I therefore conclude that these matched pairs support an indication of no impact on property value.

22. Matched Pair – Courthouse Solar, Gaston County, NC



This project is a 5 MW facility located on 161.92 acres on Tryon Courthouse Road near Bessemer City that was approved in late 2016 but has not yet been constructed due to delays in the power purchase agreement process with Duke Progress Energy.

I have considered a recent sale of a home (Parcel 13) located across from this approved solar farm project as well as an adjoining lot sale (Parcel 25) to the west of this approved project.

I compared the home sale to similar sized homes with similar exposure to county roads as shown below. I considered three similar sales that once adjusted for differences show a positive relationship due to proximity to the solar farm. The positive impact is less than 5% which is a standard deviation for real estate transaction and indicates no impact on property value.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style
Adjoins	2134 Tryon Court.	0.85	3/15/2017	\$111,000	2001	1,272	\$87.26	3/2	Drive	Ranch
Not	214 Kiser	1.14	1/5/2017	\$94,000	1987	1,344	\$69.94	3/2	Drive	Ranch
Not	101 Windward	0.30	3/30/2017	\$104,000	1995	1,139	\$91.31	3/2	Drive	Ranch
Not	5550 Lennox	1.44	10/12/2018	\$115,000	2002	1,224	\$93.95	3/2	Drive	Ranch

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Time	Acres	YB	GLA	Total	% Diff
Adjoins	2134 Tryon Court.	0.85	3/15/2017	\$111,000					\$111,000	
Not	214 Kiser	1.14	1/5/2017	\$94,000	\$533		\$9,212	-\$1,511	\$102,234	8%
Not	101 Windward	0.30	3/30/2017	\$104,000	-\$128		\$4,368	\$5,615	\$113,855	-3%
Not	5550 Lennox	1.44	10/12/2018	\$115,000	-\$5,444		-\$805	-\$2,396	\$106,355	4%

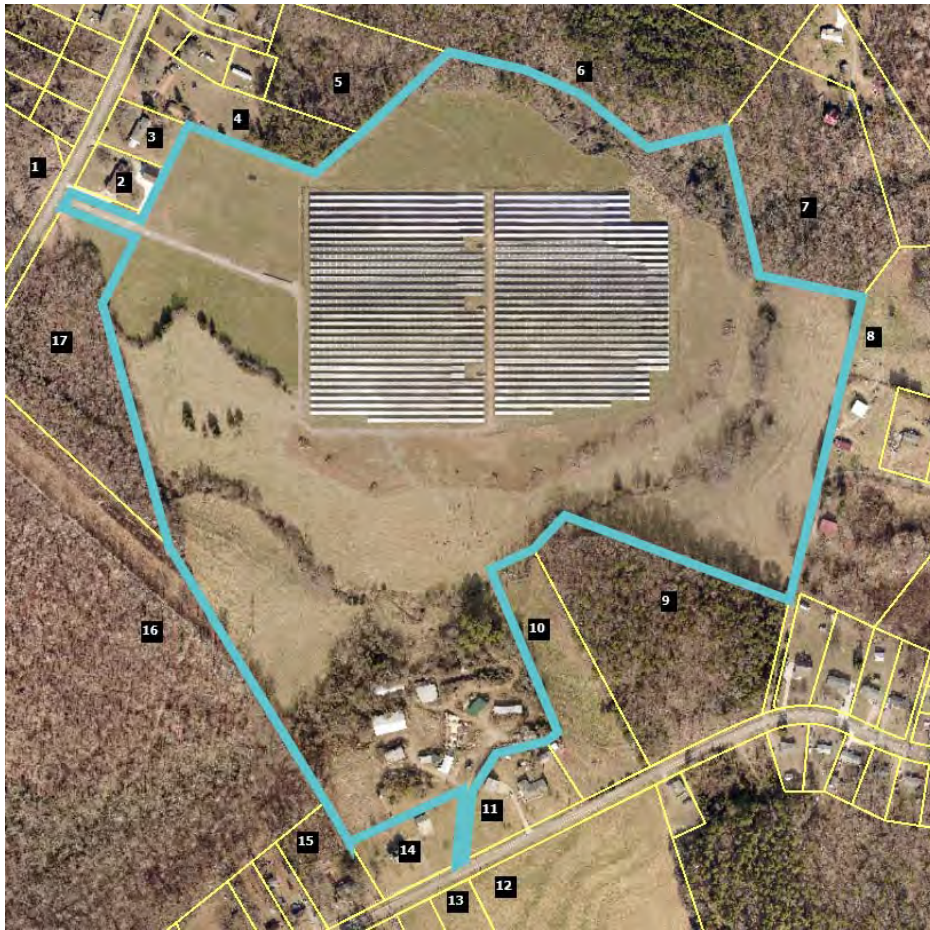
Average 3%

Similarly, I compared the lot sale to four nearby land sales. Parcel 25 could not be subdivided and was a single estate lot. There were a number of nearby lot sales along Weaver Dairy that sold for \$43,000 to \$30,000 per lot for 4-acre home lots. Estate lots typically sell at a base homesite rate

that would be represented by those prices plus a diminishing additional value per additional acre. The consideration of the larger tract more accurately illustrates the value per acre for larger tracts. After adjustments, the land sales show a mild positive impact on land value with an average increase of 9%, which supports a positive impact.

Adjoining Residential Land Sales After Solar Farm Approved						Adjoining Sales Adjusted				
Solar	Address	Acres	Date Sold	Sales Price	\$/Ac	Time	Acres	Total	% Diff	Note
Adjoins	5021 Buckland	9.66	3/21/2018	\$58,500	\$6,056			\$58,500		1 homesite only
Not	Campbell	6.75	10/31/2018	\$42,000	\$6,222	-\$773	\$18,107	\$59,333	-1%	
Not	Kiser	17.65	11/27/2017	\$69,000	\$3,909	\$647	-\$19,508	\$50,139	14%	6 acres less usable due to shape (50%)
Not	522 Weaver Dairy	3.93	2/26/2018	\$30,000	\$7,634	\$57	\$25,000	\$55,057	6%	
Not	779 Sunnyside	6.99	3/6/2017	\$34,000	\$4,864	\$1,062	\$12,987	\$48,049	18%	
Average									9%	

23. 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.

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.

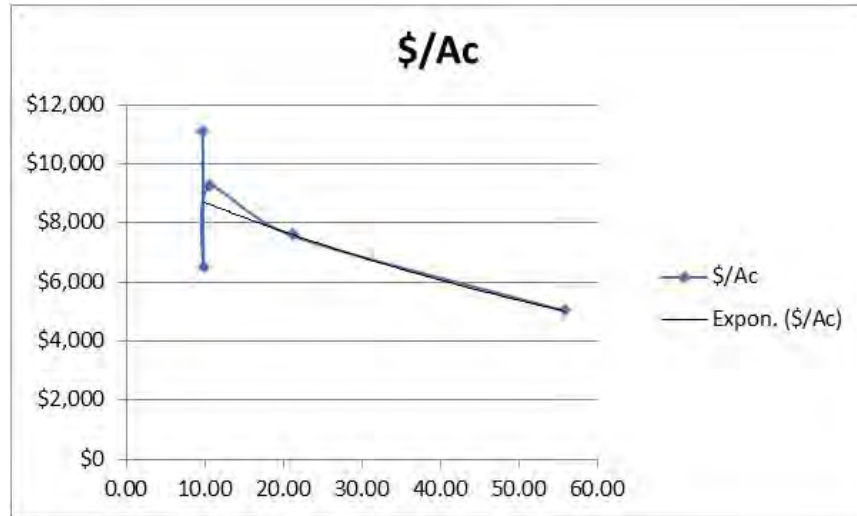
Adjoining Residential Sales After Solar Farm Approved												
Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	
Adjoins	242 Mariposa	2.91	9/21/2015	\$180,000	1962	1,880	\$95.74	3/2	Carport	Br/Rnch	Det Wrkshop	
Not	249 Mariposa	0.48	3/1/2019	\$153,000	1974	1,792	\$85.38	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 trend line 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

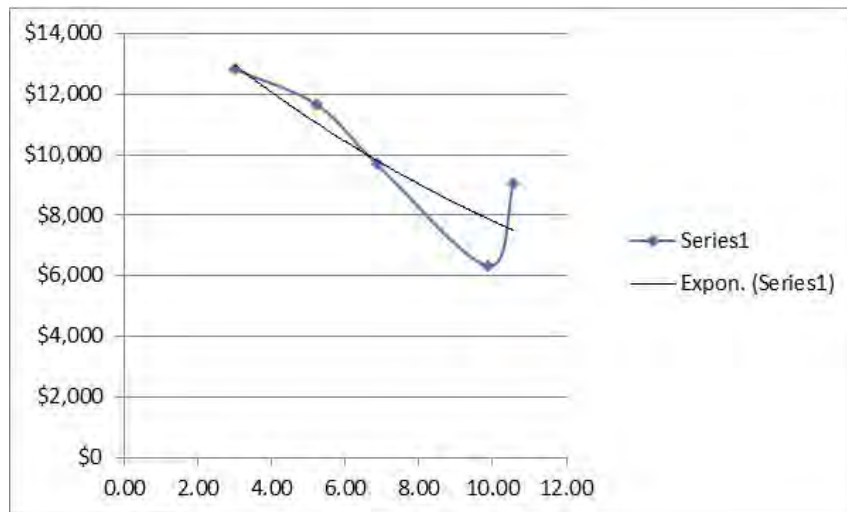


Finally, I have considered the recent sale of Parcel 17 that sold as vacant land. I was unable to find good land sales in the same 7 acre range, so I have considered sales of larger and smaller acreage. I adjusted each of those land sales for time. I then applied the price per acre to a trend line to 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 trend line 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



24. 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 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.

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%	

25. Matched Pair – Flemington Solar, Flemington, NJ



This solar farm is located off Kuhl Road and is south of Hart Boulevard. I spoke with Gerry Giles a local realtor who is familiar with the adjoining neighborhood as she has lived in that neighborhood. She indicated that in her opinion the adjoining solar farm is a quiet neighbor and would not have a negative impact on property value.

Furthermore, I spoke with her specifically about the recent sale of 10 Coventry, which I have included in the matched pairs. She noted that the seller was a divorced bachelor who had set the place up like a dorm and that it showed terribly. She believes proper staging of the interior would have significantly improved the sales price on this home. I adjusted for that factor in the comparables in that analysis based on that information.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
19	Adjoins	12 Stratford	0.55	11/30/2017	\$414,900	1991	1,828	\$226.97	3/2.5	2-Gar	2-Story	
	Not	58 Wellington	0.45	6/8/2018	\$334,500	1984	1,757	\$190.38	3/2.5	2-Gar	2-Story	
	Not	28 Bristol	0.35	1/17/2018	\$398,000	1985	1,757	\$226.52	3/2.5	2-Gar	2-Story	
	Not	1 Sheffield	0.35	12/15/2017	\$399,900	1984	1,870	\$213.85	4/2	Gar	2-Story	

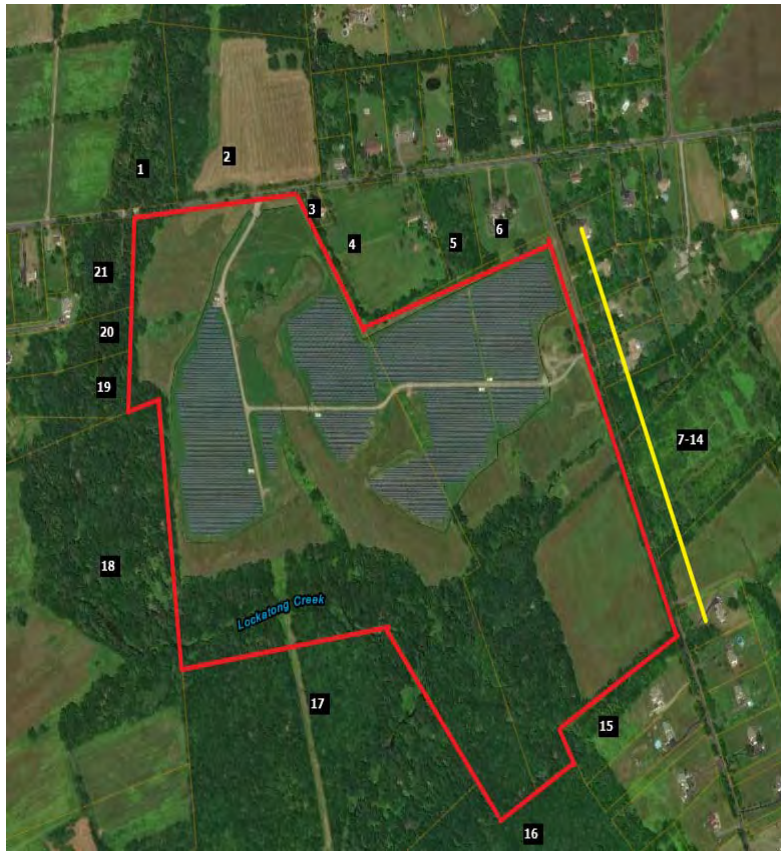
Adjoining Sales Adjusted

Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
						\$414,900			345
-\$5,356	\$11,708	\$8,110				\$348,962	16%		
-\$1,610	\$11,940	\$9,650				\$417,980	-1%		
-\$505	\$13,997	-\$5,389	\$5,000	\$7,000		\$420,002	-1%	5%	

The range of impact identified by these matched pairs ranges are therefore -3% to +5% for distances ranging from 295 feet to 425 feet with an average difference from these four indicators of 0%. As noted earlier this range is within the typical plus or minus for any real estate transaction and indicates no impact on property value.

The broker Gerry Giles indicated that she has not seen the solar farm having any impact on adjoining property value. She noted that the solar farm is visible from Hart Boulevard and from a number of these backyards, but is still heavily screened.

26. Matched Pair – Frenchtown Solar, Frenchtown, NJ



This solar farm is located off Muddy Run Road. I spoke with Gerry Giles a local realtor who helped a buyer purchase 5 Muddy Town Road. She indicated that his home adjoining the solar farm had multiple offers and that most of those offers were higher than the offer she presented, but her buyer provided an all cash offer. This was important as the property was being purchased while the septic system required repairs and updates that the seller paid for but completed the work during/after the purchase. The solar farm was not considered a negative by her buyer.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
7	Adjoins	5 Muddy Run	2.14	6/23/2017	\$385,000	1985	2,044	\$188.36	4/2.5	2-Gar	2-Story	Updated
	Not	319 Barbertown	2.00	5/21/2019	\$358,000	1988	2,240	\$159.82	4/3	Gar	2-Story	
	Not	132 Kingwood	3.17	10/31/2016	\$380,000	1996	2,392	\$158.86	3/2.5	Det 2	2-Story	
	Not	26 Barbertown	2.03	5/21/2019	\$360,000	1998	2,125	\$169.41	4/3	2-Gar	2-Story	

Adjoining Sales Adjusted

Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
						\$385,000			250
-\$13,673	-\$5,370	-\$18,795	-\$5,000	\$10,000	\$20,000	\$345,162	10%		
\$4,893	-\$20,900	-\$33,171		\$5,000	\$20,000	\$355,823	8%		
-\$13,749	-\$23,400	-\$8,233	-\$5,000		\$20,000	\$329,618	14%		
								11%	

After typical adjustments including a \$20,000 increase in the comparable sales for updates, the subject property is showing a significant premium that may be attributable to the adjoining solar farm.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style
	Adjoins	149 Wyndmoor	N/A	5/24/2017	\$206,000	1987	1,236	\$166.67	2/1.5	Gar	2-Story
	Not	97 Wyndmoor	N/A	4/17/2017	\$210,000	1987	1,236	\$169.90	2/1.5	Gar	2-Story
	Not	24 Monroe	N/A	12/23/2016	\$217,979	1987	1,560	\$139.73	3/2.5	Gar	2-Story
	Not	81 Wyndmoor	N/A	1/31/2018	\$204,000	1987	1,254	\$162.68	2/2.5	Gar	2-Story

Adjoining Sales Adjusted

Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
						\$206,000			175
\$639	\$0	\$0				\$210,639	-2%		
\$2,723	\$0	-\$27,164				\$193,539	6%		
-\$4,225	\$0	-\$1,757				\$198,018	4%	3%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style
	Adjoins	26 Wilmor	0.46	3/19/2019	\$286,000	1961	1,092	\$261.90	3/1.5	Gar	Ranch
	Not	25 Pinehurst	0.48	5/17/2019	\$315,000	1967	1,314	\$239.73	3/1&2	Gar	Ranch
	Not	15 Maple Stream	0.40	6/6/2017	\$285,000	1964	1,202	\$237.10	3/1.5	Gar	Ranch
	Not	3 Amy	0.29	10/11/2018	\$286,000	1969	1,229	\$232.71	3/1.5	Gar	Ranch

Adjoining Sales Adjusted

Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
						\$286,000			400
-\$1,566	-\$9,450	-\$31,932	-\$5,000			\$267,052	7%		
\$15,635	-\$4,275	-\$15,649				\$280,711	2%		
\$3,832	-\$11,440	-\$19,129				\$259,263	9%	6%	
						Average	-2%		250

The range of impact identified by these matched pairs ranges are therefore -14% to +6% for distances ranging from 175 feet to 400 feet with an average difference from these three indicators of -2%. As noted earlier this range is within the typical plus or minus for any real estate transaction and indicates no impact on property value.

This set of matched pairs is interesting and there appears to be more going on when you compare the two townhome properties. One shows a significant discount and the other shows no impact. When I compare the two townhomes that both back up to the same solar farm, the townhome that includes 1,532 s.f. sold for only \$9,000 more than the townhome that has 1,236 s.f. I attempted to speak with the broker involved with these but was unable to get a reply. The difference there strongly indicates that something else is going on with the larger townhome. I will not rely heavily on that matched pair, but I have included it to be complete.

28. Matched Pair – Tinton Falls Solar, Tinton Falls, NJ



This solar farm is located off W. Park Avenue. The tract with the solar farm also has a condo/townhome project from which I have considered recent sales activity. I note that the developer of the solar farm and the townhome community clearly did not see any negative impact from the combined use. These units are still being constructed with new sales expected in the near future.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
	Adjoins	111 Kyle	N/A	8/8/2018	\$402,000	2015	2,200	\$182.73	3/2.5	Gar	3-Story	End
	Not	80 Kyle	N/A	9/18/2017	\$410,000	2015	2,226	\$184.19	2/2.5	Gar	3-Story	End/Park
	Not	15 Michael	N/A	9/19/2018	\$412,000	2016	2,157	\$191.01	3/2.5	Gar	3-Story	End
	Not	31 Michael	N/A	4/1/2019	\$390,000	2016	2,200	\$177.27	3/2.5	Gar	3-Story	End
	Not	15 Michael	N/A	9/9/2018	\$412,000	2016	2,157	\$191.01	3/2.5	Gar	3-Story	End

Adjoining Sales Adjusted

Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
						\$402,000			185
\$11,194	\$0	-\$2,873			-\$20,500	\$397,821	1%		
-\$1,458	-\$2,060	\$4,928				\$413,410	-3%		
-\$7,756	-\$1,950	\$0				\$380,294	5%		
-\$1,111	-\$2,060	\$4,928				\$413,757	-4%		

1%

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
	Adjoins	47 Kyle	N/A	8/31/2018	\$260,000	2016	1,140	\$228.07	2/2	Gar	3-Story	End
	Not	26 Jake	N/A	10/31/2017	\$268,000	2014	1,140	\$235.09	2/2	Gar	3-Story	End
	Not	4 Michael	N/A	11/8/2018	\$260,000	2015	1,140	\$228.07	2/2	Gar	3-Story	End
	Not	36 Kyle	N/A	1/10/2019	\$260,000	2015	1,140	\$228.07	2/2	Gar	3-Story	

Adjoining Sales Adjusted

Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
						\$260,000			155
\$6,866	\$2,680	\$0				\$277,546	-7%		
-\$1,512	\$1,300	\$0				\$259,788	0%		
-\$2,892	\$1,300	\$0			\$7,800	\$266,208	-2%	-3%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
	Adjoins	7 Kyle	N/A	6/15/2017	\$262,195	2017	1,140	\$230.00	2/2	Gar	3-Story	End
	Not	26 Jake	N/A	10/31/2017	\$268,000	2014	1,140	\$235.09	2/2	Gar	3-Story	End
	Not	4 Michael	N/A	11/8/2018	\$260,000	2015	1,140	\$228.07	2/2	Gar	3-Story	End
	Not	36 Kyle	N/A	1/10/2019	\$260,000	2015	1,140	\$228.07	2/2	Gar	3-Story	

Adjoining Sales Adjusted

Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
						\$262,195			150
-\$3,117	\$4,020	\$0				\$268,903	-3%		
-\$11,196	\$2,600	\$0	-\$5,000			\$246,404	6%		
-\$12,576	\$2,600	\$0			\$7,800	\$257,824	2%	2%	

Adjoining Residential Sales After Solar Farm Approved

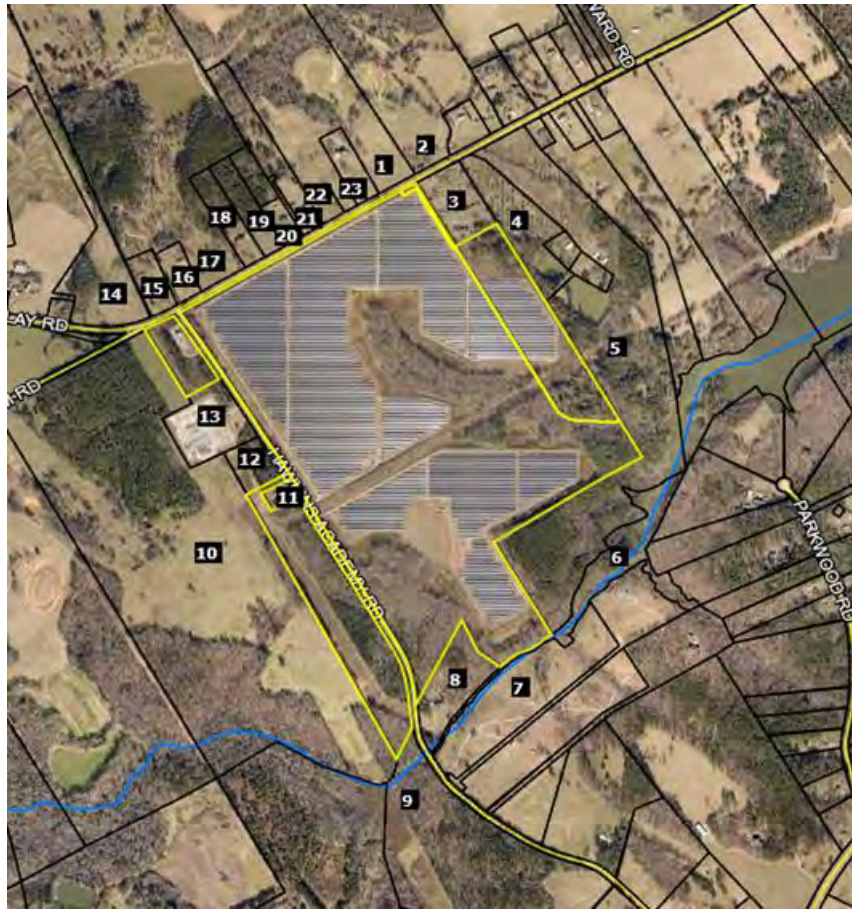
Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
	Adjoins	1 Samantha	N/A	9/1/2017	\$258,205	2017	1,140	\$226.50	2/2	Gar	3-Story	End
	Not	26 Jake	N/A	10/31/2017	\$268,000	2014	1,140	\$235.09	2/2	Gar	3-Story	End
	Not	4 Michael	N/A	11/8/2018	\$260,000	2015	1,140	\$228.07	2/2	Gar	3-Story	End
	Not	36 Kyle	N/A	1/10/2019	\$260,000	2015	1,140	\$228.07	2/2	Gar	3-Story	

Adjoining Sales Adjusted

Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
						\$258,205			155
-\$1,355	\$4,020	\$0	-\$5,000			\$265,665	-3%		
-\$9,487	\$2,600	\$0				\$253,113	2%		
-\$10,867	\$2,600	\$0			\$7,800	\$259,533	-1%	0%	

The range of impact identified by these matched pairs ranges are therefore -3% to +2% for distances ranging from 150 feet to 185 feet with an average difference from these four indicators of 0%. As noted earlier this range is within the typical plus or minus for any real estate transaction and indicates no impact on property value.

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



This 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.

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 ranges are therefore -12% to +14% for with an average of 0%. 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%.

30. Matched Pair – Candace Solar, Princeton, NC



This 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.

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%		
Average												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.

31. 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 four home sales to the north of this solar farm on Claiborne 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 Claiborne 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 on lots being marketed for \$28,000 to \$29,000.

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.

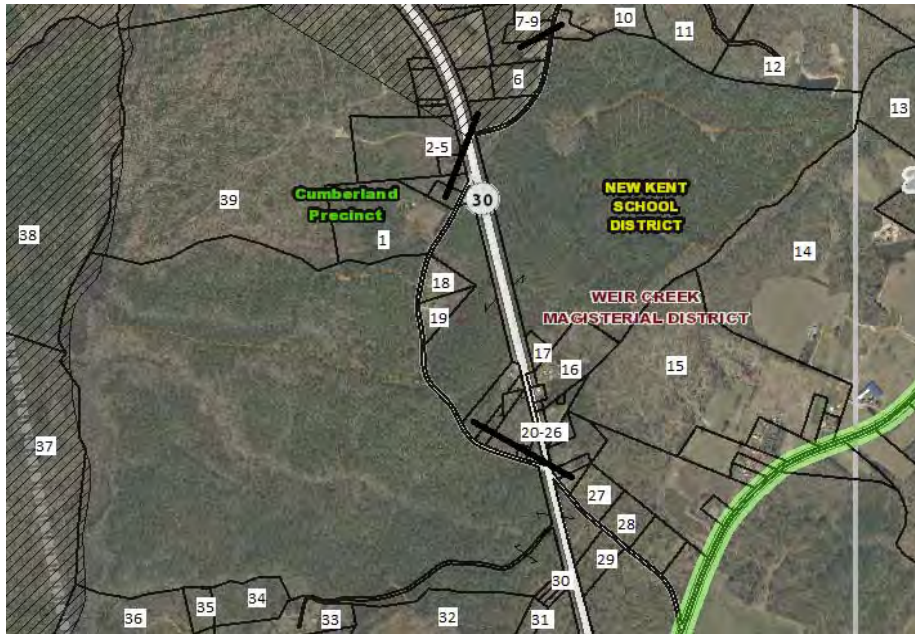
Adjoining Residential Sales After Solar Farm Approved

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	

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

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

32. Matched Pair – Walker-Correctional Solar, Barham Road, Barhamville, 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.

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.

33. 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.

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%	

34. 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 followed by a more recent map showing the panels at this site.

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		
Not	1928 Shaw Mill	-\$3,055	\$100,000	-\$1,450	-\$7,422	-\$10,000			\$368,074	4%	3%
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.



35. Matched Pair – Demille Solar, Demille Road, Lapeer, MI



This solar farm is located on 160 acres of a parent tract assemblage of 311.40 acres with a 28.4 MW output. This was built in 2017.

I have identified several home sales adjoining this solar farm at the southeast corner where the red line shows adjoining Parcels 5 through 17 on the map above.

The first is Parcel 8 in the map above, 1120 Don Wayne Drive, that sold in August 2019. I have compared this to multiple home sales as shown below. I consider 1231 Turrill to be the best comparable of this set as it required the least adjustment and was the most similar in size, age, and date of sale.

Adjoining Residential Sales After Solar Farm Built

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Dist.
Adjoins	1120 Don Wayne	0.47	8/28/2019	\$194,000	1976	1,700	\$114.12	3/3.5	2-Car	Ranch	Brick/FinBsmt	310
Not	1127 Don Wayne	0.51	9/23/2019	\$176,900	1974	1,452	\$121.83	3/2	2-Car	Ranch	Brick/Ufin Bsmt	
Not	1231 Turrill	1.21	4/25/2019	\$182,000	1971	1,560	\$116.67	3/2	2-Car	Ranch	Brick/Wrkshp	
Not	1000 Baldwin	3.11	8/1/2017	\$205,000	1993	1,821	\$112.58	3/2.5	2-Car	Ranch	Vinyl	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	1120 Don Wayne								\$194,000		-1%
Not	1127 Don Wayne	-\$258		\$1,769	\$24,171	\$10,000			\$212,582	-10%	
Not	1231 Turrill	\$1,278	-\$10,000	\$4,550	\$13,067	\$10,000			\$200,895	-4%	
Not	1000 Baldwin	\$8,718	-\$20,000	-\$17,425	-\$10,897	\$10,000			\$175,396	10%	

Next I considered Parcel 9, 1126 Don Wayne Drive, which I have compared to two similar home sales nearby that are not adjoining a solar farm as shown below. This home sold in May 2018 after the solar farm was built.

Adjoining Residential Sales After Solar Farm Built

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Dist.
Adjoins	1126 Don Wayne	0.47	5/16/2018	\$160,000	1971	1,900	\$84.21	3/2.5	2-Car	Ranch	Brick,FinBsmt	310
Not	70 Sterling Dr	0.32	8/2/2018	\$137,500	1960	1,800	\$76.39	3/1.5	1-Car	Ranch	Brick	
Not	3565 Garden Dr	0.34	5/15/2019	\$165,000	1960	2,102	\$78.50	3/1.5	2-Car	Ranch	Brick	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	1126 Don Wayne								\$160,000		-3%
Not	70 Sterling Dr	-\$603		\$7,563	\$6,111	\$10,000	\$5,000		\$165,571	-3%	
Not	3565 Garden Dr	-\$3,374		\$9,075	-\$12,685	\$5,000			\$163,016	-2%	

Next I looked at Parcel 11, 1138 Don Wayne Drive, that sold in August 2019. I have compared this to three similar sales as shown below. I attributed no value to the pool at 1138 Don Wayne Drive.

Adjoining Residential Sales After Solar Farm Built

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Dist.
Adjoins	1138 Don Wayne	0.47	8/28/2019	\$191,000	1975	2,128	\$89.76	4/1.5	2-Car	2-Story	Brick	380
Not	1331 W Genessee	0.45	10/25/2019	\$160,707	1940	1,955	\$82.20	4/1.5	Drive	1.5 Story	Vinyl/UnBsmt	
Not	1128 Gwen Dr	0.47	8/24/2018	\$187,500	1973	2,040	\$91.91	3/2.5	2-Car	2 Story	Brick/UnBsmt	
Not	1227 Oakridge	1.05	6/11/2017	\$235,000	1980	2,500	\$94.00	4/2.5	2-Car	2 Story	Brk/PFinBsmt	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	1138 Don Wayne								\$191,000		-1%
Not	1331 W Genessee	-\$524		\$16,874	\$11,377		\$10,000		\$198,434	-4%	
Not	1128 Gwen Dr	\$3,887		\$1,875	\$6,471	-\$10,000			\$189,733	1%	
Not	1227 Oakridge	\$10,667	-\$10,000	-\$5,875	-\$27,974	-\$10,000			\$191,818	0%	

Parcel 13, 1168 Alice Drive, sold in October 2019. I spoke with Tanya Biernat the buyer's agent who handled that sale and she indicated that the property was placed on the market below market for a fast sale by the sellers. The buyers expressed no concern regarding the adjacent solar farm and it had no impact on marketing or selling the property, though it did sell for a low price. I also spoke with Chantel Fink's office, the selling agent. They confirmed that the solar farm was not an issue in the sales price or marketing of the property. Given that this sale was noted as below market for a fast sale, I have not attempted to set it up as a matched pair.

Parcel 14, 1174 Alice Drive, sold in January 2019. I have compared that sale to three similar properties as shown below. I included 1135 Gwen Drive as a nearby comparable, but it is not a good comparable. According to the broker, Paul Coulter, that home had many recent and significant upgrades that made it superior to similar housing in the neighborhood. It is notably the highest sales price in the neighborhood. I have shown that one but I made no adjustment for those upgrades, but I won't rely on that sale for the matched pairs. I consider the 1127 Don Wayne Drive comparable to be a more reasonable comparison. I spoke with Chris Fergurson the broker for that sale who confirmed that it was arm's length and that while across Don Wayne Drive from the homes that adjoin the solar farm, this home had no view of the solar farm and was not an issue in marketing this home.

Adjoining Residential Sales After Solar Farm Built

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Dist.
Adjoins	1174 Alice Dr	0.54	1/14/2019	\$165,000	1973	1,400	\$117.86	3/1.5	2-Car	Ranch	Brick/Fin Bsmt	280
Not	1127 Don Wayne	0.51	9/23/2019	\$176,900	1974	1,452	\$121.83	3/2	2-Car	Ranch	Brick/Ufin Bsmt	
Not	1135 Gwen Dr	0.43	7/26/2019	\$205,000	1967	1,671	\$122.68	3/2	2-Car	Ranch	Brick/Ufin Bsmt	
Not	1160 Beth Dr	0.46	6/20/2019	\$147,500	1970	1,482	\$99.53	4/1.5	2-Car	Ranch	Brick/Fin Bsmt	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	1174 Alice Dr								\$165,000		2%
Not	1127 Don Wayne	-\$2,504		-\$885	-\$5,068	-\$5,000			\$163,443	1%	
Not	1135 Gwen Dr	-\$2,223		\$6,150	-\$26,597	-\$5,000			\$177,330	-7%	
Not	1160 Beth Dr	-\$1,301		\$2,213	-\$6,529				\$141,883	14%	

The four matched pairs identified show a range of -3% to +2% based on the average difference for each set of matched pairs. This is a very similar range I have found in most sales adjoining solar farms and strongly supports the assertion that the solar farm is not having a negative impact on adjoining property values.

Furthermore, two brokers active in the sale of a home adjoining the solar farm both confirmed that Parcel 13 was not impacted by the presence of the solar farm on the adjacent tract.

36. Matched Pair – Turrill Solar, Turrill Road, Lapeer, MI



This solar farm is located on approximately 230 acres with a 19.6 MW output. This was built in 2017.

I have identified several home sales adjoining this solar farm on the west side of this solar farm on Cliff Drive.

The first is 1060 Cliff Drive that sold in September 2018. I compared this to multiple nearby home sales 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	Distance
Adjoins	1060 Cliff Dr	1.03	9/14/2018	\$200,500	1970	2,114	\$94.84	4/2.5	2-Car	2 Story	Brick	290
Not	1331 W Genessee	0.45	10/25/2019	\$160,707	1940	1,955	\$82.20	4/1.5	Drive	1.5 Story	Vinyl/Unfin Bsmt	
Not	1128 Gwen Dr	0.47	8/24/2018	\$187,500	1973	2,040	\$91.91	3/2.5	2-Car	2 Story	Brick/Unfin Bsmt	
Not	1227 Oakridge	1.05	6/11/2017	\$235,000	1980	2,500	\$94.00	4/2.5	2-Car	2 Story	Brk/Prt Fin Bsmt	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	1060 Cliff Dr								\$200,500		-2%
Not	1331 W Genessee	-\$3,666	\$10,000	\$14,464	\$10,456	\$10,000	\$10,000		\$211,961	-6%	
Not	1128 Gwen Dr	\$221	\$10,000	-\$2,813	\$5,441				\$200,350	0%	
Not	1227 Oakridge	\$6,073		-\$11,750	-\$29,027				\$200,296	0%	

Next I considered 1040 Cliff Drive as shown below. Comparing to the 1127 Don Wayne Drive, I show no impact. I included 1135 Gwen Drive as a nearby comparable, but it is not a good comparable. According to the broker, Paul Coulter, that home had many recent and significant upgrades that made it superior to similar housing in the neighborhood. It is notably the highest sales price in the neighborhood. I have shown that one but I made no adjustment for those upgrades, but I won't rely on that sale for the matched pairs. This leaves 1127 Don Wayne Drive which shows no impact and 1160 Beth Drive, which had the fewest adjustments shows a 12% premium or enhancement for adjoining the solar farm. I consider the Don Wayne Drive match up to be the better of these two comparables even with a higher number of adjustments.

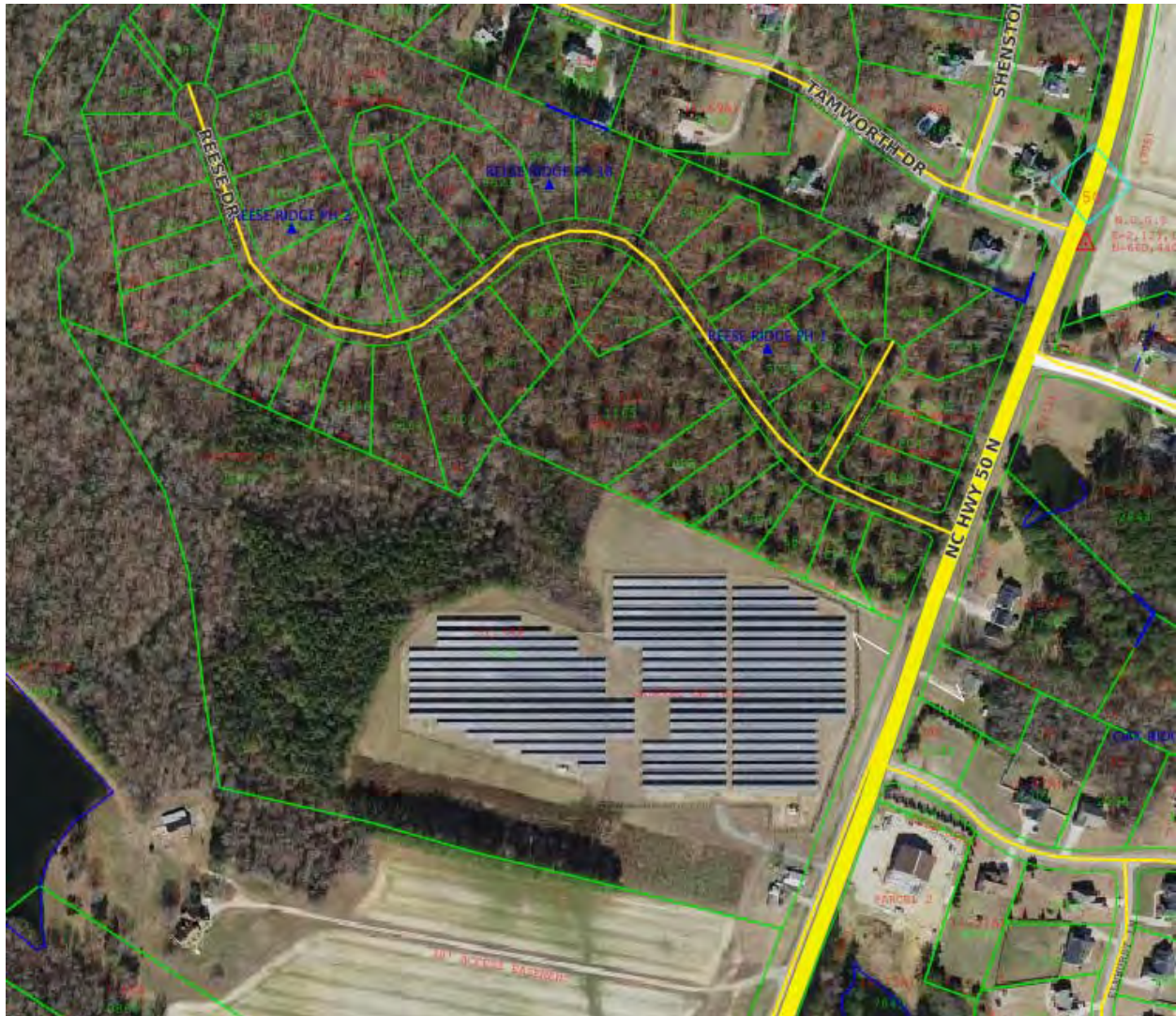
Adjoining Residential Sales After Solar Farm Built

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
Adjoins	1040 Cliff Dr	1.03	6/29/2017	\$145,600	1960	1,348	\$108.01	3/1.5	3-Car	Ranch	Brick/Wrkshp	255
Not	1127 Don Wayne	0.51	9/23/2019	\$176,900	1974	1,452	\$121.83	3/2	2-Car	Ranch	Brick/Ufin Bsmt	
Not	1135 Gwen Dr	0.43	7/26/2019	\$205,000	1967	1,671	\$122.68	3/2	2-Car	Ranch	Brick/Ufin Bsmt	
Not	1160 Beth Dr	0.46	6/20/2019	\$147,500	1970	1,482	\$99.53	4/1.5	2-Car	Ranch	Brick/Fin Bsmt	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	1040 Cliff Dr								\$145,600		1%
Not	1127 Don Wayne	-\$8,110		-\$12,383	-\$10,136	-\$5,000	\$5,000		\$146,271	0%	
Not	1135 Gwen Dr	-\$8,718		-\$7,175	-\$31,701	-\$5,000	\$5,000		\$157,406	-8%	
Not	1160 Beth Dr	-\$5,975		-\$7,375	-\$10,669		\$5,000		\$128,481	12%	

The two matched pairs identified show a range of -2% to +1% based on the average difference for each set of matched pairs. This is a very similar range I have found in most sales adjoining solar farms and strongly supports the assertion that the solar farm is not having a negative impact on adjoining property values.

38. Matched Pair – HCE Johnston I, LLC, Benson, NC



This 2.6 MW project was built in 2015 and located on 30.55 acres.

There is a new subdivision that was developed in 2019 just north of this solar farm called Reese's Ridge. This location is near the McGees Crossroads near Mount Pleasant Road. As can be seen in the map below, the adjoining land to the north of this solar farm was purchased in 2017 and subdivided as Reese Ridge with 0.49 to 0.53 acre lots. Most of the trees on this site were cleared as part of the development with a single row of pine trees retained as a buffer along the solar farm. The first six lots on the south side of Reese Drive are around 115 feet from the center point in the lot to the nearest solar farm panel. This tract of land was purchased on September 7, 2017 for \$925,000 for 42.388 acres, or \$21,822 per acre.

The proposed homes will be custom homes starting at \$330,000. County water is available and the homes will use individual septic tanks. I spoke with Amanda with The Rodney Carroll Team who is marketing the homes and she indicated that 7 custom home builders had a lottery to purchase all of the lots.

Three different builders have purchased lots adjoining the solar farm for \$60,000 each. Similar lots across Reese Drive and further from the solar farm are selling at the same \$60,000 each. At

\$60,000 this indicates a lot-to-home ratio of 18%, which is typical for new home construction in the county where there is no amenity package.



Since then a home was built and then sold at 63 Reese Drive, which is two lots off of NC 50 and backs up to the solar farm. Similarly, 107 Reese Drive which is six lots off of NC 50 and backs up to the solar farm. I have considered both of these for matched pairs as shown below.

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
Adjoins		107 Reese Drive	0.69	11/27/2019	\$393,000	2019	2,960	\$132.77	3/3	2-Car	1.5 Vinyl	
Not		200 Reese Drive	0.44	2/19/2020	\$400,000	2019	3,209	\$124.65	3/2.5	2-Car	1.5 Batten/Stone	
Not		35 Pawnee Pl	0.65	5/30/2018	\$325,000	2017	2,609	\$124.57	4/3	2-Car	1.5 Vinyl/Stone	
Not		278 Timber Wolf	0.88	1/24/2020	\$367,443	2019	2,983	\$123.18	3/3	2-Car	1.5 Vinyl/Stone	
	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins		107 Reese Drive								\$393,000		5%
Not		200 Reese Drive	-\$2,831		\$0	-\$24,830	\$5,000			\$377,338	4%	
Not		35 Pawnee Pl			\$14,954	\$3,250	\$34,979			\$378,183	4%	
Not		278 Timber Wolf	-\$1,796		\$0	-\$2,266				\$363,381	8%	

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
Adjoins		63 Reese Drive	0.45	3/24/2020	\$410,000	2019	3,240	\$126.54	4/3	2-Car	Ranch/Wd	
Not		200 Reese Drive	0.44	2/19/2020	\$400,000	2019	3,209	\$124.65	3/2.5	2-Car	1.5 Batten/Stone	
Not		320 Wolf Den	0.97	9/27/2019	\$377,780	2019	3,122	\$121.01	4/3	2-Car	1.5 Vinyl/Stone	
Not		37 Makers Way	0.59	5/29/2019	\$373,508	2019	3,122	\$119.64	4/3	3-Car	1.5 Vinyl/Stone	
	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins		63 Reese Drive								\$410,000		3%
Not		200 Reese Drive	\$1,146		\$0	\$2,705	\$5,000			\$408,851	0%	
Not		320 Wolf Den	\$5,699		\$0	\$9,995				\$393,474	4%	
Not		37 Makers Way	\$9,443		\$0	\$9,882		-\$5,000		\$387,833	5%	

After adjustments, the two sales support a conclusion of no impact on property value due to the solar farm. I spoke with Rodney Carroll the broker marketing the homes and he indicated that the solar farm had zero impact on the sales price and they were marketing it as the best neighbor you could have.

Conclusion

The solar farm matched pairs shown above have similar characteristics to each other in terms of population, with most of the projects being in areas with a 1-mile radius population under 1,000, but with several outliers showing solar farms in farm more urban areas.

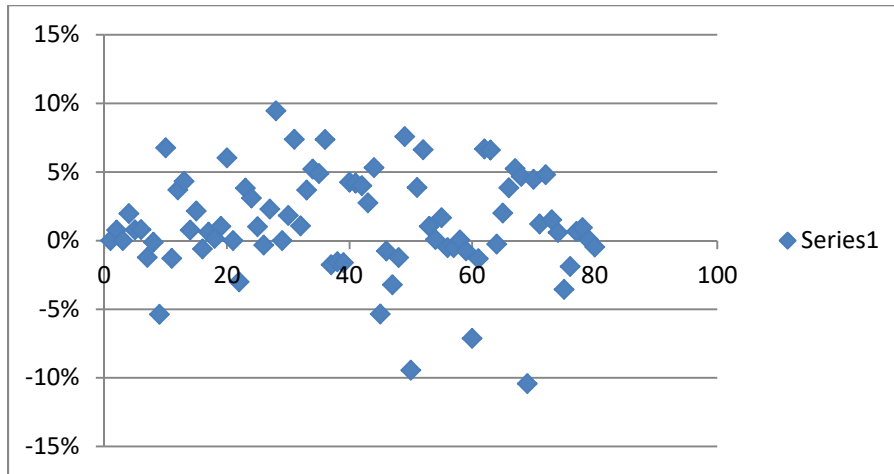
The median income for the population within 1 mile of a solar farm is \$63,665 with a median housing unit value of \$252,841. Most of the comparables are under \$400,000 in the home price, with \$770,000 being the high end of the set of matched pairs. The adjoining uses show that residential and agricultural 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 Florida and the proposed subject property.

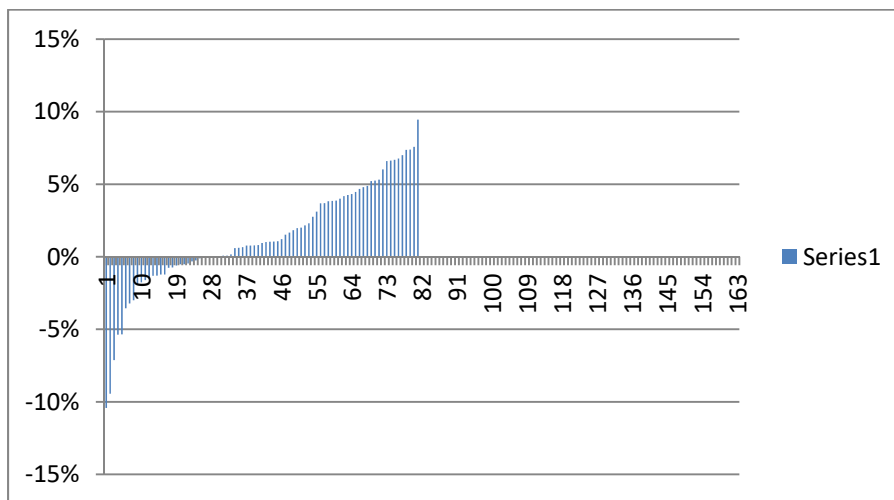
Matched Pair Summary					Adj. Uses By Acreage					1 mile Radius (2010-2019 Data)			
Name	City	State	Acres	MW	Topo Shift	Res	Ag/Res	Ag	Com/Ind	Population	Med. Income	Avg. Housing Unit	
1	AM Best	Goldensboro	NC	38	5.00	2	38%	23%	0%	39%	1,523	\$37,358	\$148,375
2	White Cross	Chapel Hill	NC	45	5.00	50	5%	51%	44%	0%	213	\$67,471	\$319,929
3	Wagstaff	Roxboro	NC	30	5.00	46	7%	89%	4%	0%	336	\$41,368	\$210,723
4	Mulberry	Selmer	TN	160	5.00	60	13%	10%	73%	3%	467	\$40,936	\$171,746
5	Nixon's	W. Friendship	MD	97	2.00	40	79%	4%	17%	0%	939	\$166,958	\$770,433
6	Leonard	Hughesville	MD	47	5.00	20	18%	0%	75%	6%	525	\$106,550	\$350,000
7	Talbot	Easton	MD	50	0.55	0	81%	0%	19%	0%	536	\$47,136	\$250,595
8	Alamo II	Converse	TX	98	4.40	30	95%	0%	5%	0%	9,257	\$62,363	\$138,617
9	Gastonia SC	Gastonia	NC	35	5.00	48	33%	23%	0%	44%	4,689	\$35,057	\$126,562
10	Summit	Moyock	NC	2,034	80.00	4	4%	94%	0%	2%	382	\$79,114	\$281,731
11	White Cross II	Chapel Hill	NC	34	2.80	35	25%	75%	0%	0%	213	\$67,471	\$319,929
12	Tracy	Bailey	NC	50	5.00	10	29%	71%	0%	0%	312	\$43,940	\$99,219
13	Manatee	Parrish	FL	1,180	75.00	20	2%	1%	97%	0%	48	\$75,000	\$291,667
14	McBride	Midland	NC	627	75.00	140	12%	78%	10%	0%	398	\$63,678	\$256,306
15	Yamhill II	Amity	OR	186	1.20	20	2%	0%	97%	1%	97	\$58,248	\$324,391
16	Marion	Aurora	OR	32	0.30	0	2%	37%	61%	0%	267	\$75,355	\$370,833
17	Clackamas II	Aurora	OR	156	0.22	0	7%	25%	68%	0%	3,062	\$70,911	\$464,501
18	Grand Ridge	Streator	IL	160	20.00	1	8%	5%	87%	0%	96	\$70,158	\$187,037
19	Portage	Portage	IN	56	2.00	0	19%	0%	81%	0%	6,642	\$65,695	\$186,463
20	Dominion	Indianapolis	IN	134	8.60	20	3%	0%	97%	0%	3,774	\$61,115	\$167,515
21	Beetle-Shelby	Shelby	NC	24	4.00	52	22%	0%	77%	1%	218	\$53,541	\$192,692
22	Courthouse	Bessemer	NC	52	5.00	150	48%	52%	0%	0%	551	\$45,968	\$139,404
23	Mariposa	Stanley	NC	36	5.00	96	48%	52%	0%	0%	1,716	\$36,439	\$137,884
24	Clarke Cnty	White Post	VA	234	20.00	70	14%	46%	39%	1%	578	\$81,022	\$374,453
25	Flemington	Flemington	NJ	120	9.36	N/A	13%	28%	50%	8%	3,477	\$105,714	\$444,696
26	Frenchtown	Frenchtown	NJ	139	7.90	N/A	37%	29%	35%	0%	457	\$111,562	\$515,399
27	McGraw	East Windsor	NJ	95	14.00	N/A	27%	0%	44%	29%	7,684	\$78,417	\$362,428
28	Tinton Falls	Tinton Falls	NJ	100	16.00	N/A	98%	0%	0%	2%	4,667	\$92,346	\$343,492
29	Simon	Social Circle	GA	237	30.00	71	1%	36%	63%	0%	203	\$76,155	\$269,922
30	Candace	Princeton	NC	54	5.00	22	76%	0%	24%	0%	448	\$51,002	\$107,171
31	Crittenden	Crittenden	KY	34	2.70	40	22%	27%	51%	0%	1,419	\$60,198	\$178,643
32	Walker	Barhamsville	VA	485	20.00	N/A	12%	20%	68%	0%	203	\$80,773	\$320,076
33	Innov 46	Hope Mills	NC	532	78.50	0	17%	0%	83%	0%	2,247	\$58,688	\$183,435
34	Innov 42	Fayetteville	NC	414	71.00	0	41%	0%	59%	0%	568	\$60,037	\$276,347
35	Demille	Lapeer	MI	160	28.40	10	10%	0%	68%	22%	2,010	\$47,208	\$187,214
36	Turrill	Lapeer	MI	230	19.60	10	75%	0%	59%	25%	2,390	\$46,839	\$110,361
37	Sunfish	Willow Spring	NC	50	6.40	30	35%	30%	35%	0%	1,515	\$63,652	\$253,138
38	HCE Johnston	Benson	NC	30	2.60	0	55%	45%	0%	0%	1,169	\$65,482	\$252,544
Average				218	17.17	33	30%	25%	42%	5%	1,718	\$67,130	\$265,891
Median				98	5.00	20	21%	22%	44%	0%	560	\$63,665	\$252,841
High				2,034	80.00	150	98%	94%	97%	44%	9,257	\$166,958	\$770,433
Low				24	0.22	0	1%	0%	0%	0%	48	\$35,057	\$99,219
1 Mile Radius	Horseshoe KY		395	60	40	3%	61%	36%	0%		63	\$37,826	\$119,048
3 Mile Radius	Horseshoe KY		395	60	40	3%	61%	36%	0%		1,141	\$41,041	\$117,674

I have pulled 83 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 +9% 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% 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.



Arranging the data points in order of impact, I get the following chart that shows only 3 matched pairs out of 83 identifying impacts greater than -5% and only 18 more out of 83 between -5% and 0. This leaves 62 out of 83 matched pairs showing positive impacts from 0 to +9%, or 75% of the total matched pairs. However, given that +/- 5% is considered no impact, that would include 70 of the 83 matched pairs, or 84% of the findings supporting a finding of no impact. The other readings are considered outliers with only 3 suggesting a negative impact and 10 suggesting a positive impact.



Similarly, the 10 land sales shows a median impact of 0% due to adjacency to a solar farm. The range of these adjustments range from -12% to +17%. Land prices tend to vary more widely than

residential homes, which is part of that greater range. I consider this data to support no negative or positive impact due to adjacency to a solar farm.

Residential Dwelling Matched Pairs Adjoining Solar Farms

Pair	Solar Farm	City	State	Area	MW	Approx		Sale Date	Sale Price	Adj. Sale Price	% Diff
						Distance	Tax ID/Address				
1	AM Best	Goldsboro	NC	Suburban	5	280	3600195570	Sep-13	\$250,000		
							3600198928	Mar-14	\$250,000	\$250,000	0%
2	AM Best	Goldsboro	NC	Suburban	5	280	3600195361	Sep-13	\$260,000		
							3600194813	Apr-14	\$258,000	\$258,000	1%
3	AM Best	Goldsboro	NC	Suburban	5	280	3600199891	Jul-14	\$250,000		
							3600198928	Mar-14	\$250,000	\$250,000	0%
4	AM Best	Goldsboro	NC	Suburban	5	280	3600198632	Aug-14	\$253,000		
							3600193710	Oct-13	\$248,000	\$248,000	2%
5	AM Best	Goldsboro	NC	Suburban	5	280	3600196656	Dec-13	\$255,000		
							3601105180	Dec-13	\$253,000	\$253,000	1%
6	AM Best	Goldsboro	NC	Suburban	5	280	3600182511	Feb-13	\$247,000		
							3600183905	Dec-12	\$240,000	\$245,000	1%
7	AM Best	Goldsboro	NC	Suburban	5	280	3600182784	Apr-13	\$245,000		
							3600193710	Oct-13	\$248,000	\$248,000	-1%
8	AM Best	Goldsboro	NC	Suburban	5	280	3600195361	Nov-15	\$267,500		
							3600195361	Sep-13	\$260,000	\$267,800	0%
9	Mulberry	Selmer	TN	Rural	5	400	0900A011	Jul-14	\$130,000		
							099CA043	Feb-15	\$148,900	\$136,988	-5%
10	Mulberry	Selmer	TN	Rural	5	400	099CA002	Jul-15	\$130,000		
							0990NA040	Mar-15	\$120,000	\$121,200	7%
11	Mulberry	Selmer	TN	Rural	5	480	491 Dusty	Oct-16	\$176,000		
							35 April	Aug-16	\$185,000	\$178,283	-1%
12	Mulberry	Selmer	TN	Rural	5	650	297 Country	Sep-16	\$150,000		
							53 Glen	Mar-17	\$126,000	\$144,460	4%
13	Mulberry	Selmer	TN	Rural	5	685	57 Cooper	Feb-19	\$163,000		
							191 Amelia	Aug-18	\$132,000	\$155,947	4%
14	Pine Valley	West End	NC	Rural	5	175	16893	Aug-16	\$66,000		
							16897	Aug-16	\$59,000	\$65,490	1%
15	Nixon's	W. Friendship	MD	Rural	2	660	12909 Vistaview	Sep-14	\$775,000	\$771,640	
							2712 Friendship Farm	Jun-14	\$690,000	\$755,000	2%
16	Leonard Rd	Hughesville	MD	Rural	5.5	230	14595 Box Elder	Feb-16	\$291,000		
							15313 Bassford Rd	Jul-16	\$329,800	\$292,760	-1%
17	Talbot Cnty	Easton	MD	Rural	0.55	1000	10193 Hiners	Oct-12	\$136,092		
							10711 Hiners	Dec-12	\$135,000	\$135,250	1%
18	Alamo II	San Antonio	TX	Suburban	4.4	360	7703 Redstone Mnr	Mar-16	\$166,000		
							7703 Redstone Mnr	Oct-12	\$149,980	\$165,728	0%
19	Alamo II	San Antonio	TX	Suburban	4.4	170	7807 Redstone Mnr	Aug-14	\$147,000		
							7807 Redstone Mnr	May-12	\$136,266	\$145,464	1%
20	Alamo II	San Antonio	TX	Suburban	4.4	150	7734 Sundew Mist	Nov-14	\$134,000		
							7734 Sundew Mist	May-12	\$117,140	\$125,928	6%
21	Neal Hawkins	Gastonia	NC	Suburban	5	275	139179	Mar-17	\$270,000		
							139179	Mar-17	\$270,000	\$270,000	0%
22	Summit	Moyock	NC	Suburban	80	1,060	129 Pinto	Apr-16	\$170,000		
							102 Timber	Apr-16	\$175,500	\$175,101	-3%
23	Summit	Moyock	NC	Suburban	80	2,020	105 Pinto	Dec-16	\$206,000		
							127 Ranchland	Jun-15	\$219,900	\$198,120	4%
24	White Cross II	Chapel Hill	NC	Rural	2.8	1,479	2018 Elkins	Feb-16	\$340,000		
							4200B Old Greensbor	Dec-15	\$380,000	\$329,438	3%
25	Tracy	Bailey	NC	Rural	5	780	9162 Winters	Jan-17	\$255,000		
							7352 Red Fox	Jun-16	\$176,000	\$252,399	1%
26	Manatee	Parrish	FL	Rural	75	1180	13670 Highland	Aug-18	\$255,000		
							13851 Highland	Sep-18	\$240,000	\$255,825	0%
27	McBride Place	Midland	NC	Rural	75	275	4380 Joyner	Nov-17	\$325,000		
							3870 Elkwood	Aug-16	\$250,000	\$317,523	2%
28	Yamhill II	Amity	OR	Rural	1.2	700	12001 SW Bellerus	Jul-15	\$326,456		
							9955 Bethel	Feb-16	\$289,900	\$295,593	9%
29	Clackamas II	Aurora	OR	Suburban	0.22	125	7620 SW Fairway	Jul-13	\$365,000		
							7480 SW Fairway	Jun-13	\$365,000	\$365,000	0%
30	Clackamas II	Aurora	OR	Suburban	0.22	125	7700 SW Fairway	Jun-14	\$377,100		
							7500 SW Fairway	Dec-11	\$365,000	\$370,175	2%
31	Clackamas II	Aurora	OR	Suburban	0.22	125	7380 SW Fairway	Jul-14	\$415,000		
							7480 SW Fairway	Jun-13	\$365,000	\$384,345	7%

Pair	Solar Farm	City	State	Area	MW	Approx		Sale Date	Sale Price	Adj. Sale Price	% Diff
						Distance	Tax ID/Address				
32	Grand Ridge	Streator	IL	Rural	20	480	1497 E 21st	Oct-16	\$186,000		
							712 Columbus	Jun-16	\$166,000	\$184,000	1%
33	Portage	Portage	IN	Rural	2	1320	836 N 450 W	Sep-13	\$149,800		
34	Dominion	Indianapolis	IN	Rural	8.6	400	336 E 1050 N	Jan-13	\$155,000	\$144,282	4%
							2013249 (Tax ID)	Dec-15	\$140,000		
35	Dominion	Indianapolis	IN	Rural	8.6	400	5723 Minden	Nov-16	\$139,900	\$132,700	5%
							2013251 (Tax ID)	Sep-17	\$160,000		
36	Dominion	Indianapolis	IN	Rural	8.6	400	5910 Mosaic	Aug-16	\$146,000	\$152,190	5%
							2013252 (Tax ID)	May-17	\$147,000		
37	Dominion	Indianapolis	IN	Rural	8.6	400	5836 Sable	Jun-16	\$141,000	\$136,165	7%
							2013258 (Tax ID)	Dec-15	\$131,750		
38	Dominion	Indianapolis	IN	Rural	8.6	400	5904 Minden	May-16	\$130,000	\$134,068	-2%
							2013260 (Tax ID)	Mar-15	\$127,000		
39	Dominion	Indianapolis	IN	Rural	8.6	400	5904 Minden	May-16	\$130,000	\$128,957	-2%
							2013261 (Tax ID)	Feb-14	\$120,000		
40	Beetle-Shelby	Mooresboro	NC	Rural	4	945	5904 Minden	May-16	\$130,000	\$121,930	-2%
							1715 Timber	Oct-18	\$416,000		
41	Courthouse	Bessemer	NC	Rural	5	375	1021 Posting	Feb-19	\$414,000	\$398,276	4%
							2134 Tryon Court.	Mar-17	\$111,000		
42	Mariposa	Stanley	NC	Suburban	5	1155	5550 Lennox	Oct-18	\$115,000	\$106,355	4%
							215 Mariposa	Dec-17	\$249,000		
43	Mariposa	Stanley	NC	Suburban	5	570	110 Airport	May-16	\$166,000	\$239,026	4%
							242 Mariposa	Sep-15	\$180,000		
44	Clarke Cnty	White Post	VA	Rural	20	1230	110 Airport	Apr-16	\$166,000	\$175,043	3%
							833 Nations Spr	Jan-17	\$295,000		
45	Flemington	Flemington	NJ	Suburban	9.36	295	541 Old Kitchen	Sep-18	\$370,000	\$279,313	5%
							10 Coventry	Mar-18	\$370,000		
46	Flemington	Flemington	NJ	Suburban	9.36	375	1 Sheffield	Dec-17	\$399,900	\$389,809	-5%
							54 Hart	Jul-16	\$420,000		
47	Flemington	Flemington	NJ	Suburban	9.36	425	43 Aberdeen	Nov-16	\$417,000	\$423,190	-1%
							6 Portsmith	Jun-15	\$410,000		
48	Flemington	Flemington	NJ	Suburban	9.36	345	43 Aberdeen	Nov-16	\$417,000	\$423,190	-3%
							12 Stratford	Nov-17	\$414,900		
49	Frenchtown	Frenchtown	NJ	Rural	7.9	250	28 Bristol	Dec-18	\$398,000	\$420,002	-1%
							5 Muddy Run	Jun-17	\$385,000		
50	McGraw	East Windsor	NJ	Suburban	14	175	132 Kingswood	Oct-16	\$380,000	\$355,823	8%
							153 Wyndmoor	Apr-17	\$215,000		
51	McGraw	East Windsor	NJ	Suburban	14	175	20 Spyglass	Dec-17	\$240,000	\$235,305	-9%
							149 Wyndmoor	May-17	\$206,000		
52	McGraw	East Windsor	NJ	Suburban	14	400	81 Wyndmoor	Jan-18	\$204,000	\$198,018	4%
							26 Wilmor	Mar-19	\$286,000		
53	Tinton Falls	Tinton Falls	NJ	Suburban	16	185	25 Pinehurst	May-19	\$315,000	\$267,052	7%
							111 Kyle	Aug-18	\$402,000		
54	Tinton Falls	Tinton Falls	NJ	Suburban	16	155	80 Kyle	Sep-17	\$410,000	\$397,821	1%
							47 Kyle	Aug-18	\$260,000		
55	Tinton Falls	Tinton Falls	NJ	Suburban	16	150	4 Michael	Nov-18	\$260,000	\$259,788	0%
							7 Kyle	Jun-17	\$262,195		
56	Tinton Falls	Tinton Falls	NJ	Suburban	16	155	36 Kyle	Jan-19	\$260,000	\$257,824	2%
							1 Samantha	Sep-17	\$258,205		
57	Tinton Falls	Tinton Falls	NJ	Suburban	16	155	36 Kyle	Jan-19	\$260,000	\$259,533	-1%
							1 Samantha	Sep-17	\$258,205		
58	Candace	Princeton	NC	Suburban	5	488	36 Kyle	Jan-19	\$260,000	\$259,533	-1%
							499 Herring	Sep-17	\$215,000		
59	Crittenden	Crittenden	KY	Suburban	2.7	373	1795 Bay Valley	Dec-17	\$194,000	\$214,902	0%
							250 Claiborne	Jan-19	\$120,000		
60	Crittenden	Crittenden	KY	Suburban	2.7	488	315 N Fork	May-19	\$107,000	\$120,889	-1%
							300 Claiborne	Sep-18	\$213,000		
							1795 Bay Valley	Dec-17	\$231,200	\$228,180	-7%

Pair	Solar Farm	City	State	Area	MW	Approx Distance	Tax ID/Address	Sale Date	Sale Price	Adj. Sale Price	% Diff
61	Crittenden	Crittenden	KY	Suburban	2.7	720	350 Claiborne	Jul-18	\$245,000		
							2160 Sherman	Jun-19	\$265,000	\$248,225	-1%
62	Crittenden	Crittenden	KY	Suburban	2.7	930	370 Claiborne	Aug-19	\$273,000		
							125 Lexington	Apr-18	\$240,000	\$254,751	7%
63	Walker	Barhamsville	VA	Rural	20	250	5241 Barham	Oct-18	\$264,000		
							9252 Ordinary	Jun-19	\$277,000	\$246,581	7%
64	AM Best	Goldsboro	NC	Suburban	5	385	103 Granville Pl	Jul-18	\$265,000		
							2219 Granville	Jan-18	\$260,000	\$265,682	0%
65	AM Best	Goldsboro	NC	Suburban	5	315	104 Erin	Jun-17	\$280,000		
							2219 Granville	Jan-18	\$265,000	\$274,390	2%
66	AM Best	Goldsboro	NC	Suburban	5	400	2312 Granville	May-18	\$284,900		
							2219 Granville	Jan-18	\$265,000	\$273,948	4%
67	AM Best	Goldsboro	NC	Suburban	5	400	2310 Granville	May-19	\$280,000		
							634 Friendly	Jul-19	\$267,000	\$265,291	5%
68	Summit	Moyock	NC	Suburban	80	570	318 Green View	Sep-19	\$357,000		
							336 Green View	Jan-19	\$365,000	\$340,286	5%
69	Summit	Moyock	NC	Suburban	80	440	164 Ranchland	Apr-19	\$169,000		
							105 Longhorn	Oct-17	\$184,500	\$186,616	-10%
70	Summit	Moyock	NC	Suburban	80	635	358 Oxford	Sep-19	\$478,000		
							176 Providence	Sep-19	\$425,000	\$456,623	4%
71	Summit	Moyock	NC	Suburban	80	970	343 Oxford	Mar-17	\$490,000		
							218 Oxford	Apr-17	\$525,000	\$484,064	1%
72	Innov 46	Hope Mills	NC	Suburban	78.5	435	6849 Roslin Farm	Feb-19	\$155,000		
							109 Bledsoe	Jan-19	\$150,000	\$147,558	5%
73	Innov 42	Fayetteville	NC	Suburban	71	340	2923 County Line	Feb-19	\$385,000		
							2109 John McMillan	Apr-18	\$320,000	\$379,156	2%
74	Innov 42	Fayetteville	NC	Suburban	71	330	2935 County Line	Jun-19	\$266,000		
							7031 Glynn Mill	May-18	\$255,000	\$264,422	1%
75	Demille	Lapeer	MI	Suburban	28	310	1120 Don Wayne	Aug-19	\$194,000		
							1231 Turrill	Apr-19	\$182,000	\$200,895	-4%
76	Demille	Lapeer	MI	Suburban	28	310	1126 Don Wayne	May-18	\$160,000		
							3565 Garden	May-19	\$165,000	\$163,016	-2%
77	Demille	Lapeer	MI	Suburban	28	380	1138 Don Wayne	Aug-19	\$191,000		
							1128 Gwen	Aug-18	\$187,500	\$189,733	1%
78	Demille	Lapeer	MI	Suburban	28	280	1174 Alice	Jan-19	\$165,000		
							1127 Don Wayne	Sep-19	\$176,900	\$163,443	1%
79	Turrill	Lapeer	MI	Suburban	20	290	1060 Cliff	Sep-18	\$200,500		
							1128 Gwen	Aug-18	\$187,500	\$200,350	0%
80	Turrill	Lapeer	MI	Suburban	20	255	1040 Cliff	Jun-17	\$145,600		
							1127 Don Wayne	Sep-19	\$176,900	\$146,271	0%
81	Sunfish	Willow Sprng	NC	Suburban	6.4	205	7513 Glen Willow	Sep-17	\$185,000		
							205 Pine Burr	Dec-17	\$191,000	\$172,487	7%
82	HCE Johnston	Benson	NC	Suburban	2.6	290	107 Reese	Nov-19	\$393,000		
							200 Reese	Feb-20	\$400,000	\$377,338	4%
83	HCE Johnston	Benson	NC	Suburban	2.6	105	63 Reese	Mar-20	\$410,000		
							320 Wolf Den	Sep-19	\$377,780	\$393,474	4%

	MW	Avg. Distance	% Dif
Average	17.54	462	1%
Median	5.00	375	1%
High	80.00	2,020	9%
Low	0.22	105	-10%

Land Sale Matched Pairs Adjoining Solar Farms

Pair	Solar Farm	City	State	Area	MW	Tax ID/Address	Sale Date	Sale Price	Acres	\$/AC	Adj. \$/AC	% Diff
1	White Cross	Chapel Hill	NC	Rural	5	9748336770	Jul-13	\$265,000	47.20	\$5,614		
						9747184527	Nov-10	\$361,000	59.09	\$6,109	\$5,278	6%
2	Wagstaff	Roxboro	NC	Rural	5	91817117960	Aug-13	\$164,000	18.82	\$8,714		
						91800759812	Dec-13	\$130,000	14.88	\$8,737	\$8,737	0%
3	Tracy	Bailey	NC	Rural	5	316003	Jul-16	\$70,000	13.22	\$5,295		
						6056	Oct-16	\$164,000	41.00	\$4,000	\$4,400	17%
4	Marion	Aurora	OR	Rural	0.3	18916 Butteville	Aug-14	\$259,000	15.75	\$16,444		
						Waconda	Sep-15	\$215,000	11.86	\$18,128	\$16,950	-3%
5	Portage	Portage	IN	Sub	2	64-06-19-200-003	Feb-14	\$149,600	18.70	\$8,000		
						64-15-08-200-010	Jan-17	\$115,000	15.02	\$7,656	\$7,198	10%
6	Courthouse	Bessemer	NC	Rural	5	5021 Buckland	Mar-18	\$58,500	9.66	\$6,056		
						Kiser	Nov-17	\$69,000	17.65	\$3,909	\$5,190	14%
7	Mariposa	Stanley	NC	Sub	5	174339	Jun-18	\$160,000	21.15	\$7,565		
						227852	May-18	\$97,000	10.57	\$9,177	\$7,565	0%
8	Mariposa	Stanley	NC	Sub	5	227039	Dec-17	\$66,500	6.86	\$9,694		
						177322	May-17	\$66,500	5.23	\$12,715	\$9,694	0%
9	Simon	Social Circle	GA	Rural	30	4514 Hawkins	Mar-16	\$180,000	36.86	\$4,883		
						Pannell	Nov-16	\$322,851	66.94	\$4,823	\$4,974	-2%
10	Candace	Princeton	NC	Sub	5	499 Herring	May-17	\$30,000	2.03	\$14,778		
						488 Herring	Dec-16	\$35,000	2.17	\$16,129	\$16,615	-12%
					Average					Average		3%
					Median					Median		0%
					High					High		17%
					Low					Low		-12%

Larger Solar Farm Data

I have summarized the solar farm data for projects at 20 MW and larger as shown below. These are the same solar farms noted above but focused on larger projects.

Matched Pair Summary		Adj. Uses By Acreage								1 mile Radius (2010-2018 Data)			
Name	City	State	Acres	MW	Topo Shift	Res	Ag/Res	Ag	Com/Ind	Population	Med. Income	Avg. Housing Unit	
10	Summit	Moyock	NC	2,034	80.00	4	4%	94%	0%	2%	382	\$79,114	\$281,731
13	Manatee	Parrish	FL	1,180	75.00	20	2%	1%	97%	0%	48	\$75,000	\$291,667
14	McBride	Midland	NC	627	75.00	140	12%	78%	10%	0%	398	\$63,678	\$256,306
18	Grand Ridge	Streator	IL	160	20.00	1	8%	5%	87%	0%	96	\$70,158	\$187,037
24	Clarke Cnty	White Post	VA	234	20.00	70	14%	46%	39%	1%	578	\$81,022	\$374,453
26	Simon	Social Circle	GA	237	30.00	71	1%	36%	63%	0%	203	\$76,155	\$269,922
32	Walker	Barhamsville	VA	485	20.00	N/A	12%	20%	68%	0%	203	\$80,773	\$320,076
33	Innov 46	Hope Mills	NC	532	78.50	0	17%	0%	83%	0%	2,247	\$58,688	\$183,435
34	Innov 42	Fayetteville	NC	414	71.00	0	41%	0%	59%	0%	568	\$60,037	\$276,347
35	Demille	Lapeer	MI	160	28.40	10	10%	0%	68%	22%	2,010	\$47,208	\$187,214
36	Turrill	Lapeer	MI	230	19.60	10	75%	0%	59%	25%	2,390	\$46,839	\$110,361
	Average			572	47	33	18%	25%	58%	5%	829	\$67,152	\$248,959
	Median			414	30	10	12%	5%	63%	0%	398	\$70,158	\$269,922
	High			2,034	80	140	75%	94%	97%	25%	2,390	\$81,022	\$374,453
	Low			160	20	0	1%	0%	0%	0%	48	\$46,839	\$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.

On the next page, I have reshown all of the 21 matched pairs specific to these 12 solar farms over 20 MW. This set shows impacts ranging from -10% to +7% with an average and median of +1%, which is very similar to the larger set. This suggests that the size of a project has no bearing on adjacent impacts as well.

Residential Dwelling Matched Pairs Adjoining Solar Farms

Pair	Solar Farm	City	State	Area	MW	Approx Distance	Tax ID/Address	Sale Date	Sale Price	Adj. Sale Price	% Diff
21	Summit	Moyock	NC	Suburban	80	1,060	129 Pinto	Apr-16	\$170,000		
							102 Timber	Apr-16	\$175,500	\$169,451	0%
22	Summit	Moyock	NC	Suburban	80	2,020	105 Pinto	Dec-16	\$206,000		
							127 Ranchland	Jun-15	\$219,900	\$194,278	6%
25	Manatee	Parrish	FL	Rural	75	1180	13670 Highland	Aug-18	\$255,000		
							13851 Highland	Sep-18	\$240,000	\$255,825	0%
26	McBride Place	Midland	NC	Rural	75	275	4380 Joyner	Nov-17	\$325,000		
							3870 Elkwood	Aug-16	\$250,000	\$317,523	2%
31	Grand Ridge	Streator	IL	Rural	20	480	1497 E 21st	Oct-16	\$186,000		
							712 Columbus	Jun-16	\$166,000	\$184,000	1%
44	Clarke Cnty	White Post	VA	Rural	20	1230	833 Nations Spr	Jan-17	\$295,000		
							541 Old Kitchen	Sep-18	\$370,000	\$279,313	5%
63	Walker	Barhamsville	VA	Rural	20	250	5241 Barham	Oct-18	\$264,000		
							9252 Ordinary	Jun-19	\$277,000	\$246,581	7%
68	Summit	Moyock	NC	Suburban	80	570	318 Green View	Sep-19	\$357,000		
							336 Green View	Jan-19	\$365,000	\$340,286	5%
69	Summit	Moyock	NC	Suburban	80	440	164 Ranchland	Apr-19	\$169,000		
							105 Longhorn	Oct-17	\$184,500	\$186,616	-10%
70	Summit	Moyock	NC	Suburban	80	635	358 Oxford	Sep-19	\$478,000		
							176 Providence	Sep-19	\$425,000	\$456,623	4%
71	Summit	Moyock	NC	Suburban	80	970	343 Oxford	Mar-17	\$490,000		
							218 Oxford	Apr-17	\$525,000	\$484,064	1%
72	Innov 46	Hope Mills	NC	Suburban	78.5	435	6849 Roslin Farm	Feb-19	\$155,000		
							109 Bledsoe	Jan-19	\$150,000	\$147,558	5%
73	Innov 42	Fayetteville	NC	Suburban	71	340	2923 County Line	Feb-19	\$385,000		
							2109 John McMillan	Apr-18	\$320,000	\$379,156	2%
74	Innov 42	Fayetteville	NC	Suburban	71	330	2935 County Line	Jun-19	\$266,000		
							7031 Glynn Mill	May-18	\$255,000	\$264,422	1%
75	Demille	Lapeer	MI	Suburban	28	310	1120 Don Wayne	Aug-19	\$194,000		
							1231 Turrill	Apr-19	\$182,000	\$200,895	-4%
76	Demille	Lapeer	MI	Suburban	28	310	1126 Don Wayne	May-18	\$160,000		
							3565 Garden	May-19	\$165,000	\$163,016	-2%
77	Demille	Lapeer	MI	Suburban	28	380	1138 Don Wayne	Aug-19	\$191,000		
							1128 Gwen	Aug-18	\$187,500	\$189,733	1%
78	Demille	Lapeer	MI	Suburban	28	280	1174 Alice	Jan-19	\$165,000		
							1127 Don Wayne	Sep-19	\$176,900	\$163,443	1%
79	Turrill	Lapeer	MI	Suburban	20	290	1060 Cliff	Sep-18	\$200,500		
							1128 Gwen	Aug-18	\$187,500	\$200,350	0%
80	Turrill	Lapeer	MI	Suburban	20	255	1040 Cliff	Jun-17	\$145,600		
							1127 Don Wayne	Sep-19	\$176,900	\$146,271	0%

	MW	Avg. Distance	Average	1%
Average	53.13	602	Average	1%
Median	71.00	408	Median	1%
High	80.00	2,020	High	7%
Low	20.00	250	Low	-10%

It's useful to note that Matched Pair 68 on Green View Drive is within a golf course community that adjoins the solar farm, but that test pair has no golf view.

I also note that Matched Pairs 71 and 74 were new homes that were built after the solar farm was constructed so the adjoining solar farm was not a limiting factor on construction in those cases.

I have also researched information on a number of larger solar farm projects across the country where many are newer and there have not been any adjoining sales for analysis at this time, but do show a similar range of adjoining uses as those projects listed above.

On the following page I show 63 projects ranging in size from 50 MW up to 1,000 MW with an average size of 118.48 MW and a median of 80 MW. The average closest distance for an adjoining home is 241 feet, while the median distance is 175 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.

Parcel #	State	County	City	Name	Output (MW)	Total Acres	Used Acres	Avg. Dist to home	Closest Home	Adjoining Use by Acre			
										Res	Agri	Agri/Res	Com
78	NC	Currituck	Moyock	Summit/Ranchland	80	2034		674	360	4%	94%	0%	2%
133	MS	Forrest	Hattiesburg	Hattiesburg	50	1129	479.6	650	315	35%	65%	0%	0%
179	SC	Jasper	Ridgeland	Jasper	140	1600	1000	461	108	2%	85%	13%	0%
211	NC	Halifax	Enfield	Chestnut	75	1428.1		1,429	210	4%	96%	0%	0%
222	VA	Mecklenburg	Chase City	Grasshopper	80	946.25				6%	87%	5%	1%
226	VA	Louisa	Louisa	Belcher	88	1238.1			150	19%	53%	28%	0%
305	FL	Pasco	Dade City	Mountain View	55	347.12		510	175	32%	39%	21%	8%
319	FL	Hamilton	Jasper	Hamilton	74.9	1268.9	537	3,596	240	5%	67%	28%	0%
336	FL	Manatee	Parrish	Manatee	74.5	1180.4		1,079	625	2%	50%	1%	47%
337	FL	DeSoto	Arcadia	Citrus	74.5	640				0%	0%	100%	0%
338	FL	Charlotte	Port Charlotte	Babcock	74.5	422.61				0%	0%	100%	0%
353	VA	Accomack	Oak Hall	Amazon East(ern shore)	80	1000		645	135	8%	75%	17%	0%
364	VA	Dulpepper	Stevensburg	Greenwood	100	2266.6	1800	788	200	8%	62%	29%	0%
368	NC	Duplin	Warsaw	Warsaw	87.5	585.97	499	526	130	11%	66%	21%	3%
390	NC	Richmond	Ellerbe	Innovative Solar 34	50	385.24	226	N/A	N/A	1%	99%	0%	0%
399	NC	Cabarrus	Midland	McBride	74.9	974.59	627	1,425	140	12%	78%	9%	0%
400	FL	Polk	Mulberry	Alafia	51	420.35		490	105	7%	90%	3%	0%
406	VA	Halifax	Clover	Foxhound	91	1311.8		885	185	5%	61%	17%	18%
410	FL	Gilchrist	Trenton	Trenton	74.5	480		2,193	775	0%	26%	55%	19%
411	NC	Edgecombe	Battleboro	Fern	100	1235.4	960.71	1,494	220	5%	76%	19%	0%
412	MD	Caroline	Goldsboro	Cherrywood	202	1722.9	1073.7	429	200	10%	76%	13%	0%
434	NC	Edgecombe	Conetoe	Conetoe	80	1389.9	910.6	1,152	120	5%	78%	17%	0%
440	FL	Volusia	Debary	Debary	74.5	844.63		654	190	3%	27%	0%	70%
441	FL	Alachua & Pt	Hawthorne	Horizon	74.5	684				3%	81%	16%	0%
484	VA	Southampton	Newsoms	Southampton	100	3243.9		-	-	3%	78%	17%	3%
486	VA	Augusta	Stuarts Draft	Augusta	125	3197.4	1147	588	165	16%	61%	16%	7%
491	NC	Stanly	Misenheimer	Misenheimer 2018	80	740.2	687.2	504	130	11%	40%	22%	27%
494	VA	King and Que	Shacklefords	Walnut	110	1700	1173	641	165	14%	72%	13%	1%
496	VA	Halifax	Clover	Piney Creek	80	776.18	422	523	195	15%	62%	24%	0%
511	NC	Halifax	Scotland Neck	American Beech	160	3255.2	1807.8	1,262	205	2%	58%	38%	3%
514	NC	Rockingham	Reidsville	Williamsburg	80	802.6	507	734	200	25%	12%	63%	0%
517	VA	Page	Luray	Cape	100	566.53	461	519	110	42%	12%	46%	0%
518	VA	Greensville	Emporia	Fountain Creek	80	798.3	595	862	300	6%	23%	71%	0%
525	NC	Washington	Plymouth	Macadamia	484	5578.7	4813.5	1,513	275	1%	90%	9%	0%
526	NC	Cleveland	Mooreboro	Broad River	50	759.8	365	419	70	29%	55%	16%	0%
555	FL	Polk	Mulberry	Durrance	74.5	463.57	324.65	438	140	3%	97%	0%	0%
560	NC	Yadkin	Yadkinville	Sugar	60	477	357	382	65	19%	39%	20%	22%
561	NC	Halifax	Enfield	Halifax 80mw 2019	80	1007.6	1007.6	672	190	8%	73%	19%	0%
577	VA	Isle of Wight	Windsor	Windsor	85	564.1	564.1	572	160	9%	67%	24%	0%
579	VA	Spotsylvania	Paytes	Spotsylvania	500	6412	3500			9%	52%	11%	27%
582	NC	Rowan	Salisbury	China Grove	65	428.66	324.26	438	85	58%	4%	38%	0%
583	NC	Stokes	Walnut Cove	Lick Creek	50	1424	185.11	410	65	20%	64%	11%	5%
584	NC	Halifax	Enfield	Sweetleaf	94	1956.3	1250	968	160	5%	63%	32%	0%
586	VA	King William	Aylett	Sweet Sue	77	1262	576	1,617	680	7%	68%	25%	0%
593	NC	Bertie	Windsor	Sumac	120	3360.6	1257.9	876	160	4%	90%	6%	0%
599	TN	Fayette	Somerville	Yum Yum	147	4000	1500	1,862	330	3%	32%	64%	1%
602	GA	Burke	Waynesboro	White Oak	76.5	516.7	516.7	2,995	1,790	1%	34%	65%	0%
603	GA	Taylor	Butler	Butler GA	103	2395.1	2395.1	1,534	255	2%	73%	23%	2%
604	GA	Taylor	Butler	White Pine	101.2	505.94	505.94	1,044	100	1%	51%	48%	1%
605	GA	Candler	Metter	Live Oak	51	417.84	417.84	910	235	4%	72%	23%	0%
606	GA	Jeff Davis	Hazelhurst	Hazelhurst II	52.5	947.15	490.42	2,114	105	9%	64%	27%	0%
607	GA	Decatur	Bainbridge	Decatur Parkway	80	781.5	781.5	1,123	450	2%	27%	22%	49%
608	GA	Sumter	Leslie-DeSoto	Americus	1000	9661.2	4437	5,210	510	1%	63%	36%	0%
616	FL	Colombia	Fort White	Fort White	74.5	570.5	457.2	828	220	12%	71%	17%	0%
621	VA	Surry	Spring Grove	Loblolly	150	2181.9	1000	1,860	110	7%	62%	31%	0%
622	VA	Albemarle	Scottsville	Woodridge	138	2260.9	1000	1,094	170	9%	63%	28%	0%
625	NC	Nash	Middlesex	Phobos	80	754.52	734	356	57	14%	75%	10%	0%
628	MI	Lenawee	Deerfield	Carroll Road	200	1694.8	1694.8	343	190	12%	86%	0%	2%
633	VA	Greensville	Emporia	Brunswick	150.2	2076.4	1387.3	1,091	240	4%	85%	11%	0%
634	NC	Surry	Elkin	Partin	50	429.4	257.64	945	155	30%	25%	15%	30%
638	GA	Twiggs	Dry Branch	Twiggs	200	2132.7	2132.7	-	-	10%	55%	35%	0%
639	NC	Cumberland	Hope Mills	Innovative Solar 46	78.5	531.87	531.87	423	125	17%	83%	0%	0%
640	NC	Cumberland	Hope Mills	Innovative Solar 42	71	413.99	413.99	375	135	41%	59%	0%	0%
Total Number of Solar Farms					63								
Average					118.48	1533.1	1043.6	1058	241	11%	60%	24%	6%
Median					80.00	1000.0	657.1	808	175	7%	64%	19%	0%
High					1000.00	9661.2	4813.5	5210	1790	58%	99%	100%	70%
Low					50.00	347.1	185.1	343	57	0%	0%	0%	0%

III. Distance Between Homes and Solar 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 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 landscaping involved in these there is no sign of negative impact. I do note that the landscaping tends to be larger at time of planting when the panels are closer to homes.

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. This is atypical and most solar farms that have been approved have generally been over 100 feet from the closest point on adjoining residential structures.

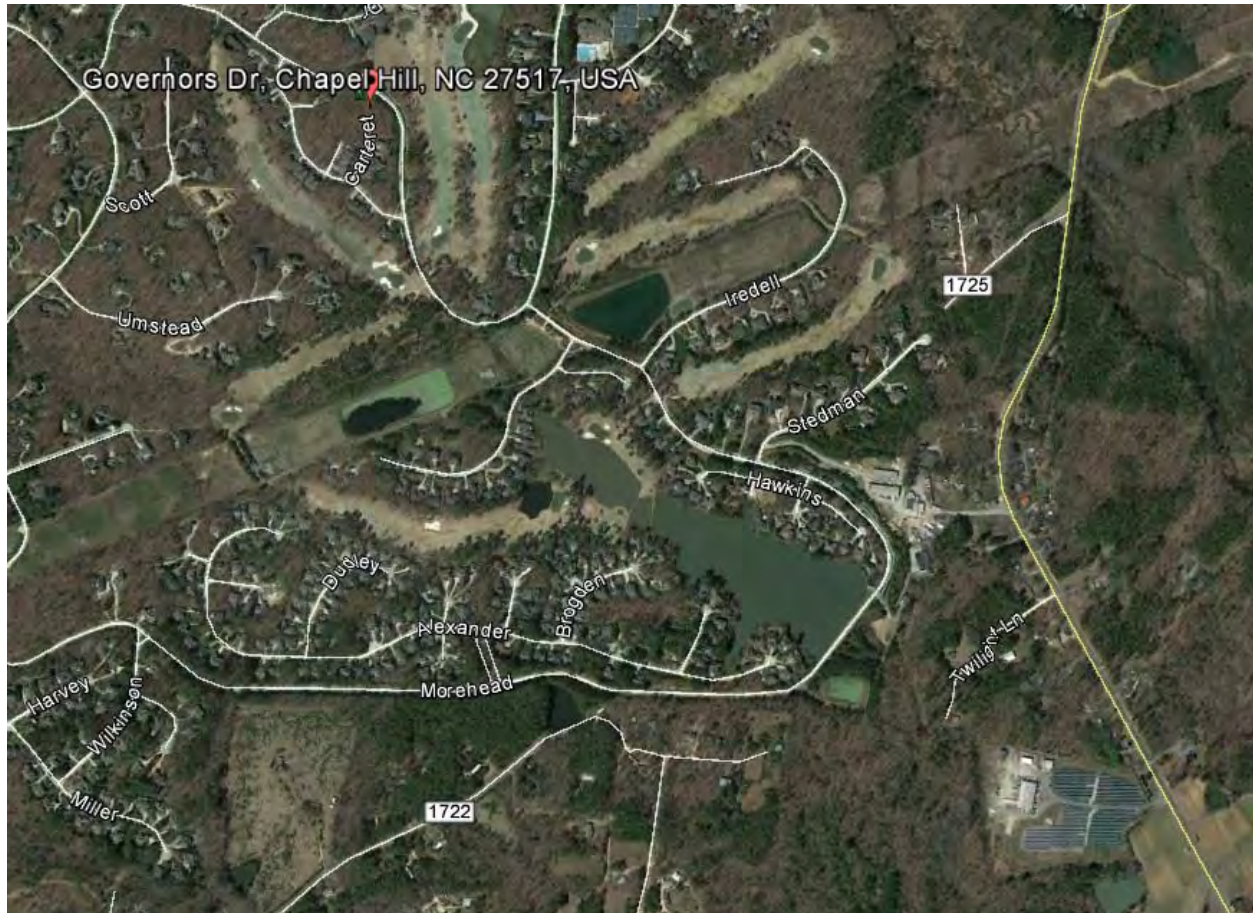
IV. Topography

Landscaping screens work very well at hiding solar farms on flat land, though they certainly do not make solar farms invisible. However, in areas where there is rolling topography screening will not likely cover all possible views of a solar farm. Landscaping screens in areas with rolling or steep topography typically covers the upclose views but does not address generalized distant views of the panels. I have included a number of matched pairs with similar strong topography with no additional distance or setbacks being required for those projects. Where the topography is rolling and distant views are possible, those are also areas where a lot of area is visible and the small portion of the overall view that could be visible has shown no impact.

I have measured topographic shifts across solar farms included in the matched pairs between 80 and 150 feet height differential across the project. The larger set of comparables have shown differences even greater than that. In those cases the fact that there is a distant view of the panels has shown no impact on property values or development patterns.

V. Harmony of Use/Compatibility

I have researched over 650 solar farms and sites on which solar farms are proposed in North Carolina and Virginia as well as other states to determine what uses and types of areas are compatible and harmonious with a solar farm. The data I have collected and provide in this report strongly supports the compatibility of solar farms with adjoining agricultural and residential uses. While I have focused on adjoining uses, I note that there are many examples of solar farms being located within a quarter mile of residential developments, including such notable developments as Governor's Club in Chapel Hill, which has a solar farm within a quarter mile as you can see on the following aerial map. Governor's Club is a gated golf community with homes selling for \$300,000 to over \$2 million.



The subdivisions included in the matched pair analysis also show an acceptance of residential uses adjoining solar farms as a harmonious use.

Beyond these anecdotal 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. Dist to Home	Closest Home	All Res Uses	All Comm Uses
Average	19%	53%	20%	1%	7%	849	346	92%	8%
Median	11%	57%	8%	0%	0%	661	215	100%	0%
High	100%	100%	100%	80%	96%	4,835	4,670	100%	96%
Low	0%	0%	0%	0%	0%	90	25	0%	0%

Res = Residential, Ag = Agriculture, Sub = Substation, Com = Commercial, Ind = Industrial.

Total Solar Farms Considered: 493

I have also included a breakdown of each solar farm by number of adjoining parcels rather than 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. Dist to Home	Closest Home	All Res Uses	All Comm Uses
Average	61%	24%	9%	2%	4%	848	346	94%	6%
Median	65%	20%	5%	0%	0%	661	215	100%	0%
High	100%	100%	100%	60%	78%	4,835	4,670	100%	78%
Low	0%	0%	0%	0%	0%	90	25	22%	0%

Res = Residential, Ag = Agriculture, Sub = Substation, Com = Commercial, Ind = Industrial.

Total Solar Farms Considered: 493

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. These comparable solar farms clearly support a compatibility with adjoining residential uses along with agricultural uses.

VI. Specific Factors on Harmony with the Area

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 the following 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

The 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 or 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 Solar Farm Matched Pair Set 9 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.

7. Conclusion

On the basis of the factors described above, it is my professional opinion that the proposed solar farm will be in harmony with the area in which it is to be developed. The breakdown of adjoining uses is similar to the other solar farms tracked.

VII. Conclusion

The matched pair analysis shows no 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 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.

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. Industrial uses rarely absorb negative impacts from adjoining uses.

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 property 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 no traffic.



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Professional Experience

Kirkland Appraisals, LLC , Raleigh, N.C. Commercial appraiser	2003 – Present
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	
OR State Certified General Appraiser # C001204	
KY State Certified General Appraiser # 5522	

Education

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

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

Attachment C
Map and Table of Surrounding
Nearest Residences

Horseshoe Bend Solar Nearest Residences Map



Greensburg, KY
Approx. 8 miles NE

Residence B, 200+ft from Potential Project Footprint
(This residence is owned by a Project Landowner)

Residential Neighborhood
(as defined by KRS 278.700(6))



KY 218

Residence C*, 100+ft from
Potential Project Footprint

Potential Project Footprint

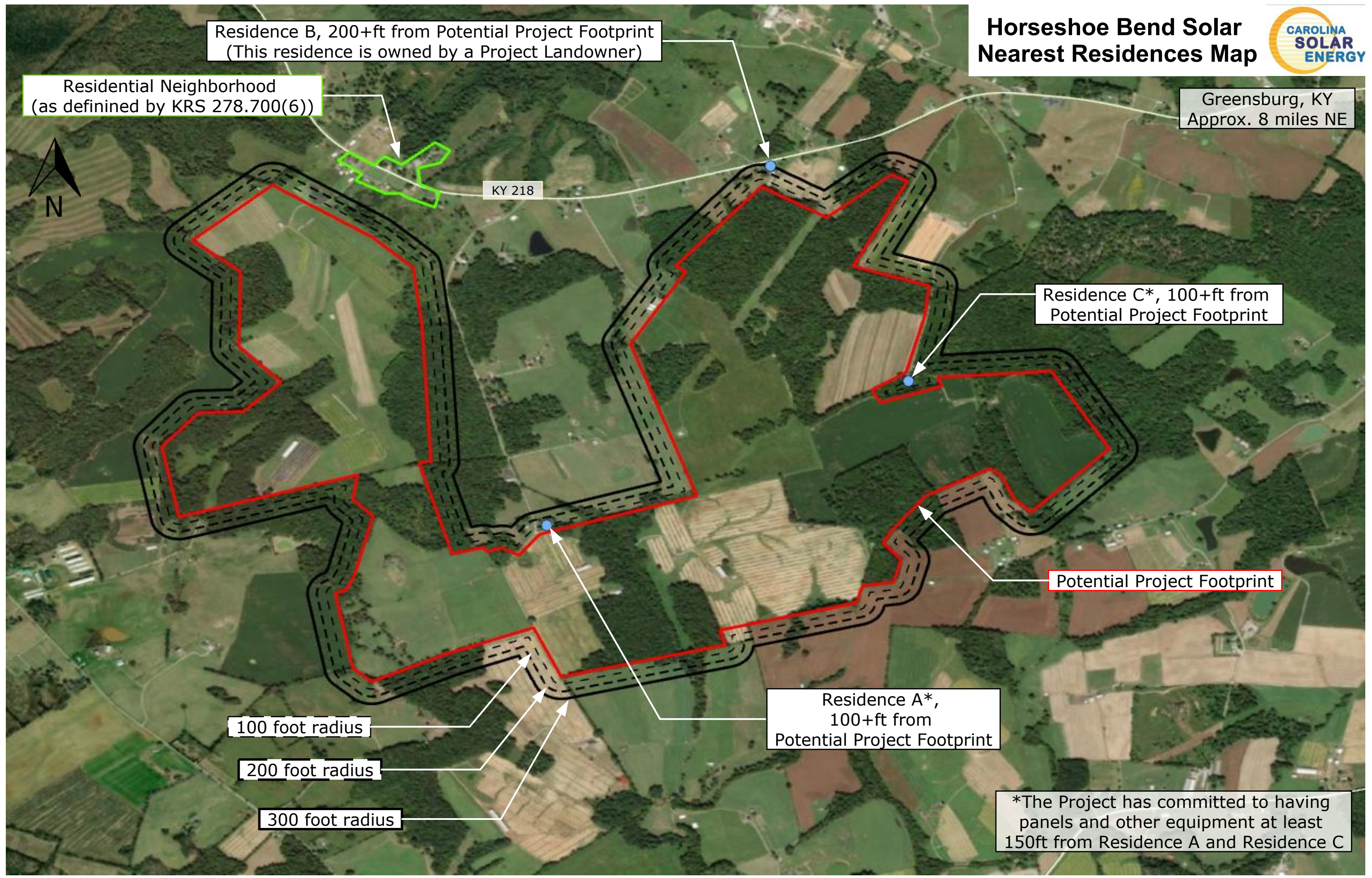
Residence A*,
100+ft from
Potential Project Footprint

100 foot radius

200 foot radius

300 foot radius

*The Project has committed to having panels and other equipment at least 150ft from Residence A and Residence C



Horseshoe Bend Solar Table of Nearest Residences

	Distance from parcel boundary	Additional Comments
Residence A	~120'	The Project has committed to keeping solar panels and equipment at least 150' from this residence. Representatives of the Project met with this landowner prior to the public meeting and established that this setback was adequate.
Residence B	~285'	This residence is owned by a participating landowner who has agreed to this distance.
Residence C	~130'	The Project has committed to keeping solar panels and equipment at least 150' from this residence. Applicant was not able to contact this resident.

Attachment D
Surrounding Area Images



Carolina Solar Energy
 400 W Main St
 Durham, NC 27701
 Suite 503

DESCRIPTION
 Project
 surroundings
 images

CLIENT
 Siting Board

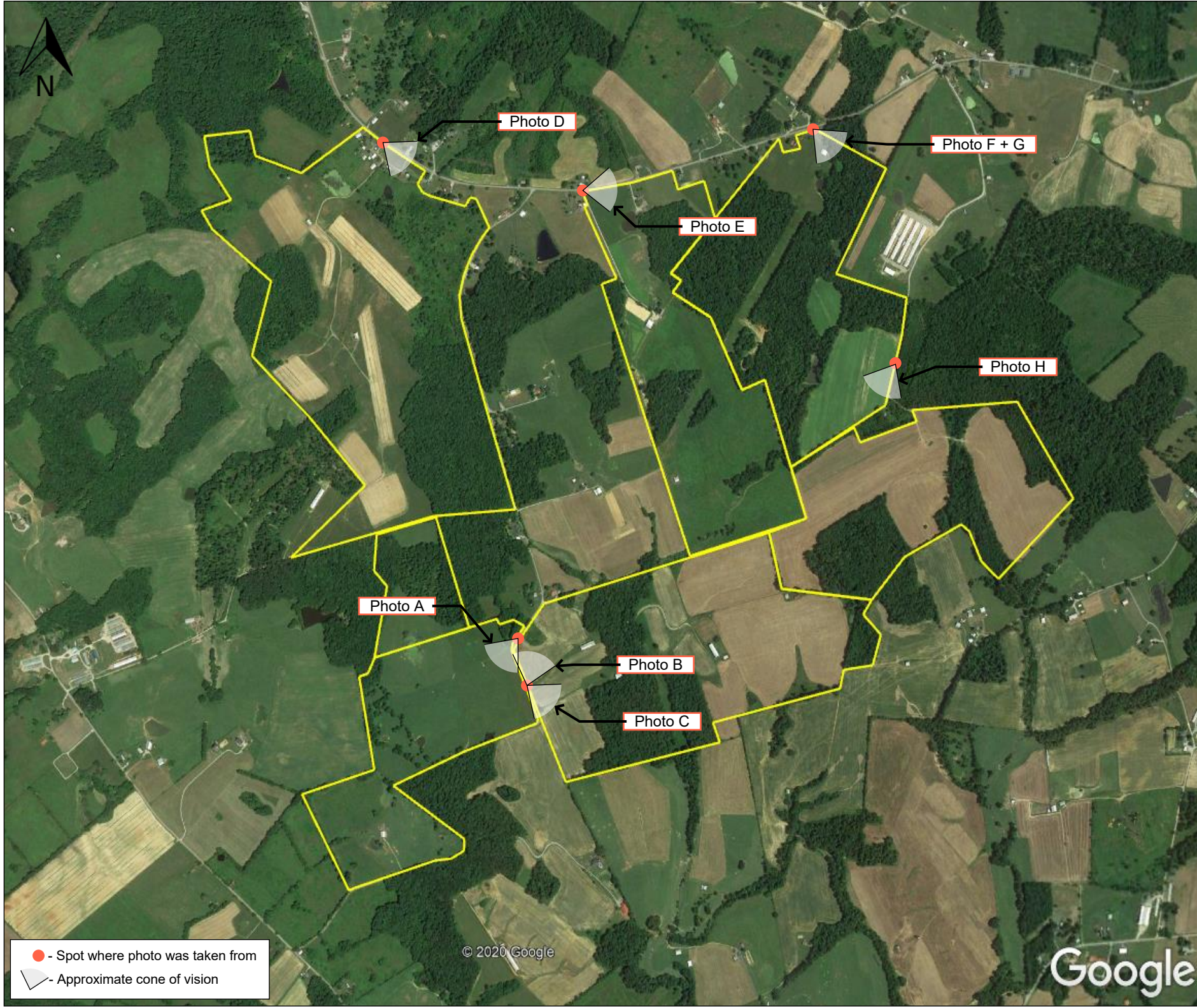
DRAWN BY
 TC

ISSUE
 10.8.2020

PROJECT
 Horseshoe
 Bend

a

01



● - Spot where photo was taken from
 ◒ - Approximate cone of vision

© 2020 Google

Google

Photo A: Jim Meadows Road



Photo B: Jim Meadows Road



Photo C: Jim Meadows Road



Photo D: Hwy 218



Photo E: Hwy 218



Photo F: Hwy 218



Photo G: Hwy 218



Photo H: Roy Bagby Road

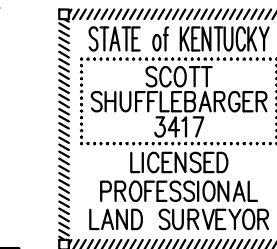


Attachment E

Boundary Survey and Legal Descriptions

LAND SURVEYOR'S CERTIFICATE:

I HEREBY CERTIFY THAT THIS SURVEY, COMPLETED ON MARCH 16, 2020, WAS MADE UNDER MY DIRECT SUPERVISION, AND THAT THE ANGULAR AND LINEAR MEASUREMENTS, AS WITNESSED BY MONUMENTS SHOWN HEREON, ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS SURVEY WAS MADE BY THE METHOD OF A GPS CONTROL NETWORK WITH SIDESHOTS. THE RELATIVE POSITIONAL PRECISION OF SAID CONTROL POINTS MEETS OR EXCEEDS THE MINIMUM STANDARDS FOR AN ALTA/NSPS LAND TITLE SURVEY.



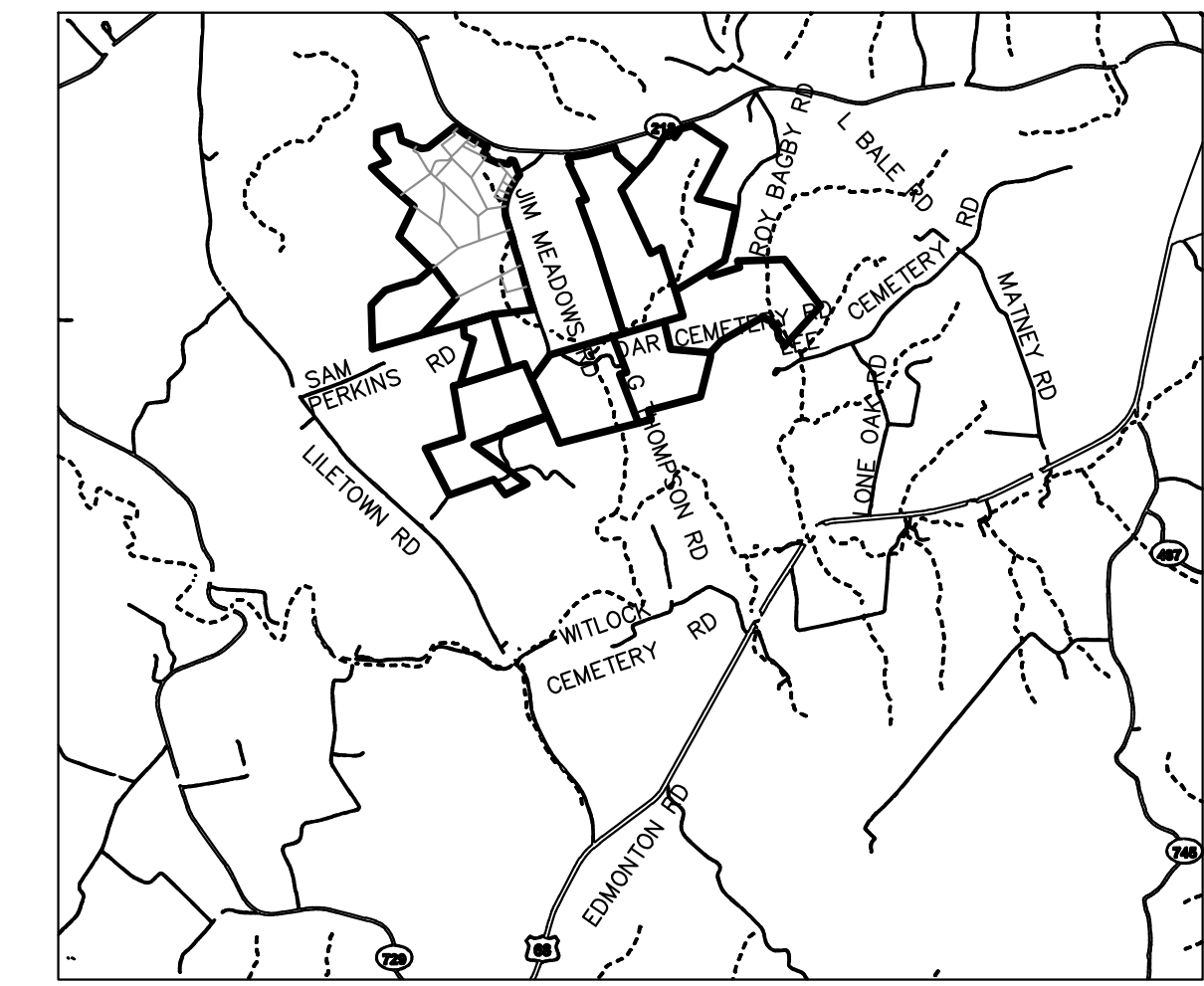
SCOTT SHUFFLEBARGER, PLS 3417
sshuff@btmeng.com

March 30, 2020

ALTA / NSPS CERTIFICATION:

TO CHICAGO TITLE INSURANCE COMPANY, HORSESHOE BEND SOLAR, LLC, E. HOWARD AND MARGARET CURRY, AND JONATHAN R. JUDD, A SINGLE PERSON, AS TO PARCEL I, EDWIN B. FROGGETT, ERRONEOUSLY KNOWN AS EDWIN B. FROGGETT, MARRIED, AS TO PARCEL II, EDWIN B. FROGGETT, AS TO PARCEL III, DONNIE COOMER AND HIS WIFE, JUDY COOMER, AND CLYDE E. THOMPSON, AS TO A LIFE ESTATE INTEREST, AS TO PARCEL IV, MICHAEL WAYNE MATNEY AND WIFE KIMBERLY MATNEY, AS TO PARCEL V, AND SAMMY FROGGETT AND HIS WIFE, DEBBIE FROGGETT, AS TO PARCEL VI, JONATHAN R. JUDD, A SINGLE PERSON AS TO PARCEL VII AND PARCEL IX, ROGER DALE DAVIS AND JANE R. DAVIS, IN THEIR CAPACITY AS TRUSTEES OF THE ROGER AND JANE DAVIS LIVING TRUST, DATED MAY 7, 2015, AS TO PARCEL VIII.

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 5, 6(a), 6(b), 8, 11, 13, 14, 15, 16, 17, 18, & 19 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON MARCH 16, 2020.



VICINITY MAP
N.T.S.

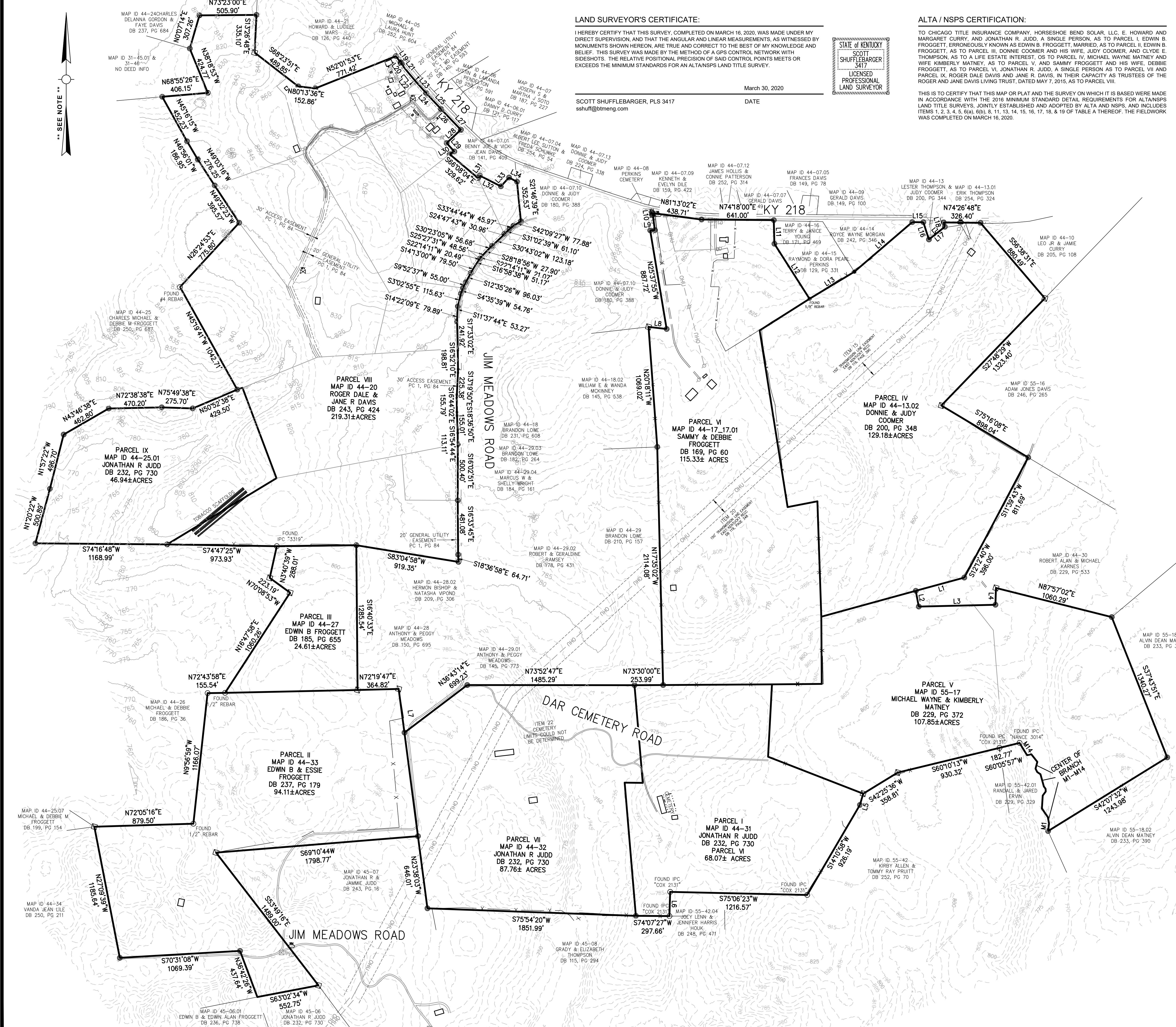
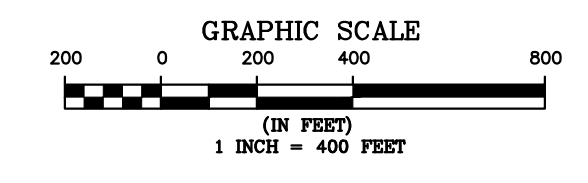
LEGEND

- FOUND STONE
- FOUND MONUMENT AS NOTED
- ⊗ FOUND IPC "MILLER 2282"
- ⊙ SET 5/8" X 18" REBAR WITH IDENTIFIER CAP "SHUFF 3417"

LINE	BEARING & DISTANCE
L1	S58°30'19"W 446.14'
L2	S26°44'58"E 142.47'
L3	N72°27'18"E 680.90'
L4	N14°18'25"W 149.57'
L5	S01°10'58"W 104.44'
L6	S14°22'51"E 214.53'
L7	S23°38'03"E 391.31'
L8	N80°27'12"E 161.53'
L9	N70°52'49"E 41.70'
L10	N23°53'49"W 152.15'
L11	S17°42'00"E 210.00'
L12	S48°42'00"E 580.09'
L13	N42°42'00"E 464.46'
L14	N33°11'42"E 677.28'
L15	N74°26'52"E 99.03'
L16	S33°56'35"E 160.97'
L17	N35°12'55"E 181.07'
L18	S30°32'35"W 39.58'

LINE	BEARING & DISTANCE
L19	S50°30'16"E 71.12'
L20	S52°43'53"E 49.35'
L21	S54°42'15"E 62.10'
L22	S56°32'10"E 111.91'
L23	S57°53'43"E 128.11'
L24	S58°50'59"E 59.73'
L25	S59°29'13"E 149.65'
L26	S59°51'42"E 119.81'
L27	S59°48'18"E 119.72'
L28	S30°39'32"W 172.51'
L29	S58°25'12"E 100.89'
L30	S44°01'05"W 48.19'
L31	N21°27'22"E 27.02'
L32	S79°09'11"E 209.40'
L33	N26°37'41"E 106.61'
L34	S78°19'49"E 80.00'

LINE	BEARING & DISTANCE
M1	N08°40'47"W 66.59'
M2	N26°40'29"W 59.20'
M3	N51°01'25"W 92.11'
M4	N12°24'25"W 115.59'
M5	N20°17'00"E 45.13'
M6	N19°10'21"W 24.13'
M7	N53°17'56"W 25.63'
M8	N31°44'06"W 112.78'
M9	N71°48'29"W 34.58'
M10	N43°10'47"W 33.20'
M11	N01°38'05"W 63.09'
M12	N54°45'56"W 85.89'
M13	S61°54'22"W 38.66'
M14	N42°33'36"E 124.27'



NO.	BY	REVISIONS	DESCRIPTION	DATE	CHK
1	MSS	1	REVISED TITLE COMMITMENT	8/3/2020	JCM

BTM Engineering, Inc.
Consulting Engineers, Surveyors & Surveyors
"Serving the Bluegrass and Beyond"
3000 Taylor Springs Drive Louisville, Kentucky 40220
(502) 459-8420
(502) 459-8427 Fax
www.btmeng.com

DATE: _____
SIGNATURE: _____

DATE: _____
SIGNATURE: _____

TITLE: ALTA/NSPS LAND TITLE SURVEY
Horseshoe Bend
Green County, Kentucky

DEVELOPER: HORSESHOE BEND SOLAR, LLC

BTM PROJECT NO.: 2000220

DRAWN BY: MBMMSS
CHECKED BY: JCM

DATE: 11/10/2020

DRAWING: 200020 - SurveyBase.DWG

SCALE: 1" = 400'

SHEET: 1 of 3

PARCEL I - Jim Meadows Road (Address provided for reference only):

Beginning at a stone in the old line in an old road, corner to L.M. Henderson and in Clark's line; thence a new line South 14 East 40-1/2 poles to a stone corner, corner on the old road, about thirty yards from an old cabin; thence S 86 East 55 poles to a new stone in the woods; thence South 2 East 6-1/3 to Neagle's corner; a beech tree, now Henderson's; thence South 12 West Houk's line with the fence 56 poles to a 30-inch beech corner; John & Rupert Houk; thence with their line and fence S 67-1/2 West 74 poles to a stone; thence Houk's line S 17 East 13 poles to a stone corner to Tony Whitlock's; thence with his line S 73 West 18 poles to a corner to Fannie Buckner; thence North 23-1/2 W 70 1/3 poles to a stone corner to said Buckner; thence North 72 East 9-3/4 poles to a stone, corner to said Buckner; thence her line North 23-1/2 West 52-3/4 poles to a stone, Buckner and Meadows line; thence North 71 East with Jim Meadows and Elwood Clark's line with the fence 74 poles to the beginning, containing 60 acres more or less.

Being the same property acquired by JON and AMY JUDD, by General Warranty Deed dated January 2, 2009, of record in Deed Book 225, Page 58 , and being a portion of the same property conveyed by AMY KESSLER JUDD, a single person, to JONATHAN R. JUDD, a single person, by Quitclaim Deed dated July 29, 2011, of record in Deed Book 232, Page 730, both in the Office of the Clerk of Green County, Kentucky.

TAX INFORMATION:

MAP ID: 44-31 ASSESSED: \$56,100.00

2019 Green County Estate Taxes, Tax Bill #4176, in the discount amount of \$572.53 was paid. (Face \$584.21)

PARCEL II - Liletown Road (Address provided for reference only):

Beginning at a stone, thence running with the line of Edwards N 68 ½ E 110 poles to a stake near a hickory; thence with the B. R. Buckner line N 34 3/4 W 82 1/2 poles to a stake in the line of Other Carr; thence with the Carr and Jeffries line S 71 1/2 W 100 1/2 poles to a stone in the line of Ruel Perkins; thence with the Perkins line S 10 E 71 poles to a large elm; thence S 71 1/2 W 54 poles to a large oak; thence S 28 E 64 poles to a stake on the road; thence with the road N 81 E 65 poles to an oak stump on the road; thence with the Bruce Clark property S 37 3/4 E 23 3/4 poles to a stake; thence N 62 E 33 1/2 poles to a stake; thence N 55 W 91 3/4 poles to the point of beginning, containing 91.75 acres, more or less

Being a portion of the same property acquired by EDWIN B. FROGGETT and his wife, ESSIE FROGGETT, SAMMY FROGGETT and his wife, MARGARET FROGGETT, in fee simple, by General Warranty Deed dated June 5, 1985, of record in Deed Book 150, Page 394, and being a portion of the same property acquired by EDWIN B. FROGGETT and his wife, ESSIE FROGGETT, in joint survivorship, by General Warranty Deed from EDWIN B. FROGGETT and his wife, ESSIE FROGGETT, and SAMMY FROGGETT and his wife, MARGARET FROGGETT, dated July 18, 1988, of record in Deed Book 158, Page 287, and being a portion of the same property acquired by EDWIN B. FROGGETT, erroneously referred to as EDWIN B. FROGET, by Special Warranty Deed from EDWIN B. FROGGETT and ESSIE FROGGETT, dated January 24, 2013, of record in Deed Book 237, Page 179, all in the Office of the Clerk of Green County, Kentucky.

TAX INFORMATION:

MAP ID: 44-33 ASSESSED: \$30,000.00 (Farm) FAIR CASH VALUE: \$135,000.00

2019 Green County Estate Taxes, Tax Bill #2868 the discount amount of \$306.36 was paid. (Face \$312.61)

PARCEL III - Newt-Liletown Road (Address provided for reference only):

Lying and being in Green County, Kentucky, and being more particularly described as follows:

Parcel I:

BEGINNING at a stake at call for a red Oak pointer, McKinneys corner; thence: running with same S 34 E (old call 35) 29 poles to a stake and two sourwoods and oak bushes pointers and black oak stump; thence: with another of McKinney's lines S 14-3/4 W 60 poles to a small chestnut tree in T.N. Lile's line; thence: with same N 70 E (old call 67) 68 poles to a stone in Lile's line and corner to Samuel Cox; thence: with his line W 77 poles to a stone to said Cox; thence: N 72-1/2 W 42 1/2 poles to the place of beginning, Containing 22 acres, more or less

Parcel II:

BEGINNING at a stone in road at Rual T. Perkins and Mike Jeffries corner; thence: S 35 East 26 poles to corner; thence: N 68 West 13-1/2 poles to corner of Perkins and Lile Heirs; thence: N 11 East 18 poles to beginning, Containing 1/2 acre, more or less.

Being the same property acquired by EDWIN B. FROGETT, by General Warranty Deed dated September 9, 1998, of record in Deed Book 185, Page 655, in the Office of the Clerk of Green County, Kentucky.

TAX INFORMATION:

MAP ID: 44-27 ASSESSED: \$5,000.00 (Farm) FAIR CASH VALUE: \$27,000.00
2019 Green County Estate Taxes, Tax Bill #2871 the discount amount of \$51.29 was paid. (Face \$52.34)

PARCEL IV - Hwy. 218 (Address provided for reference only):

First Parcel:

Beginning at a stone in the old Lesley line and corner to P.B. Pierce; thence with same N 76 West 81 1/4 poles to three black gums, one of them down; thence with another of same S 68 1/2 West 27 1/4 poles to call for a small black oak and stone in John A. Pierce's line, now Brooks Pierce line; thence S 25 1/2. East 97 poles to a stone where a poplar is called for; thence North 59 1/2 East 16 2/3 poles to a stone near Pack Pierce gate; thence a new line about North 111 yards, more or less, to a stone corner; thence NE 375 yards, more or less, to the place of the beginning, containing 32 acres, more or less.

Second Parcel:

On the waters of Greasy Creek, and Beginning at a stone near P.B. Pierce's gate and corner to Isaac Clark and Sylvester; thence running with Sylvester Pierce line; N 1 1/2 W 22 3/4 poles to a stone; thence N 46 E 67 3/5 poles to a stone corner to Sylvester Pierce's corner; thence S 76 E 55 poles to a stone corner to Henry Warf and Houk's old corner at call for small black oak; thence with same S 10 W 45 poles to a stone in an old field; thence S 10 W 24 poles to a stone; thence S 56 W 79 3/4 poles to a stone in P. Lile's line, now Isaac Clarks; thence with same N 20 W 62 poles to the beginning, containing fifty-three (53) acres, more or less.

Third Parcel:

Located on the waters of Greasy Creek, and Beginning at call for Maple corner to John A. Pierce; thence running a new line N 35 E 73 3/4 poles to a stone; thence running very close to but excluding a barn; thence another new line S 55 3/4 E 73 poles to a stone in Henry Warf line; thence with same S 26 W 77 1/4 poles to a stone in the old Lasley line; thence with same N 76 W 81 1/4 poles to three black gums, one now; thence with another of same S 68 1/2 W 27 1/4 poles to call for a small black oak in John A. Pierce's line; thence with same N 41 E 58 poles to the place of the beginning, containing 48 3/4 acres, more or less.

Fourth Parcel:

Located on the waters of Little Russell Creek, and Beginning at a stone corner in old line, running a new line with said Harvey T. Pierce N 57 3/4 W 19 poles to a stone; thence S 31 1/2 W 4 poles to a stone; thence S 55 3/4 E 17 1/5 poles to a stone in said old line; thence with same N 33 3/4 E 48 poles to the beginning, containing 5 1/2 acres, more or less.

There is excepted from the above boundaries and not conveyed herein the following tracts:

First Tract Exception:

Being a 1/2 acre from the Fourth Parcel, which was deeded to Rufus E. Pierce by Sylvester Pierce, by deed dated June 18, 1936, and of record in Deed Book 80, page 48.

Second Tract Exception:

Being that certain tract of land heretofore conveyed by Roxie Nell Thompson, et al, to Lester Thompson, by deed dated October 22, 2002, of record in Deed Book 200, Page 340, Green County Court Clerk's Office, and bounded as follows, to-wit:

Being and lying in Green County, Kentucky, at a rebar set on the north right of way of Highway #218 (60' r/w), said rebar is located approximately two and one-half (2.5) miles west from the intersection of Highway #218 and Highways #68 & #70, said rebar is a corner with Lester Thompson (Deed Book 188, page 511), all set rebars are 3/4" x 18" with an orange identification cap stamped N.A. Phipps, PLS #3448; thence N 77-40-34 E a distance of 141.04 feet with said right of way to a set rebar, said rebar is the true point of beginning; thence N 12-20-31 W a distance of 121.65 feet leaving said highway with a new division line to a rebar set in the line of Thompson; thence N 36-53-26 E a distance of 176.06 feet with Thompson to a point, corner with William Pierce (Deed Book 159, page 258); thence S 53-51-34 E a distance of 316.16 feet passing a rebar at twenty (20) feet with Pierce to a rebar set on the north right of way of Highway #218; thence S 77-40-34 W a distance of 342.90 feet with sid highway to the point of beginning, said described tract containing 1.118 acres, more or less.

There is also conveyed herein a right of way along the existing gravel drive for the purpose of ingress and egress across this tract to the property owned by Lester Thompson (Deed Book 188, page 511), and this right of way is not to be blocked in any fashion or gated in any form.

Third Tract Exception:

Being that certain tract of land heretofore conveyed by Roxie Nell Thompson, et al, to Lester Thompson, et al, by deed dated October 22, 2002, of record in Deed Book 200, Page 344, Green County Court Clerk's Office, and bounded as follows, to-wit: BEING and lying in Green County, Kentucky, at a rebar set on the south right of way of Highway #218 (60' r/w), said rebar is located S 38-29-21 E a distance of 66.85 feet and is also located approximately two and one-half (2.5) miles west from the intersection of Highway #218 and Highways #68 & #70, all set rebars are 3/4" x 18" with an orange identification cap stamped N.A. Phipps, PLS #3448; thence N 77-40-34 E a distance of 180.80 with the right of way to a set rebar; thence S 27-18-49 E a distance of 39.58 feet leaving said right of way with a new division line to a set rebar; thence S 38-26-41 W a distance of 181.07 feet with same to a set rebar; thence N 30-42-49 W a distance of 160.97 feet to the point of beginning, said described tract containing 0.392 acre, more or less.

Fourth Tract Exception:

Being that certain tract of land heretofore conveyed by Clyde E. Thompson and his wife, Roxie Nell Thompson, to Lester H. Thompson, by Deed dated January 18, 1991, of record in Deed Book 165, Page 579, Green County Court Clerk's Office, and founded as follows, to wit: BEGINNING at a stake on the North side of Highway #218 at the intersection of an old county road; thence N 42 E 413 feet to a sassafras; thence N 52 W 311 feet to a stone; thence S 38 W 747 feet to a stake; thence N 83 E 438 feet to the beginning, containing 4 acres, more or less.

Being the same property acquired by LESTER THOMPSON and JUDY COOMER, with a life estate reserved in favor of CLYDE E. THOMPSON and his wife, ROXIE NELL THOMPSON, or the survivors, by General Warranty Deed dated April 16, 1997, of record in Deed Book 181, Page 763, and being the same property conveyed to DONNIE COOMER and his wife, JUDY COOMER, by General Warranty Deed from ROXIE NELL THOMPSON, a single person, LESTER THOMPSON, a single person, and DONNIE COOMER and his wife, JUDY COOMER, dated October 22, 2002, of record in Deed Book 200, Page 348, both in the Office aforesaid. The life estate interest of CLYDE E. THOMPSON was extinguished upon his death on or about November 22, 2001.

TAX INFORMATION:

MAP ID: 44-13.02 ASSESSED: \$45,000.00 (Farm) FAIR CASH VALUE: \$200,000.00
2019 Green County Real Estate Taxes, Tax Bill #1393, in the discount amount of \$460.78 was paid. (Face \$470.18)

PARCEL V - Hwy. 218 (Address provided for reference only):

Unless otherwise specified, any monument referred to herein as a set iron pin is a 1/2" X 18" rebar with a yellow plastic surveyors cap stamped JD Nance RLS 3014. All bearings stated herein are referred to the magnetic meridian as observed March 9th 2010.

Beginning at an existing iron pin with cap #3448 at a stone and a 6" cedar, corner to William A. Karnes (Deed Book 197, Page 130); thence with the line of Karnes S 10 deg. 10 min. 18 sec. E 86.29 ft. to an existing iron pin with cap # 3448, a corner to William A. Karnes and William W. Karnes (Deed Book 197, Page 115); thence with the line of William W. Karnes S 09 deg. 50 min. 14 sec. E 63.24 ft. to an existing iron pin; thence S 76 deg. 43 min. 37 sec. W 680.91 ft. to an existing iron pin with cap # 3448 at a loose stone; thence N 22 deg. 28 min. 39 sec. W 142.47 ft. to an existing iron pin with cap # 3448 at a stone and a forked sassafrass, a corner to Karnes and Donnie Coomer (Deed Book 200, Page 348); thence with the line of Coomer S 62 deg. 46 min. 38 sec. W 869.74 ft. to a set iron pin at a stone, a corner to Coomer in the line of Sammy Froggett (Deed Book 169, page 60); thence with the line of Froggett S 12 deg. 15 min. 46 sec. E 596.84 ft. to a set iron pin at a stump; thence S 77 deg. 35 min. 48 sec. W 441.51 ft. to a set iron pin at a stone and a corner post in the line of Froggett, a corner to Jon Judd (Deed Book 225, Page 58); thence with the line of Judd S 08 deg. 47 min. 47 sec. E 643.14 ft. to a set iron pin at a stone; thence S 80 deg. 39 min. 56 sec. E 905.74 ft. to a set iron pin at a stone and a corner post, a corner to Judd and Joey Houk et al (Deed Book 174, page 696); thence with the Houk N 46 deg. 41 min. 55 sec. E 358.81 ft. to a set iron pin at a stone; thence N 64 deg. 26 min. 32 sec. E 930.32 ft. to a set iron pin at an elm stump on the west side of roadbed, a corner to Joey Houk et al and Rex Houk (Deed Book 174, page 691); thence with the line of Rex Houk N 64 deg. 22 min. 16 sec. E 182.77 ft. to a set iron pin; thence N 64 deg. 22 min. 16 sec. E 12.00 ft. to a point in the center of the branch; thence with the center of the branch and the line of Rex Houk S 38 deg. 17 min. 17 sec. E 124.27 ft.; thence N 66 deg. 10 min. 41 sec. E 38.66 ft.; thence S 50 deg. 29 min. 37 sec. E 85.89 ft.; thence S 02 deg. 38 min. 14 sec. W 63.09 ft.; thence S 38 deg. 54 min. 28 sec. E 33.20 ft.; thence S 67 deg. 32 min. 10 sec. E 34.58 ft.; thence S 27 deg. 27 min. 47 sec. E 112.78 ft.; thence S 49 deg. 01 min. 37 sec. E 25.63 ft.; thence S 14 deg. 54 min 02 sec. E 24.13 ft.; thence S 24 deg. 33 min. 19 sec. W 45.13 ft.; thence S 08 deg. 08 min. 06 sec. E 115.59 ft.; thence S 46 deg. 45 min. 06 sec. E 92.11 ft.; thence S 22 deg. 24 min. 10 sec. E 59.20 ft.; thence S 04 deg. 24 min. 28 sec. E 66.59 ft. to a point in the center of the branch, a corner Houk and Alvin Dean Matney (Deed Book 227, Page 601); thence leaving the branch with the line of Matney N 46 deg. 23 min. 51 sec. E 13.00 ft. to a set iron pin; thence N 46 deg. 23 min. 51 sec. E 1230.98 ft. to a set iron pin at a hickory stump; thence N 33 deg. 27 min. 32 sec. W 1340.27 ft. to an existing iron pin with cap # 3448 at a 24" marked gum, a corner to Matney and William A. Karnes (Deed Book 197, Page 130); thence with the line of Karnes N 87 deg. 46 min. 39 sec. W 1060.29 ft. to the beginning containing 107.85 acres more or less.

Being the same property acquired by MICHAEL WAYNE MATNEY and wife KIMBERLY MATNEY, by General Warranty Deed dated June 16, 2010, of record in Deed Book 229, Page 372, in the Office of the Clerk of Green County, Kentucky.

TAX INFORMATION:

MAP ID: 55-17 ASSESSED: \$26,000.00 (Farm) FAIR CASH VALUE: \$250,000.00
2019 Green County Real Estate Taxes, Tax Bill #4795, in the face amount of \$270.92 was paid.

PARCEL VI - 2839 Hwy. 218 (Address provided for reference only)

Lying and being on the waters of Greasy Creek in Green County, Kentucky, and being more particularly described as follows, to wit:

Beginning at a stake on the West side of the farm drive and corner to the Green-Taylor Water District and being on the South side of Ky. Hwy. 218; thence with said highway N 80 degrees E 432 feet; N 78 degrees E 641 feet to a stone corner to E Floyd; thence with the line of Floyd Perkins, Thompson and Graser with these calls: S 14 degrees E 210 feet to a stone; S 45 degrees E 471 feet to a stake; thence S 43 degrees W 495 feet to a stone; S 24 E 1580 feet to a stake; N 70 degrees E 253 feet to a sassafras; S 16 degrees E 1580 feet to a large poplar, corner to Fraser; thence with the line of Graser and Curry S 75 degrees W 1370 feet to a stake, corner to Meadows; thence with the lines of Meadows, McKinney, and Coomer, and the Green-Taylor Water District with these calls: N 19 degrees W 2100 feet to a stone; N 15 degrees W 1062 feet to a stone; N 82 degrees E 165 feet to a white oak; N 24 degrees W 925 feet to a stake; N 67 degrees E 42 feet to a stake; N 23 degrees E 100 feet to the point of beginning, containing 125.5 acres, more or less.

Being the same property acquired by SAMMY FROGGETT and his wife, DEBBIE FROGGETT, by General Warranty Deed dated August 17, 1992, of record in Deed Book 169, Page 60, in the Office of the Clerk of Green County, Kentucky.

TAX INFORMATION:

MAP ID: 44-17_17.01 ASSESSED: \$160,000.00 less \$39,300.00 Homestead Exemption (Farm) FAIR CASH VALUE: \$320,000.00
2019 Green County Real Estate Taxes, Tax Bill #2902, in the face amount of \$1,257.20 was paid.

PARCEL VII - Liletown Road (Address provided for reference only)

Tract 1

On the waters of Mutton Creek Branch, and bounded and described as follows: BEGINNING at a stone, corner to G. R. Buckner to James Meadow line; thence with same N 73 E 40 poles to a stone in said Meadow line; thence to a new line S 23 1/2 E (passing a cedar tree at 28 poles and a spring at 40 poles) in all 122 1/2 poles to a stone in the Whitlock line by a sugar tree; thence from said Whitlock line S 73 W 82 poles to a stone in Eva Edwards line; thence with said Edwards line N 76 W 51 1/3 poles to a stone in Edgar Judd line; corner to G. R. Buckner; thence with his line N 62 1/2 E 56 poles to a stone; thence N 27 1/2 W 45 1/2 poles to the beginning, containing 47 acres, more or less

Tract 2

One tract of land lying in Green County, Kentucky, on waters of Greasy Creek and bounded as follows: BEGINNING at a stone corner in James Meadows line running with same S 71 3/4 W 11 2/5 poles to a stone corner to same; thence a new line S 36 1/2 W 35 1/2 poles to a stone corner in Edgar Judd's line; thence with same S 25 E 51 1/2 poles to a stone; thence new lines N 62 1/2 E 56 poles to a stone; thence N 27 1/2 W 16 poles to a stone; thence S 62 1/2 W 15 1/5 poles to a stone; thence N 27 1/2 W 45 1/3 poles to the beginning, containing 15 acres, more or less.

Tract 3

Beginning at a new stone corner to Cora Buckner; thence S 23 1/2 E 70 1/3 poles to a stone in the Whitlock line; thence with same S 73 W 34 poles to a stone by a sugar tree; thence N 23 1/2 W 52 3/4 to a stone; thence N 73 E 30 1/2 poles to the beginning, containing 13 1/4 acres, more or less.

THERE IS EXCEPTED from and not conveyed herein an easement to and from a cemetery located on the above described property.

Being the same property acquired by JONATHAN R. JUDD, by General Warranty Deed dated January 29, 1999, of record in Deed Book 186, Page 784, and being a portion of the same property acquired by JONATHAN R. JUDD, a single person, by Quitclaim Deed from AMY KESSLER JUDD, dated July 29, 2011, of record in Deed Book 232, Page 730, both in the Office of the Clerk of Green County, Kentucky.

TAX INFORMATION:

MAP ID: 44-32 ASSESSED: \$55,000.00 (FARM) FAIR CASH VALUE: \$170,000.00
2019 Green County Real Estate Taxes, Tax Bill #4174, in the discount amount of \$561.75 was paid. (Face \$573.21)

PARCEL VIII - 3411 Hwy. 218 (Address provided for reference only)

Being Tracts 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19, 20 & 21 of the Robert E. "Bobby" Gentry Estate Farm Division, survey dated July 8, 2008, performed by Robert L. Miller, PLS #2282, of record in Plat Cabinet 1, Slide 84, Green County Court Clerk's Office.

Being the same property acquired by ROGER DALE DAVIS AND JANE R. DAVIS, IN THEIR CAPACITY AS TRUSTEES OF THE ROGER AND JANE DAVIS LIVING TRUST, DATED MAY 7, 2015, by General Warranty Deed dated May 7, 2015, of record in Deed Book 243, Page 424, in the Office of the Clerk of Green County, Kentucky.

TAX INFORMATION:

MAP ID: 44-20 ASSESSED: \$229,000.00
2019 Green County Real Estate Taxes, Tax Bill #1940, in the discount amount of \$2,338.20 was paid. (Face \$2,385.92)

PARCEL IX - 1782 LILETOWN ROAD (Address provided for reference only)

Lying and being in Green County, Kentucky, and bounded to-wit:

Beginning at a point on the Pierce and Liletown black top road at the corner of the Clavis Judd lands; thence leaving the road and running Southwestward with the Clavis Judd line to his corner in the Marvin Thompson line; thence turning right and running Northwestward with the line of Marvin Thompson to a point in the old Brentwood Road; thence following the meaders of the road to the corner of Ada Tucker land; thence continuing Northeastward with the Ada Tucker Line to the lands of Bloyd Tucker; thence turning right and running Southeast with the line of Bloyd Tucker to a point; thence turning left and running Northeast with the line of Bloyd Tucker to the Pierce and Liletown Road; thence turning right and running with the road right of way to the place of beginning, containing 57 acres, more or less.

Being a portion of the same property acquired by JONATHAN R. JUDD, by General Warranty Deed dated September 12, 2000, of record in Deed Book 192, Page 126; and being a portion of the same property conveyed by AMY KESSLER JUDD, a single person, to JONATHAN R. JUDD, a single person, by Quitclaim Deed dated July 29, 2011, of record in Deed Book 232, Page 730, both in the Office of the Clerk of Green County, Kentucky.

TAX INFORMATION:

MAP ID: 44-25.01 ASSESSED: \$64,000.00 (Farm) FAIR CASH VALUE: \$105,000.00

2019 Green County Real Estate Taxes, Tax Bill #4173, in the discount amount of \$653.41 was paid. (Face \$666.74)

Attachment F
Noise and Traffic Study



December 14, 2020

Project R200785.00, Tasks 001 and 002

Mr. Tyler Boquet-Caron
Solar Developer
Horseshoe Bend Solar, LLC
400 West Main Street, Suite 503
Durham, North Carolina 27701-3295

**Sound and Traffic Evaluation Report
Horseshoe Bend Solar Project
Green County, Kentucky**

Dear Mr. Boquet-Caron:

GAI Consultants, Inc. (GAI) is pleased to present this Sound and Traffic Evaluation Report to Horseshoe Bend Solar, LLC (Horseshoe Bend) for the Horseshoe Bend Solar Project (Project) located in Green County, Kentucky (KY).

GAI is a full-service engineering company with 26 office locations across 12 states including two local offices in Louisville and Florence, Kentucky. 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.

1.0 Introduction

Pursuant to the Kentucky Revised Statutes (KRS), the following Sound and Traffic Evaluation Report has been compiled in accordance with Section 278.708 part (3)(a)(8): Evaluation of the noise levels expected to be produced by the facility; part (3)(d): Evaluation of anticipated peak and average noise levels associated with the facility's construction and operation at the property boundary; and part (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. This report meets with Section 278.710 (1)(a): Impact of the facility on surrounding roads; and (1)(b): Anticipated noise levels expected as a result of construction and operation of the proposed facility.

Refer to Figure 1 for the project location and Figure 2 for the site plan for the facility.

The Project will consist of approximately 550 acres of solar photovoltaic panels and associated racking (approximately 60MW), 15 inverters, a dc-coupled energy storage system, to be co-located at each inverter as well as a Project substation transformer that will connect to East Kentucky Power Cooperative's Green County - Summer Shade 161 kilovolt transmission line near the community of Exie in Green County, KY. The street address of the proposed Project is 1648 KY 218, Greensburg, KY 42743. The Project is not located within the limits of any city.

2.0 Sound Impact Evaluation

Per KRS 278.708 (3)(a)(8), (3)(d) and KRS 278.710 (1)(b), the facility has been evaluated for the anticipated peak and average sound levels associated with its construction and operation at the property boundary. The project location of Green County does not have a noise control ordinance applicable to this proposed project.

The existing local sound environment is currently and expected to continue being 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 (HWY 218) and secondary roadways.

As identified on Figure 3 Nearest Residences, two noise sensitive areas (NSAs) were identified within 300 feet (ft.) of the proposed site boundaries. There are two historic cemeteries located near the southern limits of the

proposed Project. Refer to Figure 2 for the Site Plan referencing the specific locations. These NSAs were determined using existing and publicly available areal imagery for the Project area surrounding the proposed site. Professional judgement was used to estimate which structures within the study extents meet the criteria of sensitive receptors.

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 past experience of equipment in typical use for similar types of projects. [Reference:

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 during the hours of 7 AM to 9 PM.

The loudest source from construction is expected to be pile driving equipment (approximately 125 dBA at three ft. from source) used in the construction of the solar panel racking system.

Anticipated Noise Produced by Very Loud Construction Equipment (pile driver)	
Distance from Source to Receptor (ft.)	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 ft. from active pile driving operations would be approximately equivalent to the sound level produced by the use of a household hairdryer. 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 stay 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 location.

Construction sound levels other than the pile driving are not expected to exceed 120 dBA at 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 ft. from source) are expected:

- Inverters.
 - ▶ String Inverters – 74 dBA/each.
 - ▶ Central Inverters – 85.6 dBA/each.
- Heating, Ventilation, and Air-Conditioning (HVAC) units – 67.0 dBA/each.
- Substation – 71 dBA/each.

Sound levels generated by operating equipment are assumed to include all applicable sound sources within the equipment package (for example, fans).

To quantify the sound level impacts of the Project on nearby NSAs, Tables 1, 2, 3, and 4 are provided to illustrate how sound level contributions for each piece of equipment change over distance from a given source.

Table 1
Source: Central Inverters

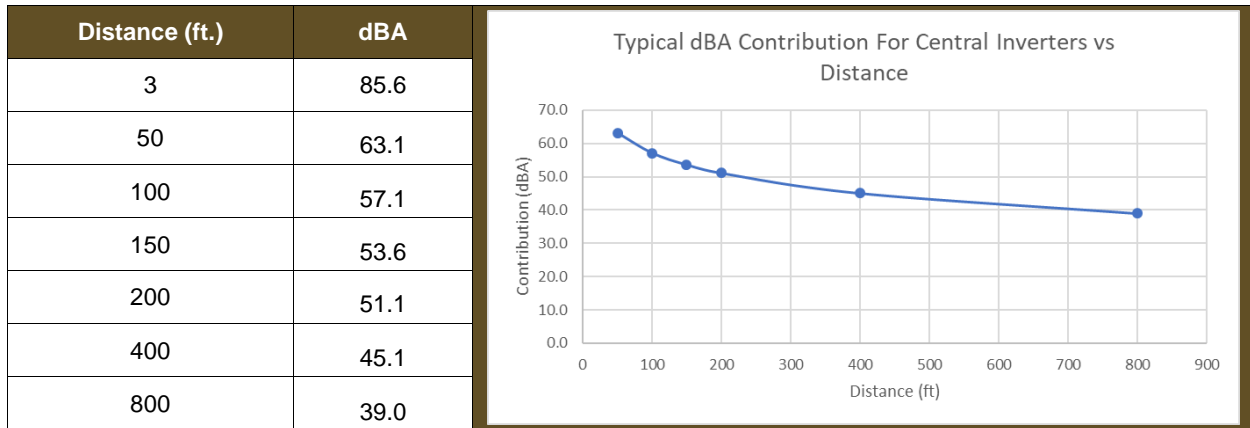


Table 2
Source: String Inverters (Optional)

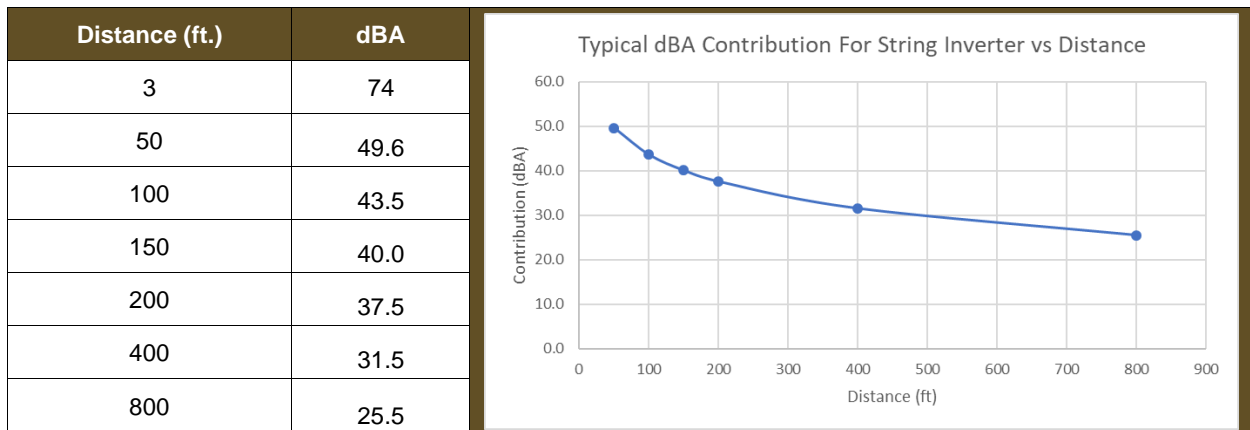


Table 3
Source: HVAC Units

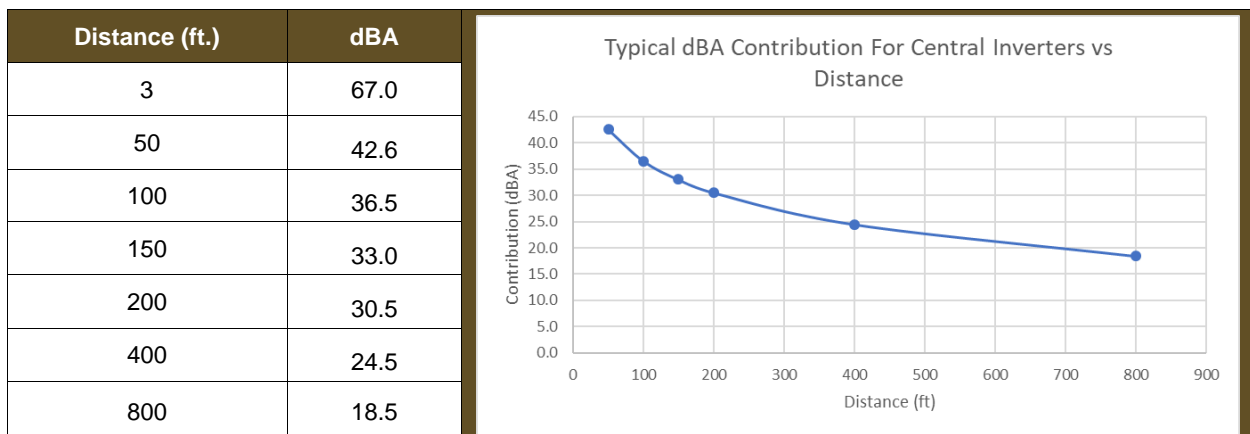


Table 4
Source: Substation

Distance (ft.)	dBA
3	71
50	46.6
100	40.5
150	37.0
200	34.5
400	28.5
800	22.5

The graph shows the relationship between distance and dBA contribution. The x-axis represents Distance (ft) from 0 to 900, and the y-axis represents Contribution (dBA) from 0.0 to 50.0. The data points are: (3, 71), (50, 46.6), (100, 40.5), (150, 37.0), (200, 34.5), (400, 28.5), and (800, 22.5). The curve shows a non-linear decrease in dBA as distance increases.

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: $dBA = 10 * \text{LOG}(\text{SUM}[SPLs])$. 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 professional judgement and experience, the ambient daytime sound level for the area surrounding this project is anticipated to be between 50 and 60 dBA.

Applicable minimum setbacks pertaining to this project are as proposed as follows:

- Central Inverters/Energy Storage System/HVAC:
 - ▶ 150 ft. from non-participating adjoining parcels.
 - ▶ 300 ft. from non-participating residences.
- All other equipment:
 - ▶ 25 ft. from non-participating adjoining parcels.
 - ▶ 50 ft. from adjacent roads.
 - ▶ 150 ft. from non-participating residences.

Based on information presented in Section 2.2, Table 1, it is anticipated at 300 ft. the sound level contribution from the operation of a Central Inverter will be approximately 47.6 dBA.

It is anticipated at 150 ft. the sound level contribution from the operation of the Substation will be approximately 37.0 dBA and String Inverters, if used in place of Central Inverters, would be approximately 40.0 dBA.

Table 5 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 5
How to Add Decibels

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	3
0.1 to 0.9	2.5
1.0 to 2.4	2
2.4 to 4.0	1.5
4.1 to 6.0	1
6.1 to 10	0.5
10	0

Based on the above table, if the ambient sound level environment is 50 dBA, the contribution from a 47.6 dBA at 300 ft. (Central Inverter) is determined by matching the decibel difference ($50 - 47.6 = 2.4$ 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 1.5 dBA. This value is added to the larger of the two values and the ambient sound level environment would become 51.5 dBA (50 dBA + 1.5 dBA).

For other sources proposed related to this project, and for an ambient sound level environment of 50 dBA, it would remain approximately 50 dBA based on the following impacts at their designated non-participating residences setback:

- String Inverter: 40 dBA (10 dBA difference and 0 dBA contribution).
- HVAC Units: 27.0 dBA (10+ dBA difference and 0 dBA contribution).
- Substations: 37.0 dBA (10+ dBA difference and 0 dBA contribution).

The average human ear's sensitivity to sound level changes is plus or minus three dBA. 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 central inverters will generate the only potential sound level impact on the surrounding area during project operation. That impact is limited to approximately 1.5 dBA at 300 ft. 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.

For additional reference, various items common to households generate the following general sound levels associated with their usage:

Source	dBA
Air Conditioning	50-75
Clothes Dryer	50-75
Clothes Washer	60-75
Dishwasher	50-70
Electric Blender	80-90
Garbage Disposal	70-95
Hair Dryer	60-95

Source	dBA
Refrigerator	50
Television	70
Toilet Flush	75-85
Source: Noise Levels of Common Household Sounds (Infographic) https://www.captel.com/2019/10/noise-levels-of-common-household-sounds-infographic/	

3.0 Traffic Impact Evaluation

Per KRS 278.708 (3)(e) and KRS 278.710 (1)(a) as it relates to surrounding roads, this evaluation assesses 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.

3.1 Existing Road Network and Traffic Conditions

The proposed solar facility, location shown on Figure 1, will be constructed along the south side of KY 218, located from two to three miles west of US 68. Refer to Figure 2 for the Site Plan and Figures 2 and 4 showing the proposed construction entrances. Three entrances will be along KY 218, two along Jim Meadows Road, and one along Roy Bagby Road. All construction vehicle access points from KY 218 will be from existing driveway locations. Both KY 218 and US 68 are Major Collectors not on the National Highway System, though US 68 is on the National Highway System in the eastern portion of Green County from the KY 793 intersection to Taylor County. KY 218 consists of two, 10-foot lanes in each direction, and US 68 consists of two, 11-foot lanes in each direction. Both Jim Meadows and Roy Bagby roads are single-lane paved roads. Jim Meadows Road connects to Liletown Road to the south and Roy Bagby Road is a dead-end road. Figure 4 shows the construction site entrances and traffic information including count station locations for KY 218 and US 68, which is summarized in the following table:

Station ID	Roadway	Average Daily Traffic	Peak Hour Traffic Volume ¹	Year Counted
044253	KY 218	1,010	96	2017
044254	US 68	1,354	149	2017

Note:

¹ Peak Hour Traffic Volume calculated using a K Factor of 9.5 on KY 218 and a K Factor of 11 on US 68.

3.2 Traffic Impacts During Facility Construction

Construction of the solar facility is expected to take eight to 12 months, with working hours from 7 AM to 9 PM daily. Trips to the facility during construction are anticipated to consist of workers commuting to the site in passenger vehicles and construction deliveries in larger trucks, including trucks with trailers. Based on the company's experience with facilities of similar sizes, up to 150 workers are anticipated to be on-site each day. Workers will park on-site, but if space is inadequate, Horseshoe Bend may designate an off-site location and provide an employee shuttle. For construction deliveries, up to 15 trucks (Class 9) are anticipated to deliver components daily, weighing approximately 40,000 pounds each. Additionally, a few Class 21 trucks will be required. One Class 21 truck is anticipated for the delivery of the substation transformer. Additionally, approximately 10 Class 21 truck (or similar) deliveries are anticipated to deliver solar lulls to the facility. Deliveries are anticipated to occur at various times throughout each working day; group delivery is not common of the panels and racking, which is the majority of deliveries. Therefore, the worst-case, conservative daily total traffic would be less than 200 vehicles per day, with the majority of trips for workers (FHWA Class 2 and 3 vehicles). Two-way peak hour traffic volumes along nearby roads average fewer than 150 vehicles per hour (fewer than three vehicles per minute), due to this low background traffic volume no adverse traffic impacts are anticipated as a result of construction.

The proposed solar facility is located beyond 15 driving miles from the nearest parkway exit (Cumberland Parkway, 19 miles) and beyond five driving miles from the nearest state highway that is on the National Truck Route (US 68, 14 miles). Construction site access points are anticipated along a state road (KY 218) and along local roads within one mile of that state road (Jim Meadows Road and Roy Bagby Road). Encroachment Permits will be required through the State and/or County governing agencies, and additional permits/agreements could be required for roads beyond the National Truck Route depending on the route(s)

the contractor determines will be needed for trucks to the site. Permitting will be performed by the contractor once the project is awarded and these considerations finalized.

Construction is not anticipated to encroach onto a state right-of-way other than vehicles accessing the site from KY 218 and existing driveway locations. Horseshoe Bend and/or the construction contractor will provide adequate Manual on Uniform Traffic Control Devices compliant traffic control signs and devices during construction, including work zone signage and KY Transportation Cabinet-certified flaggers to facilitate safe construction deliveries. Due to its narrow width, the contractor may need to close Jim Meadows Road to through traffic during certain times of construction. There may be temporary stoppages on Roy Bagby Road to facilitate deliveries. 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.

3.3 Traffic Impacts During Facility Operation

The operation of the Horseshoe Bend Solar Facility will not require on-site employees for its regular operation. Approximately two employees may visit the site up to a few times a month for inspection and to perform or coordinate maintenance as needed. A few additional employee or contractor trips may occur during the vegetative growing system for activities such as grass cutting. With only a few occasional employee trips per month, operation of the facility is not anticipated to adversely impact area traffic, and a detailed traffic study is not required since it is below the 100 peak hour trips per hour threshold detailed in KY Transportation Cabinet's 2012 policy, Traffic Impact Study Requirements.

3.4 Fugitive Dust Impacts

While state and local area roadways are paved, fugitive dust is anticipated during construction from land disturbance and use of unpaved driveways. Due to the low-density housing and rural character near the site, and the large size of the site, fugitive dust minor impacts are expected. To reduce potential dust impacts, open-bodied trucks will be covered while in motion. Internal roadways will be constructed from compacted gravel. Due to an increase associated with dust from gravel roads and site use in general, water may be applied to reduce dust generation as needed. Under the KY Pollutant Discharge Elimination System, water used for dust control during facility construction is authorized as a non-stormwater discharge activity. Horseshoe Bend will apply best practices for dust mitigation.

3.5 Railroad Impacts

The Horseshoe Bend Solar Facility will have no impact on railroad traffic as there are no railroads, spurs, or other rail facilities in the Project area.

3.6 Traffic Assessment Summary

Due to the low traffic volumes of existing roadways near the proposed Horseshoe Bend Solar Facility (fewer than 1,500 vehicles per day), construction is not anticipated to cause level of service degradations, generating fewer than 200 additional vehicles per 14-hour working day (7 AM to 9 PM) during the eight to 12-month construction period. Appropriate traffic control such as warning signs and flaggers will be provided during construction to minimize traffic impacts. Once completed, the facility will have occasional employees on site (two or fewer daily vehicles), so long-term traffic impacts will be negligible. Horseshoe Bend will restore roadways impacted by construction as required through the permitting process. Dust impacts are anticipated to be minor, and the contractor will work to minimize dust impacts.

4.0 Conclusions

Per evaluation based on KRS 278.708 (3)(a)(8) and (3)(d), KRS 278.710 (1)(b), KRS 278.708 (3)(e), and KRS 278.710 (1)(a), the Sound and Traffic Evaluation Report concludes that anticipated noise and traffic impacts for the construction and operation of the facility will be minimal, and further detailed sound and traffic studies will not be required.

4.1 Sound Level Assessment Conclusions

Due to the nature of this Project including the construction, types of equipment to be installed, and planned operation, it is anticipated the impacts to the existing sound level environment will be minimal in GAI's professional opinion based on the setback distances proposed in Section 2.3.

4.2 Traffic Assessment Conclusions

The traffic assessment concludes that due to the volume of construction and operation trips anticipated at fewer than 200 vehicles per 14-hour workday along low-volume roads, and appropriate safety strategies such as providing work zone signage and flaggers will be implemented, traffic impacts during construction will be minor. There will be workers occasionally on-site upon completion as the facility will not be staffed during normal operation. The contractor will need to obtain an encroachment permit for work on this site.

If you have questions or wish to discuss this information, contact me at 859.795.3492 or s.dodson@gaiconsultants.com.

Sincerely,

GAI Consultants, Inc.

Sharon L. Dodson

Digitally signed by Sharon L. Dodson
DN:
E=S.Dodson@gaiconsultants.com,
CN=Sharon L. Dodson
Date: 2020.12.14 15:46:15-05'00'

Sharon L. Dodson
Project Manager

John Weber

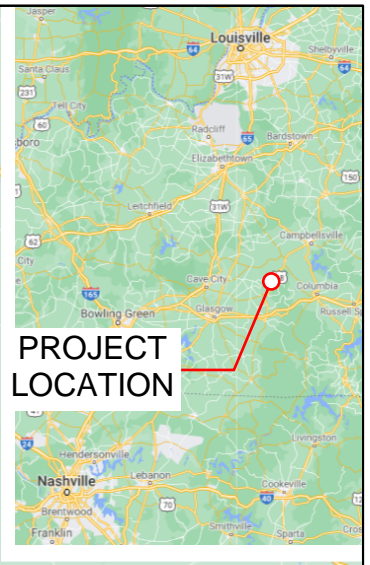
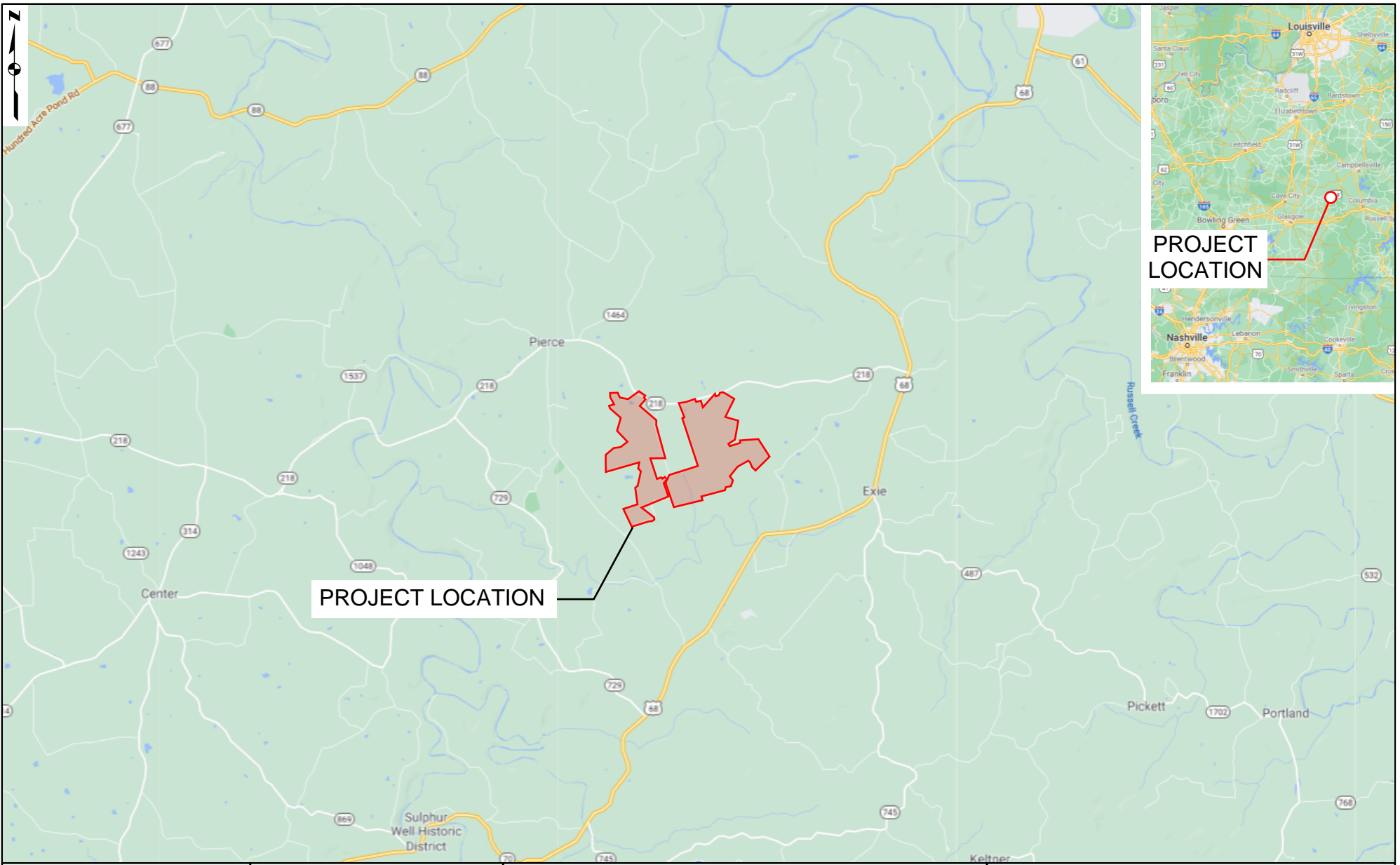
Digitally signed by John
Weber
Date: 2020.12.14
15:59:24 -05'00'

John W. Weber
Engineering Manager

JWW:SLD/mms

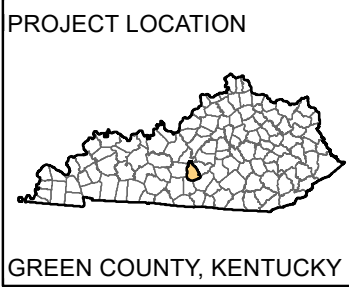
Attachments: Figure 1 – Project Location Map
Figure 2 – Site Plan
Figure 3 – Nearest Residences Map
Figure 4 – Traffic Volume Map and Construction Entrances

FIGURE 1
PROJECT LOCATION MAP



PROJECT LOCATION

PROJECT LOCATION



REFERENCE:
© GOOGLE MAPS 2020

LEGEND

PROJECT LOCATION BOUNDARY

SCALE: 1 MI

**FIGURE 1
PROJECT LOCATION MAP**

**HORSESHOE BEND
CAROLINA SOLAR ENERGY**

DRAWN BY: TMW
CHECKED: RAK

DATE: 9/24/2020
APPROVED: 9/25/2020

FIGURE 2
SITE PLAN



PROJECT LOCATION

GREEN COUNTY, KENTUCKY

REFERENCE:
© DIGITALGLOBE

LEGEND

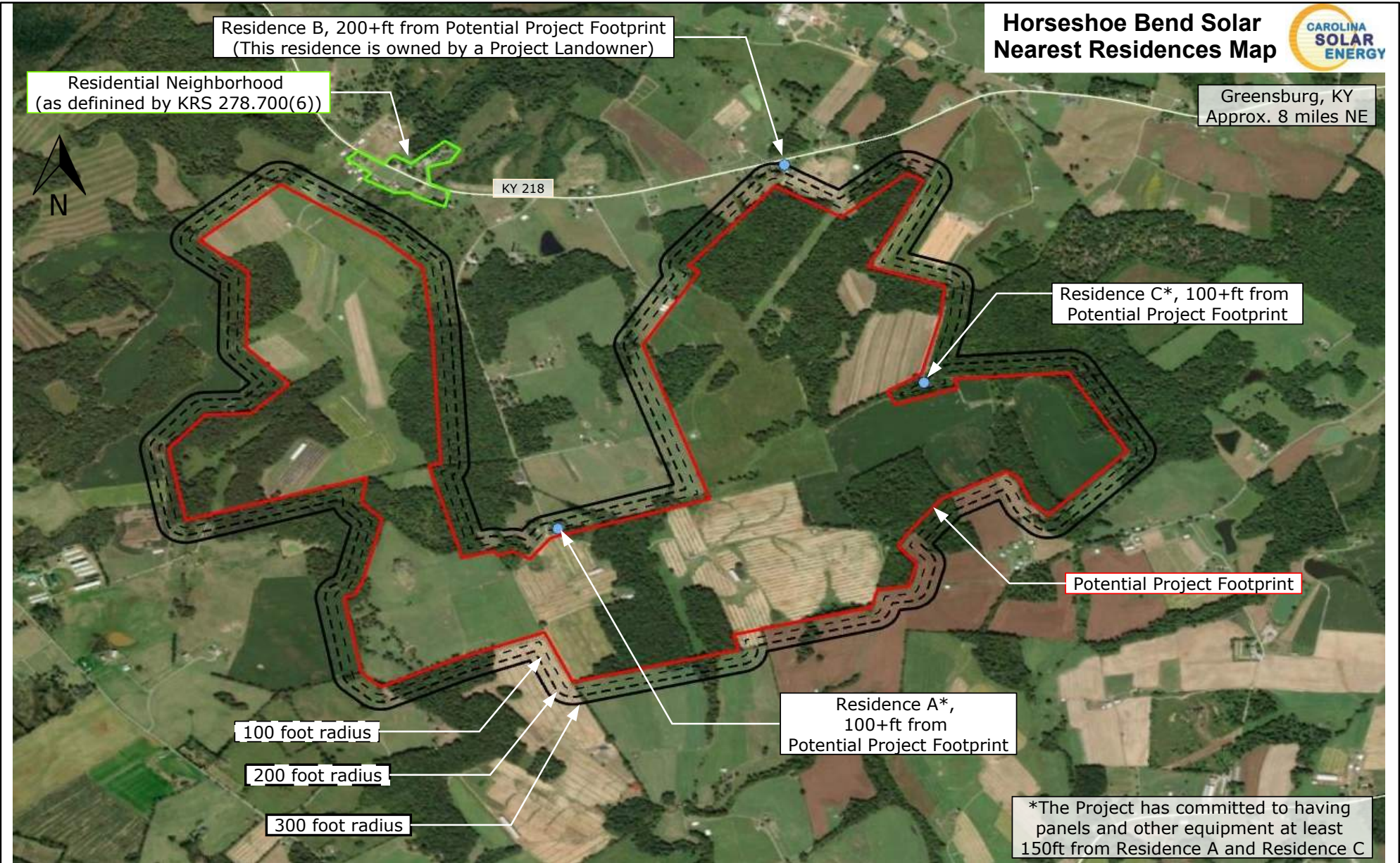
- PROJECT LOCATION BOUNDARY
- CONSTRUCTION ENTRANCE

**FIGURE 2
SITE PLAN**

DRAWN BY: TMW
CHECKED: RAK

DATE: 12/10/2020
APPROVED: 12/10/2020

FIGURE 3
NEAREST RESIDENCES MAP



**Horseshoe Bend Solar
Nearest Residences Map**



Greensburg, KY
Approx. 8 miles NE

Residence B, 200+ft from Potential Project Footprint
(This residence is owned by a Project Landowner)

Residential Neighborhood
(as defined by KRS 278.700(6))

KY 218

Residence C*, 100+ft from
Potential Project Footprint

Potential Project Footprint

Residence A*,
100+ft from
Potential Project Footprint

100 foot radius

200 foot radius

300 foot radius

*The Project has committed to having
panels and other equipment at least
150ft from Residence A and Residence C

PROJECT LOCATION

GREEN COUNTY, KENTUCKY

REFERENCE:
© DIGITALGLOBE

LEGEND

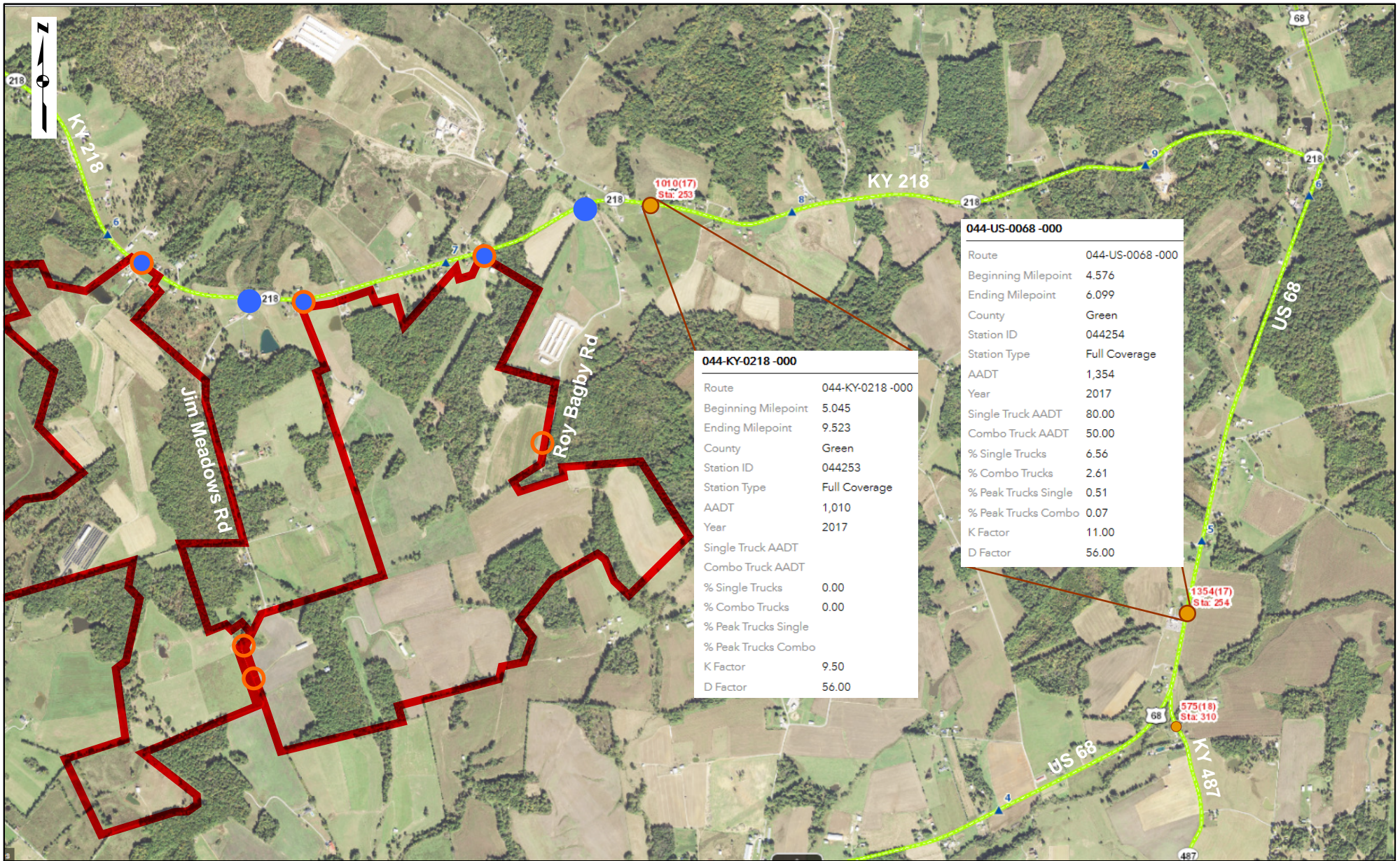
- PROJECT LOCATION BOUNDARY
- RESIDENTIAL NEIGHBORHOOD BOUNDARY
- RESIDENCE

**FIGURE 3
NEAREST RESIDENCES**

**HORSESHOE BEND
CAROLINA SOLAR ENERGY**

DRAWN BY: TMW DATE: 12/10/2020
CHECKED: SLD APPROVED: 12/10/2020

FIGURE 4
TRAFFIC VOLUME MAP AND CONSTRUCTION ENTRANCES



044-KY-0218 -000	
Route	044-KY-0218 -000
Beginning Milepoint	5.045
Ending Milepoint	9.523
County	Green
Station ID	044253
Station Type	Full Coverage
AADT	1,010
Year	2017
Single Truck AADT	
Combo Truck AADT	
% Single Trucks	0.00
% Combo Trucks	0.00
% Peak Trucks Single	
% Peak Trucks Combo	
K Factor	9.50
D Factor	56.00

044-US-0068 -000	
Route	044-US-0068 -000
Beginning Milepoint	4.576
Ending Milepoint	6.099
County	Green
Station ID	044254
Station Type	Full Coverage
AADT	1,354
Year	2017
Single Truck AADT	80.00
Combo Truck AADT	50.00
% Single Trucks	6.56
% Combo Trucks	2.61
% Peak Trucks Single	0.51
% Peak Trucks Combo	0.07
K Factor	11.00
D Factor	56.00

PROJECT LOCATION

GREEN COUNTY, KENTUCKY

REFERENCE:
© KY NAIP 2018
KYTC TRAFFIC COUNTS

SCALE: 0.2 MI

LEGEND

- PROJECT LOCATION BOUNDARY
- CONSTRUCTION ENTRANCE
- SITE ACCESS FROM KY 218
- ADT 400 - 1599
- ADT 1600 - 2399
- VOLUME DATA COLLECTION STATION

FIGURE 4
TRAFFIC VOLUME MAP
CONSTRUCTION ENTRANCES

HORSESHOE BEND
CAROLINA SOLAR ENERGY

DRAWN BY: TMW DATE: 9/24/2020
CHECKED: RAK APPROVED: 9/25/2020

Attachment G
Cemetery Report



COPPERHEAD
ENVIRONMENTAL CONSULTING

**Cemetery Report
Horseshoe Bend Solar, LLC Project
Green County, Kentucky**



Prepared for:

Horseshoe Bend Solar, LLC

6 November 2020

COPPERHEAD ENVIRONMENTAL CONSULTING, INC.
P.O. BOX 73 ■ 471 MAIN STREET ■ PAINT LICK, KENTUCKY 40461
(859) 925-9012 OFFICE (859) 925-9816 FAX

www.copperheadconsulting.com

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Appendix A: Historic Maps

Introduction

The proposed Horseshoe Bend Solar, LLC (Horseshoe Bend) site is located approximately 1.3 miles southwest of Pierce, Kentucky, and approximately 1.4 miles west of Exie in Green County, Kentucky (Figure 1). The Project Study Area (PSA) consists of approximately 662.45 acres, and has reference coordinates of 37.16751° N, -85.57388° W. The Horseshoe Bend project is a proposed solar farm that will generate electricity through the use of photovoltaic solar panels. Current land use in the PSA consists of livestock farms, hayfields, and row crops. The majority of the PSA has historically been used as farmland with various agricultural practices including livestock farming. The primary landcover types are pasture, hayfields, cultivated crops, and forested hillsides.

Copperhead Environmental Consulting, Inc. (Copperhead) was contracted to conduct site characterization studies and was asked to provide information on two cemeteries identified in the PSA. A review of historic United States Geological Survey topographic maps identified one cemetery, the Sandidge Cemetery, starting with the 1961 map (Appendix A). The second cemetery was identified from discussions with the property owner and a site reconnaissance.

The site reconnaissance and records review identified that both cemeteries are located off DAR Cemetery Road (see Figure 2). While no records were located related to the road name, it is expected that DAR is an acronym for the Daughters of the American Revolution. The Daughters of the American Revolution is a non-profit lineage-based membership service organization for women who are directly descended from a patriot of the American Revolution. The organization is dedicated to historic preservation, education, and patriotism. The Kentucky Society of the American Revolution has 4,500 members but does not currently have a chapter in the Green County area. The name of the road is an indication that a veteran of the American Revolution was buried in the cemetery at the end of DAR Cemetery Road (see below).

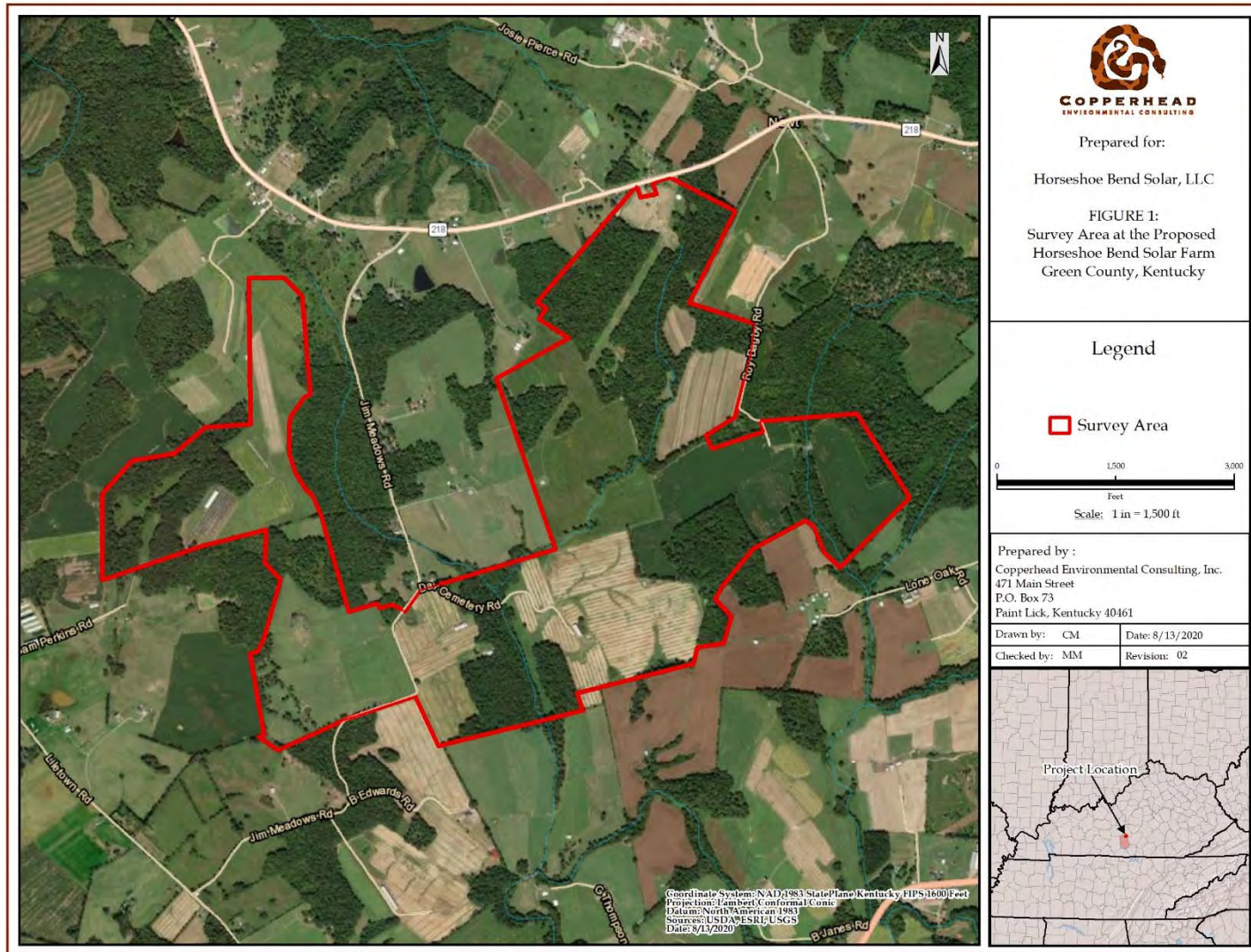


Figure 1. Project location

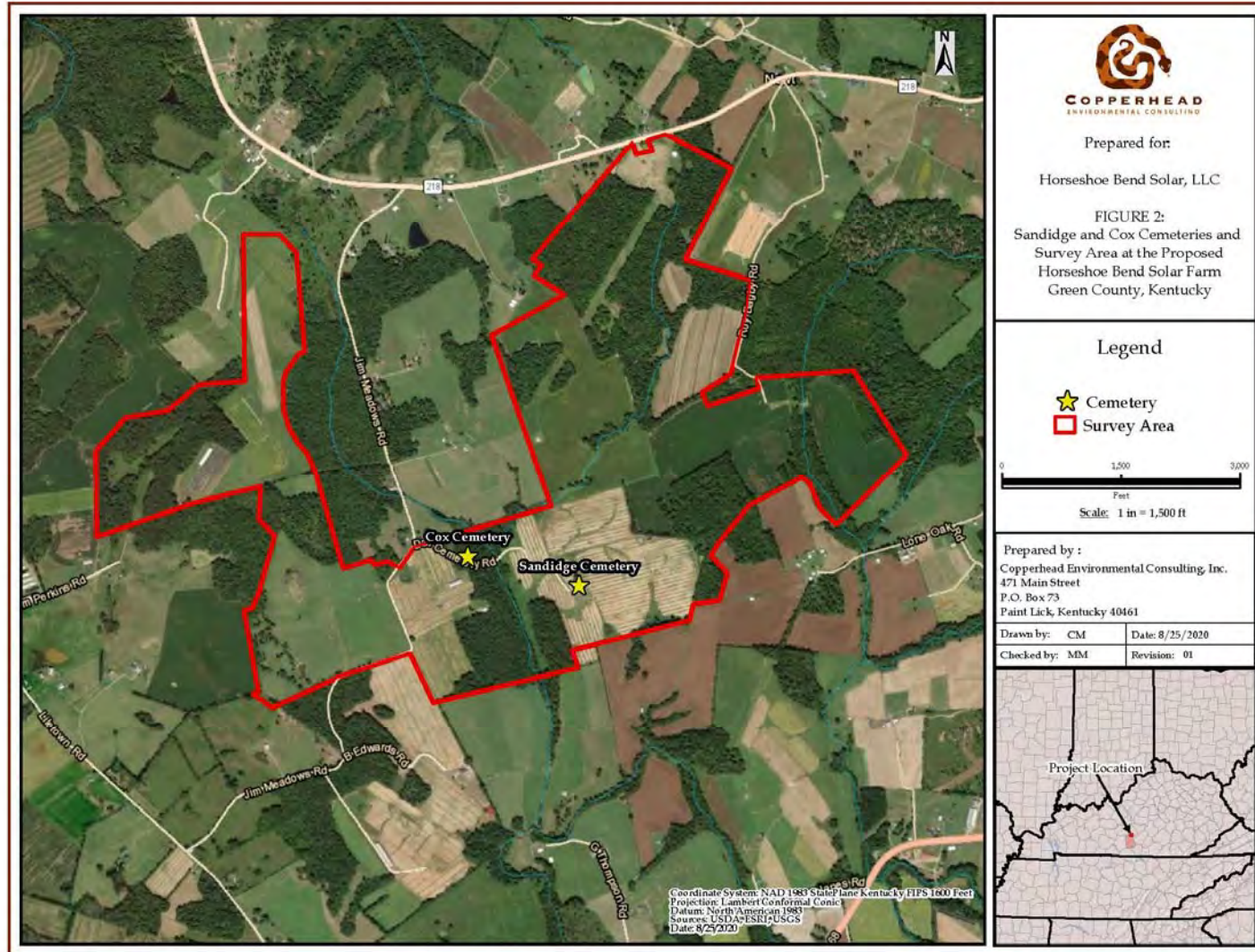


Figure 2. Location of Cemeteries

Cemeteries Identified on the Horseshoe Bend Solar, LLC Project Study Area

Sandidge Cemetery

Based on discussions with the landowner and a review of cemetery databases, the Sandidge Cemetery was identified next to a barn at the end of DAR Cemetery Road (see Figure 2). The Sandidge Cemetery is a historical cemetery containing approximately 45 graves. The burial dates on the cemetery markers range from 1824 to 1963. It is approximately 0.27 acres in size.

The cemetery includes the grave of Captain John Sandidge who fought in the American Revolution. Captain John Sandidge, who lived from November 25, 1760 to July 27, 1832, was a planter in Virginia and served in the Revolutionary War. He was as a captain under George Washington. The Daughters of the American Revolution include him in their list of people identified for their "Patriotic Service."

Around 1803, John Sandidge purchased 1,000 acres of land near Liletown, Green County along Greasy Creek. He moved the Sandidge family from Albemarle County, Virginia, in 1810 to Green County, Kentucky. Early deed books in Green County record numerous transactions by John Sandidge for land and tobacco. He was employed as a large farmer until his death.

Over time, the Sandidge Plantation became one of the largest and wealthiest in Green County. Later, the Sandidge Plantation became known as Wilson Hill. The Wilson Hill House was located approximately 300 yards east of the Sandidge Cemetery. The Wilson Hill House no longer exists and no ruins or remnants of the house were visible during the informal site reconnaissance.

In John Sandidge's will dated February 25, 1827, he stated: "It is my will and desire that forty yards of ground including the graves of my wife and mother on the farm on which I now live shall be reserved in making the division of my estate for the purpose of a burying ground for my family & all the members thereof" (Find A Grave 2020). Thus, the Sandidge Cemetery came into being. Photographs of the Sandidge Cemetery are shown on the following pages:



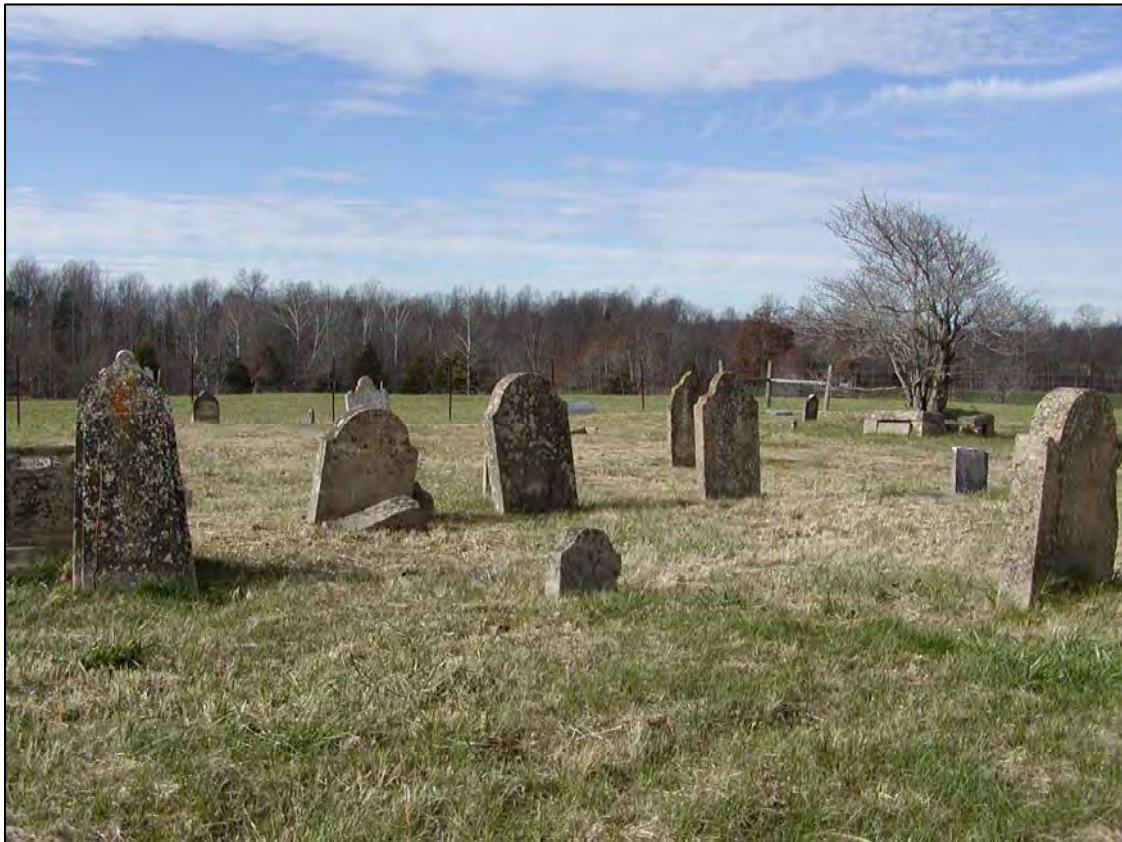
Sandidge Cemetery



Grave Markers for Captain John Sandidge (1760 - 1832) - Served in the American Revolution and Elizabeth Sandidge (1720 - 1826)



**Grave Marker for General Pleasant Wood Sandidge (1791 - 1849)
Served in the War of 1812**



Sandidge Cemetery

Cox Cemetery

A second cemetery was identified along DAR Cemetery Road during the site reconnaissance, the Cox Cemetery (approximately 0.1 acre in size), which is approximately 0.25-mile from the Sandidge Cemetery (see Figure 2). Three grave markers were identified including those for Samuel Cox, Henrette Johnson, and Samuel Johnson. The burial dates on the cemetery markers range from 1944 to 1953. No date is on the Samuel Cox marker. It appears additional unmarked graves may occur at this location. No additional information concerning this cemetery was readily available from online databases.

The Cox Cemetery may be an African American cemetery as Samuel Cox's grave marker identified that he served with the United States Colored Infantry 107th Regiment, Company C during the Civil War (see photographs below).

Records of the 107th Regiment identified that the 107th Regiment was organized in Louisville, Kentucky, from May 3 to September 15, 1864. Company C was organized from men from Lebanon, Marion County and Louisville, Jefferson County, Kentucky. Samuel Cox's regiment was attached to the Military District of Kentucky, Department of the Ohio, in October 1864. The regiment was ordered to Baltimore, Maryland and then to City Point, Virginia. It participated in the Siege of Petersburg, Virginia; the capture of Fort Fisher, Sugar Loaf Hill, and Wilmington, North Carolina; the Carolina Campaign; and the surrender of General Joseph E. Johnston and his Confederate army in Durham, North Carolina. The 107th Regiment was mustered out in November 22, 1866.

No information was readily available in historical databases concerning Henrette and Samuel Johnson.



**Grave Marker for Samuel Cox
Served in the Civil War**



**Band of the 107th Regiment, United States Colored Infantry in Arlington, Virginia
November 1865 (Library of Congress)**



Grave Markers for Henrette Johnson (1887 - 1953) and Samuel Johnson (1866 - 1944)

Recommendations

If Section 106 of the National Historic Preservation Act is triggered by a federal permit or approval (e.g., a Clean Water Act Section 404 permit is required), archaeological and architectural surveys may need to be undertaken to determine eligibility of historic resources under the National Register of Historic Places, including the cemeteries, and project effects on these resources. Consultation with the United States Army Corps of Engineers and the Kentucky Heritage Council, which is the State Historic Preservation Officer (SHPO), may be necessary to determine the appropriate level of cultural resource investigations necessary to fully comply with Section 106 regulations.

If Section 106 is not triggered, then avoiding cemetery impacts by maintaining a 100-foot buffer around the marked graves is recommended.

LITERATURE CITED

Find A Grave. 2020. <https://www.findagrave.com/cemetery/75929/sandidge-family-cemetery> (accessed August 8, 2020).

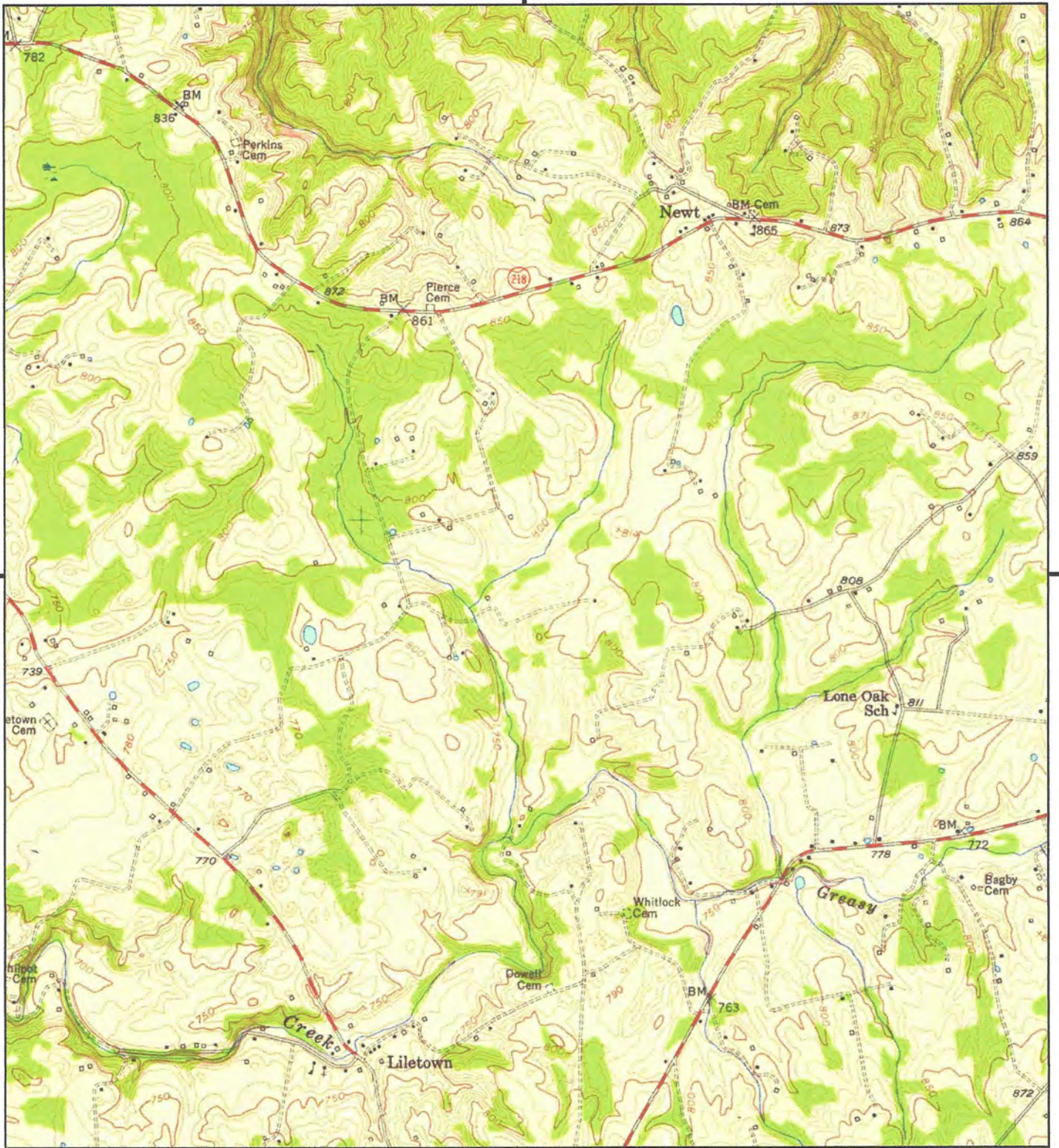
Kentucky Department of Highways 1937, 1955, 1990, and 2019. General Highway Map, Green County, Kentucky. Prepared by the Kentucky Department of Highways in Cooperation with the Federal Works Agency, Public Roads Administration. Frankfort, Kentucky.

Library of Congress. 2020. Band of the 107th Regiment, United States Colored Infantry Photograph. <https://www.loc.gov/resource/ppmsc.02781/> (accessed August 8, 2020).

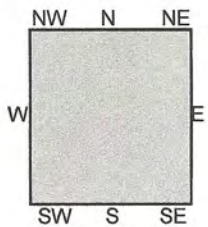
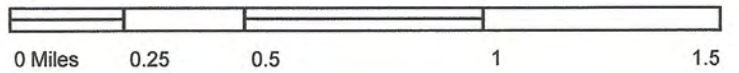
National Park Service. 2020. Civil War. Battle Unit Details – 107th Regiment, United States Colored Infantry. <https://www.nps.gov/civilwar/search-battle-units-detail.htm?battleUnitCode=UUS0107RI00C> (accessed August 9, 2020).

Appendix A:

Historic Maps



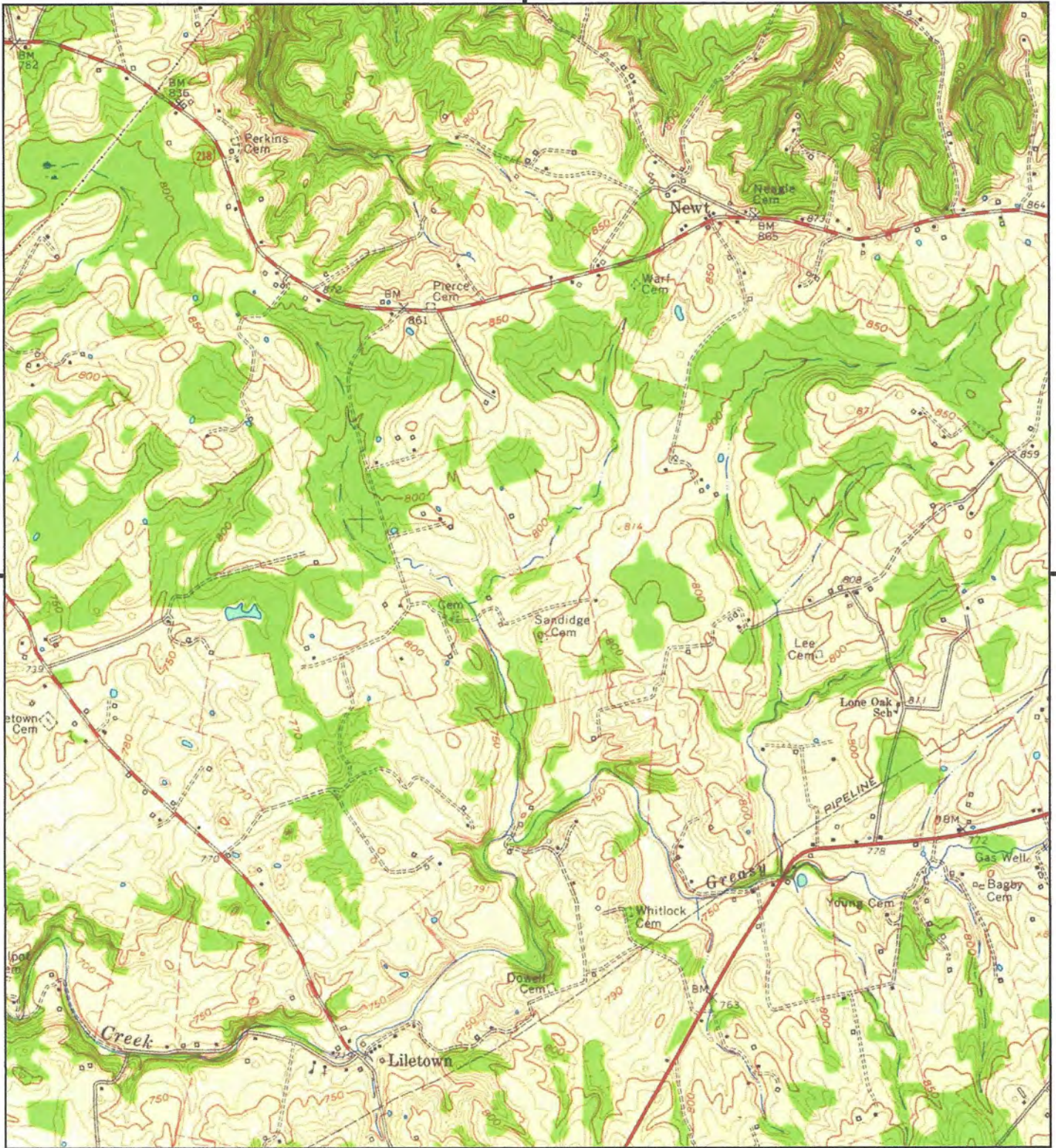
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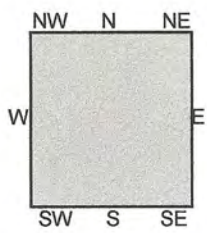
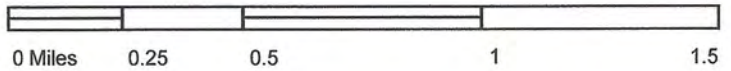
TP, Exie, 1953, 7.5-minute

SITE NAME: Horseshoe Bend Property
 ADDRESS: Greensburg, KY 42743
 CLIENT: Linebach Funkhouser Inc.





This report includes information from the following map sheet(s).



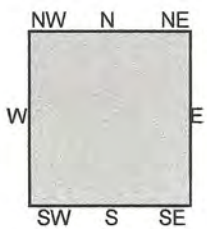
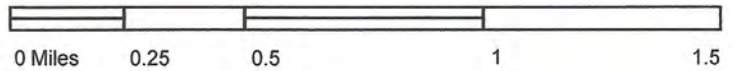
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SITE NAME: Horseshoe Bend Property
 ADDRESS: Green County
 Greensburg, KY 42743
 CLIENT: Linebach Funkhouser Inc.





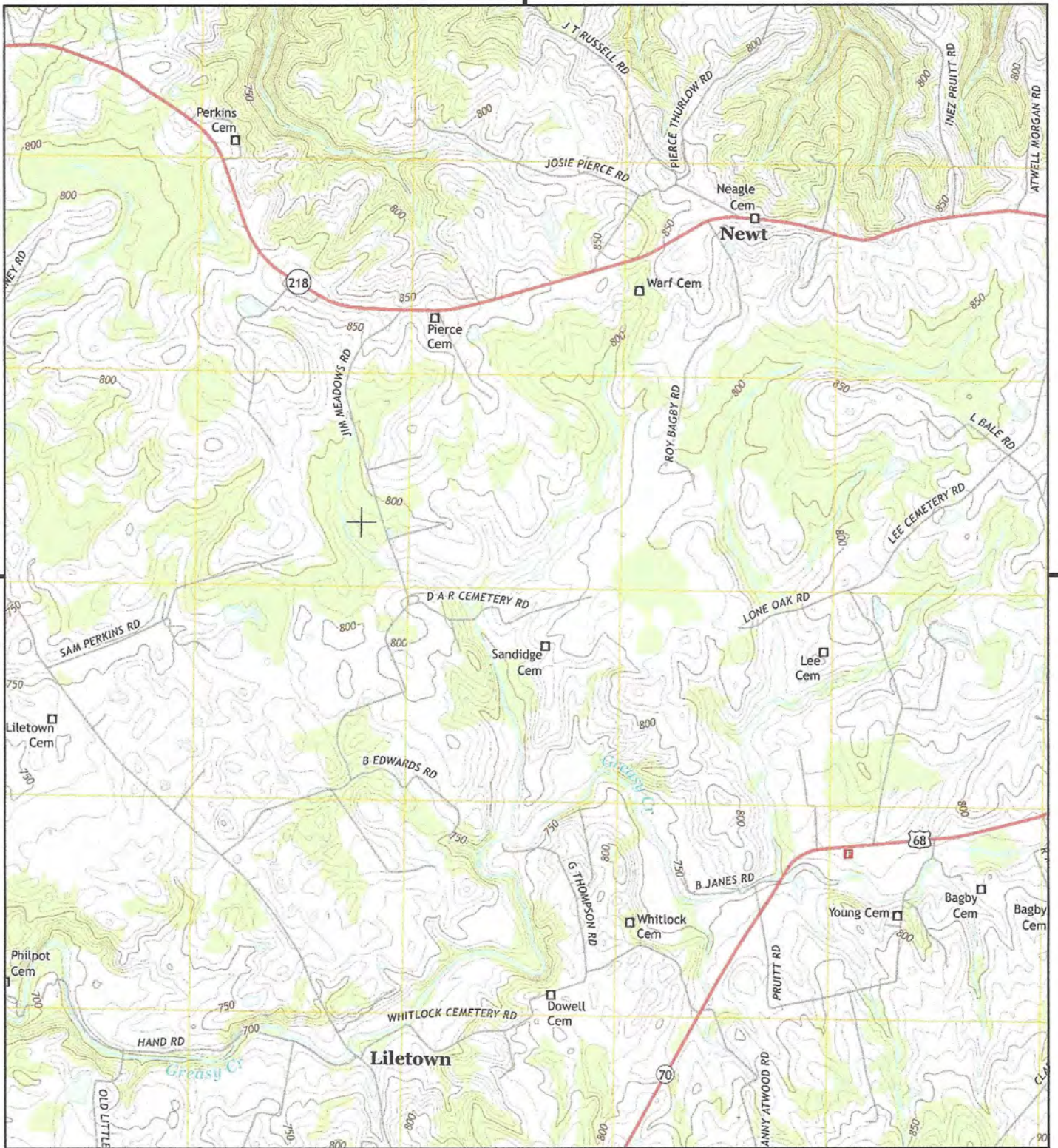
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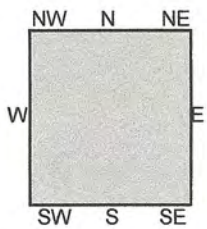
TP, Exie, 1987, 7.5-minute

SITE NAME: Horseshoe Bend Property
 ADDRESS: Green County
 Greensburg, KY 42743
 CLIENT: Linebach Funkhouser Inc.





This report includes information from the following map sheet(s).



TP, Exie, 2013, 7.5-minute

SITE NAME: Horseshoe Bend Property
 ADDRESS: Green County
 Greensburg, KY 42743
 CLIENT: Linebach Funkhouser Inc.





INQUIRY #: 5946033.8
YEAR: 2016
SCALE: 1" = 1000'



INQUIRY #: 5946033.B
YEAR: 2012
SCALE: 1"=1000'



INQUIRY #: 5946033.8
YEAR: 2008
SCALE: 1" = 1000'



INQUIRY #: 5946033.8
YEAR: 1998
SCALE: 1"=1000'



INQUIRY #: 5946033.8
YEAR: 1983
SCALE: 1"=1000'



INQUIRY #: 5946033.8
YEAR: 1960
SCALE: 1"=1000'



INQUIRY #: 5946033.8
YEAR: 1951
SCALE: 1"=1000'

Attachment H

Phase 1 Environmental Site Assessment

**PHASE I ENVIRONMENTAL SITE
ASSESSMENT REPORT**



**Horseshoe Bend Solar, LLC Project
Kentucky Route 218
Exie, Green County, Kentucky**

August 13, 2020

Prepared by:



Linebach • Funkhouser, Inc.
environmental compliance & consulting



August 13, 2020

Mr. Marty Marchaterre
Senior Environmental Planner
Copperhead Environmental Consulting, Inc.
151 Walton Avenue
Lexington, Kentucky 40508

***Re: Phase I Environmental Site Assessment Report
730-Acre Farm
Kentucky Route 218
Exie, Green County, Kentucky
Linebach Funkhouser Project Number 018-20***

Dear Mr. Marchaterre:

Linebach Funkhouser, Inc. (LFI) has completed the enclosed *Phase I Environmental Site Assessment Report* for the above-referenced property. The assessment activities included a site reconnaissance, interviews with persons knowledgeable about the site, a review of available literature, maps, historical information, and a review of the local, state and federal regulatory agency files regarding the site. The attached report documents the conditions encountered during the assessment and presents our summary and recommendations relative to the site.

We appreciate the opportunity to provide our services to you. Please contact us if you have any questions or comments regarding this submittal, or if we can be of additional service to you.

Sincerely,

Jason P. Boston
Project Scientist

R. William Johnston, PG
Principal Geologist

Enclosure

EXECUTIVE SUMMARY

Linebach Funkhouser, Inc. (LFI) has completed a Phase I Environmental Site Assessment (ESA) of the farm property located near Exie, Kentucky in Green County. This ESA was prepared in accordance with the scope and limitations of ASTM's *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (ASTM E1527-13), recognized by the U.S. Environmental Protection Agency (USEPA) as compliant with *Standards and Practices for All Appropriate Inquiries* (AAI) promulgated at 40 CFR Part 312. Results of the assessment, including a site reconnaissance, a review of historical information, a review of federal, state and local records, as well as interviews with persons knowledgeable about the site, are summarized as follows:

Report Section	Environmental Related Item	Description	REC
SITE/AREA DESCRIPTION			
2.6	Current Use of Property	Agricultural; residential	NO
2.7	Current Use of Adjoining Properties		NO
SITE HISTORY AND HISTORICAL RECORDS REVIEW			
3.1	Past Uses of Property	Agricultural; residential	NO
3.2	Past Uses of Adjoining Properties		NO
ENVIRONMENTAL RECORDS REVIEW			
4.1	Subject Property	No listings.	NO
	Adjoining Properties		NO
4.2	Listings within Established Search Radii		NO
4.3	Vapor Encroachment Screen	Does not exist	NO
SITE RECONNAISSANCE			
5.2	Haz. Substances/Waste and Petroleum Products	Small quantity equipment maintenance petroleum-based product containers.	NO
5.3	Storage Tanks (UST/AST)	None observed.	NO
5.5	Polychlorinated Biphenyls (PCBs)	None observed.	NO
5.9	Stained soil/pavement	None observed.	NO
5.11	Waste Generation, Storage, and Disposal	Areas of general trash dump sites.	NO
5.13	Wells	One (1) water supply well	NO
INTERVIEWS			
6.1	Site Representative	Mr. Steve Simmons, BTM Engineering	NO

Report Section	Environmental Related Item	Description	REC
6.3	Local Government Officials	None contacted based on current and historical site uses.	NO
NON-SCOPE CONSIDERATIONS			
7.1	Asbestos Containing Materials (ACMs)	Potentially present in the residential structures based on prior to 1950s construction date; no survey completed	N/A
7.2	Lead Based Paint (LBP)		
USER PROVIDED INFORMATION			
8.1	Env. Liens / AULs	None provided for review.	NO
9.0	DATA GAPS		NO
10.0	FINDINGS AND OPINIONS		NO
Recognized Environmental Conditions (RECs)		None Identified	
Historical Recognized Environmental Conditions (HRECs)		None Identified	
Controlled Recognized Environmental Conditions (CRECs)		None Identified	
De Minimis Conditions		None Identified	

Conclusions and Recommendations

This assessment has revealed no evidence of *recognized environmental conditions* in connection with the property.

LFI identified one (1) water supply well on the property. If this well is no longer going to be used in the future, LFI recommends properly abandoning the well in accordance with Kentucky Division of Water protocols.

An ACM survey was not included in the scope of work for this assessment. Based on the construction date (prior to the 1950s) of the residential structures, ACMs are potentially present. LFI recommends performing an asbestos survey prior to demolishing the site structures.

This Executive Summary provides a summation of the results of the Phase I ESA and is not intended to be all-inclusive. The complete report lists the procedures used during our assessment and provides our conclusions and recommendations regarding the site.

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1.0 INTRODUCTION

Linebach Funkhouser, Inc. (LFI) was retained by Copperhead Environmental Consulting, Inc. (the Client), to conduct a Phase I Environmental Site Assessment (ESA) of the farm property located near Exie, Kentucky in Green County (the “subject property”). This assessment was completed as part of due diligence activities in relation to a real estate transaction.

1.1 Purpose

The purpose of this ESA was to document current and historical information on the subject property and surrounding areas in order to identify *recognized environmental conditions* (RECs), defined in ASTM E1527-13 as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

The term is not intended to include *de minimis* conditions, defined in ASTM E1527-13 as a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* conditions are not *recognized environmental conditions* nor *controlled recognized environmental conditions*.

The term *historical recognized environmental condition* (HREC), is defined by ASTM E1527-13 as a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority (as evidenced by the issuance of a no further action letter or other equivalent closure documentation) or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (e.g., property use restriction, activity and use limitations, institutional controls, or engineering controls).

The term *controlled recognized environmental condition* (CREC), is defined by ASTM E1527-13 as an REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (e.g., as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by

regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (e.g., property use restrictions, activity and use limitations, institutional controls, or engineering controls).

1.2 Scope of Work

This ESA was conducted utilizing standard practices consistent with ASTM E1527-13. Any significant scope-of-work additions, deletions or deviations to ASTM E1527-13 are noted below or in the corresponding sections of this report. The scope-of-work for this ESA included an evaluation of the following:

- General physical setting characteristics of the subject property and immediate vicinity through a review of one or more referenced sources, including topographic and geologic maps, soils and hydrologic reports.
- Historical usage of the subject property, adjoining properties, and surrounding area through a review of reasonably ascertainable sources such as land title records, fire insurance maps, city directories, aerial photographs, property tax files, prior environmental assessment reports, and interviews.
- Current land use and existing conditions of the subject property including observations and interviews regarding the use, treatment, storage, disposal or generation of hazardous substances, petroleum products and hazardous, regulated, or medical wastes; equipment that is known or likely to contain PCBs; storage tanks and drums; wells, drains and sumps; and pits, ponds or lagoons.
- Current land use of adjoining and surrounding area properties and the likelihood of known or suspected releases of hazardous substances or petroleum products to impact the subject property.
- Environmental regulatory database information and local environmental records within specified minimum search distances.

Unless otherwise identified in the report, the scope-of-work for this ESA did not include a consideration of the following potential environmental conditions that are outside the scope of ASTM Practice E1527-13 including but not limited to: asbestos-containing building materials, biological agents, cultural and historic resources, ecological resources, endangered species, health and safety, indoor air quality (unrelated to releases of hazardous substances or petroleum products into the environment), industrial hygiene, lead-based paint, lead in drinking water, mold, radon, regulatory compliance, and wetlands.

1.3 Terms and Conditions

This Phase I ESA was performed on behalf of, and solely for the exclusive use of the Client. No other company, entity, or person shall have any rights with regard to LFI's contract with the Client including but not limited to indemnification by LFI, or any rights of reliance on the findings, conclusions, and recommendations of this or any subsequent reports regarding the subject property.

In accordance with ASTM E1527-13 provisions, this report is presumed to be valid for up to one year prior to the date of acquisition or transaction of the property. This presumption assumes that the following components of the report are updated within 180 days prior to the intended date of acquisition or transaction of the property: interviews, environmental lien search, government records reviews, visual inspection of the property and surrounding properties, and declaration by the environmental professional.

1.4 Assumptions, Limitations and Exceptions

This ESA was prepared in accordance with the scope and limitations of ASTM's *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (ASTM E1527-13), recognized by the U.S. Environmental Protection Agency (USEPA) as compliant with *Standards and Practices for All Appropriate Inquiries* (AAI) promulgated at 40 CFR Part 312.

This Phase I Environmental Site Assessment has been prepared to assess the property with respect to hazardous substances defined in the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. §9601), and petroleum products. As such, this assessment is intended to permit the Client to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide purchaser limitations on CERCLA liability: that is, the practices that constitute "all appropriate inquiry into the previous ownership and uses of the subject property consistent with good commercial or customary practice" as defined in 42 USC §9601 (35)(B).

LFI conducted this ESA using reasonable efforts to identify recognized environmental conditions on the subject property. Findings within this report are based on the information obtained during the site reconnaissance, the electronic regulatory file review, a review of historical records,

interviews, and from reasonably ascertainable and publicly available information obtained from public agencies and other referenced sources. The presence of recognized environmental conditions on a site may not always be apparent; consequently, the completion of a Phase I ESA cannot provide a guarantee that recognized environmental conditions do not exist in connection with a site.

This report is not definitive and should not be assumed to be a complete or specific determination of all conditions above or below grade. Current subsurface conditions may differ from the conditions indicated by surface observations or historical sources and can be most reliably evaluated through intrusive techniques that were beyond the scope of this ESA. Information in this report is not intended for use as a construction document and should not be used for demolition, renovation, or other construction purposes. LFI makes no representation or warranty that the past or current operations at the site are, or have been, in compliance with applicable federal, state and local laws, regulations and codes.

Environmental Data Resources, Inc. (EDR), an independent environmental data research company, provided the records from the government agency databases referenced in this report. Information regarding surrounding area properties was requested for the specified minimum search distances and was assumed to be correct and complete unless obviously contradicted by LFI's observations or other credible referenced sources reviewed during the ESA. LFI is not a professional title insurance or land surveying firm and makes no guarantee, explicit or implied, that any land title records acquired or reviewed, or any physical descriptions or depictions of the site in this report, represent a comprehensive definition or precise delineation of property ownership or boundaries.

2.0 SITE DESCRIPTION

The location, description, and current uses of the subject property, as well as surrounding properties are presented in the following sections.

2.1 Location and Description

The subject property is located to the east of Pierce and to the west of Exie, Kentucky within Green County. The property consists of approximately 730-acres of predominately agricultural land that is owned by five separate entities.

A site location map is provided in **Figure 1** and an aerial photograph depicting the site and surrounding property use is provided in **Figure 2**. Site photographs are included in **Appendix A**.

2.2 Structures / Improvements

The subject property is predominately undeveloped farmland. Wooded areas are located throughout the site. Occupied residential structures are located on the southeastern portion of the site. Barn / agricultural structures were also observed in various locations on the property.

2.3 Municipal Services and Utilities

Properties in the vicinity are serviced by the following municipal services and utilities:

Utility	Provider
Potable Water Supply	Green Taylor Water District
Sewage Disposal	Septic System
Natural Gas	Kentucky Utilities (KU)
Electricity	Taylor County RECC

2.4 Roads

The property is located to the south of KY Route 218. US-68 is located farther southeast and KY Route 729 farther west. Private drives are located throughout the site. No publicly owned roads are located on the property.

2.5 Topography and Drainage

A review of the United States Geological Survey (USGS) Topographic Quadrangle (2013) indicates a surface elevation for the subject property averages approximately 800 feet above the National Geodetic Vertical Datum (NGVD) of 1929 (approximately mean sea level). A copy of the topographic map is provided in **Figure 1** and **Appendix B**.

Major hydrogeologic features such as a river or lake generally influence regional groundwater flow direction. Surface and/or bedrock topography may also influence regional groundwater flow direction. Based on information gathered during the site visit, the topography of the land, and information contained in the Environmental Data Resources, Inc. (EDR) report, the direction of surface and groundwater flow is interpreted to be south with the local topographic gradient. The nearest downgradient surface water is Greasy Creek located approximately 1-mile to the south of the subject property.

2.6 Current Use of Property

The subject property is predominately undeveloped farmland. Wooded areas are located throughout the site. Occupied residential structures are located on the southeastern portion of the site. Barn / agricultural structures are located throughout the property.

2.7 Current Use of Adjoining Properties

Nearby property usage could potentially impact the surface and subsurface conditions of a site. Developing a history of past to present uses or occupancies can provide an indication of the likelihood of environmental concern. In general, the subject property is located in a low-density area predominantly composed of agricultural and residential properties. An aerial photograph illustrating the surrounding property-use relative to the subject property is included as **Figure 2**. A general description of surrounding land use is as follows:

Current Use of Adjoining Properties

Direction	Description
North	The subject property is adjoined to the north by residential and agricultural properties.
South	The subject property is adjoined to the south by residential and agricultural properties.
East	The subject property is adjoined to the east by wooded and agricultural properties. A chicken house operation is located to the northeast.
West	The subject property is adjoined to the west by residential and agricultural properties.

No evidence of potential adverse environmental conditions was observed during the survey of adjacent properties from the subject site.

3.0 SITE HISTORY AND HISTORICAL RECORDS REVIEW

Historical information about the subject property, based on an evaluation of available records reviewed during the Phase I, is included in the following sections.

3.1 Past Uses of Property

LFI attempted to determine the historical use of the subject property dating back to 1940 or the first developed use. The following table summarizes the historical use of the subject property:

Historical Use Summary

Subject Property		
Period	Horseshoe Bend Project Area	Source(s)
1940 - Current	The subject property has been historically and primarily used for agricultural and rural residential purposes.	Topographic Maps Aerial Photographs

3.2 Past Uses of Adjoining Properties

Properties in the vicinity have been predominately utilized for agricultural purposes. Residential properties have been developed along KY-218 and in the vicinity of the site historically.

3.3 Topographic Maps

Historical topographic maps provide information related to physical land configuration such as elevation, ground slope, surface water and other features. While most buildings in densely developed urban centers are not depicted, topographic maps typically show structures equal to or larger than the size of a single-family residence in rural areas. A search for historical topographic maps of the subject property and surrounding area was conducted by EDR and provided to LFI in a *Historical Topographic Map Report* dated January 24, 2020. Topographic maps were provided for various years between 1953 and 2013. A copy of the EDR *Historical Topographic Map Report* is included in **Appendix B** and summarized as follows:

Historical Topographic Maps

Year	Issues Noted	Observations
1953 - 1987	No	Subject Property: Few residential and barn structures are depicted throughout the property. Surrounding Properties: Sparse rural residential properties are observed. The town of Newt is observed to the northeast. Two cemeteries are depicted on the site.

Historical Topographic Maps

Year	Issues Noted	Observations
2013 ⁽¹⁾	No	<p>Subject Property: No structures or identifying features are shown.</p> <p>Surrounding Properties: Major roads and highways are shown, no individual structures.</p>

(1) Beginning with the 2010 map updates, the USGS elected to omit building footprints, urban designations, and other points of interest from topographic map updates.

3.4 Aerial Photographs

Aerial photographs are generally of very small scale and only provide a general idea of activity in the area. Aerial photographs are instantaneous records and their usefulness is limited because they do not necessarily reflect the condition of a site before or after the photographs were taken. A search for aerial photographs of the subject property and surrounding area was conducted by EDR and provided to LFI in an *Aerial Photo Decade Package* dated January 28, 2020. Aerial photographs were provided for various years from 1951 to 2016. A copy of the EDR *Aerial Photo Report* is included in **Appendix B** and a summary is presented in the following table:

Aerial Photographs

Year	Issues Noted	Observations
1951 - 1998	No	<p>Subject Property: Subject property appears to be predominately agricultural in nature. Residential and barn structures are observed. The 1973 aerial photo is of poor quality.</p> <p>Surrounding Properties: The surrounding properties are generally agricultural, wooded and residential in nature.</p>
2008 - 2016	No	<p>Subject Property: Property appears as it is today.</p> <p>Surrounding Properties: Adjoining properties are developed similar to their present-day configuration. The chicken house operation located to the east was constructed after 2016.</p>

3.5 Sanborn Fire Insurance Maps

A search for Sanborn fire insurance maps for the subject property and surrounding area was conducted by EDR and provided to LFI in a *Certified Sanborn Map Report*, dated January 24, 2020. Fire insurance maps were unavailable for the subject property and surrounding areas. A copy of the report stating “Unmapped Property” is provided in **Appendix B**.

3.6 City Directories

A search of historical city directories for the subject property and surrounding properties was conducted by EDR and provided to LFI in a *City Directory Abstract* dated January 28, 2020. City

directories for the subject property and surrounding area were reviewed for various years between 1995 and 2014. Listings for the surrounding area were found to be primarily residential listings with no evidence of obvious adverse environmental conditions. A copy of the report is provided in **Appendix B**.

4.0 ENVIRONMENTAL RECORDS REVIEW

An electronic database search of files maintained by the U. S. EPA and the Kentucky Department for Environmental Protection (KDEP) was conducted by EDR on January 24, 2020 to evaluate the regulatory history of the subject property and surrounding properties. The search of standard federal, state, and tribal regulatory agency databases was conducted to (1) identify listings for the subject property and adjoining properties and (2) evaluate sites within applicable ASTM E1527-13 and AAI defined search radii that could cause actual or potential environmental impacts to the subject property. A summary of the results of the regulatory agency database search is provided in the following table:

Regulatory Database Search Summary

Regulatory Database	Minimum Search Distance	Property Listed?	# Sites Listed
Federal National Priority List (NPL)	1 Mile	No	0
Federal De-Listed NPL	½ Mile	No	0
Federal CERCLIS	½ Mile	No	0
Federal CERCLIS NFRAP	½ Mile	No	0
Federal RCRA CORRACTS	1 Mile	No	0
Federal RCRA non-CORRACTS TSD	½ Mile	No	0
Federal RCRA Generators	¼ Mile	No	0
Federal Institutional/Engineering Control Registry	½ Mile	No	0
Federal ERNS	¼ Mile	No	0
State/Tribal Haz. Waste Sites (NPL/CERCLIS)	1 Mile	No	0
State/Tribal Landfill or Solid Waste Disposal Sites	½ Mile	No	0
State/Tribal Leaking Storage Tank Lists	½ Mile	No	0
State/Tribal Registered Storage Tank Lists	¼ Mile	No	0
State/Tribal Institutional/Engineering Control Registry	½ Mile	No	0
State/Tribal Voluntary Cleanup Sites	½ Mile	No	0
Federal/State Brownfield Sites	½ Mile	No	0

The fact that sites do or do not appear on a list does not necessarily indicate that an environmental concern exists. In addition, sites may not be mapped in a list search due to inaccuracy of owner/operator records, government records, or errors occurring during conversion of the data by informational sources. A copy of the EDR report that includes a detailed description of each database and the results of the database inquiries is provided in **Appendix C**.

4.1 Listings for Subject Site or Adjoining Properties

The EDR database search did not identify the subject property or any adjoining properties on ASTM or AAI required databases.

4.2 Listings within Established Search Radii

The EDR database search did not identify any listing within the established search radii (1 mile) on ASTM or AAI required databases.

The EDR environmental records search also provides a list of “orphan” sites, which are properties identified on ASTM/AAI required databases but that could not be mapped due to poor or inaccurate address information. EDR’s records search listed 1 orphan site; however, the listed site is not located in the vicinity of the subject property.

4.3 Vapor Encroachment Screen

LFI conducted a Vapor Encroachment Screen (VES) utilizing the Tier 1 methodology provided in ASTM’s *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions* (E2600-15). The Tier 1 methodology in E2600-15 was utilized in order to identify a *Vapor Encroachment Condition* (VEC), which is “the presence or likely presence of chemicals of concern (COC) (i.e. – petroleum hydrocarbons and/or chlorinated solvents) vapors in the vadose zone of the subject property caused by the release of vapors from contaminated soil and/or groundwater either on or near the subject property”. Information provided by EDR was reviewed to identify facilities within the Area of Concern (AOC) to evaluate whether contamination at nearby properties could represent a vapor encroachment condition (VEC) on the Site. The AOC for chlorinated solvents is defined in ASTM E2600-15 as the area within 1/3 mile of the property

boundaries. For facilities at which the only COCs are petroleum hydrocarbons, the AOC includes the area within 0.1 mile of the property boundaries.

A review of historical use information and regulatory database documentation collected in the course of this Phase I ESA did not identify obvious evidence of COC that may migrate as vapors onto the subject property as a result of contaminated soil and/or groundwater known to be present on or near the subject property. Therefore, our opinion based on the Tier 1 VES is that a VEC does not exist on the property.

5.0 SITE RECONNAISSANCE

A site reconnaissance was conducted on January 23, 2020 by Mr. Jason Boston, Project Scientist, and Mr. Kevin Alexander, Environmental Scientist, with LFI. Messrs. Boston and Alexander were unaccompanied during the site reconnaissance.

5.1 Site Reconnaissance Methodologies

The purpose of the reconnaissance was to gather information regarding the environmental conditions at the subject property and surrounding areas. The site reconnaissance consisted of visual observations of the subject property and any existing improvements, adjoining properties as viewed from the subject property, and observations of nearby properties made from public thoroughfares.

At the time of the site reconnaissance, weather conditions were rainy and approximately 40° Fahrenheit. No limiting conditions were present. Photographs taken during the site reconnaissance, depicting site conditions at the time of the visit, are provided in **Appendix A**.

5.2 Hazardous Substances/Waste and Petroleum Products

Small quantity containers of petroleum-based maintenance products for farm equipment machinery was observed in or near barn structures located on the property. No other obvious indications of generation, use, storage, treatment, or disposal of hazardous substances/wastes or petroleum products were observed during site reconnaissance.

5.3 Underground Storage Tanks (USTs) & Aboveground Storage Tanks (ASTs)

The site reconnaissance included a search for physical features such as fill ports, slumped pavement/ground surface, patched pavement, and evidence of underground piping or pump stations commonly associated with the current or historical presence of storage tanks. The absence of common physical features cannot completely rule out the current or historical existence of storage tanks. Site characteristics such as overgrown vegetation, new pavement, or past renovation/construction/demolition activities may prevent the identification of storage tanks.

5.3.1 Underground Storage Tanks (USTs)

No evidence of current or former USTs was observed during site reconnaissance.

5.3.2 Aboveground Storage Tanks (ASTs)

No evidence of current or former ASTs was observed during site reconnaissance.

5.4 Odors

No strong, pungent or noxious odors were noticed during the site reconnaissance.

5.5 Drums and Containers

Small quantity containers of petroleum-based maintenance products for farm equipment machinery was observed in the barn structures located on property. Numerous empty, unmarked 5-gallon buckets were located near the northeast portion of the site. No other obvious indications of drums or containers were observed during the site reconnaissance.

5.6 Polychlorinated Biphenyls (PCBs)

Polychlorinated biphenyls (PCBs) are organic compounds that have been used extensively in electrical capacitors and transformers, lighting ballasts, hydraulic fluids, heat exchange fluids, lubricants, inks, sealants, adhesives and surface coatings since development in 1929. PCB production was banned in the U.S. in 1979 due to health and environmental hazards. Under the Toxic Substances Control Act (TSCA), as outlined in Title 40 of the Code of Federal Regulations (CFR) Part C, 761, the owners of PCB containing equipment are responsible for environmental impairment and liabilities caused by leakage of PCBs to the environment.

No equipment with the potential to contain PCBs was observed during the site reconnaissance.

5.7 Drains and Sumps

No evidence of drains or sumps was observed during the site reconnaissance.

5.8 Pits, Ponds, and Lagoons

Multiple ponds are located throughout the subject property. No obvious evidence of pits, ponds or lagoons used for waste treatment or disposal was observed or reported during the site reconnaissance.

5.9 Stained Soil / Pavement

No obvious stained soil/pavement was observed during the site reconnaissance.

5.10 Stressed Vegetation

No obvious areas of stressed vegetation were observed on the site.

5.11 Waste Generation, Storage, and Disposal

Areas of general trash dump sites were observed at the site. No other obvious evidence of improper waste generation or storage was observed during the site reconnaissance. Small piles of scrap wood and debris were noted.

5.12 Waste Water

No obvious evidence of process waste water discharge into a drain, ditch, or stream was observed on the subject property during the site reconnaissance.

5.13 Wells

One (1) water supply well was observed on the subject property during the site reconnaissance near the southeastern portion of the site. If this well is no longer going to be used in the future, LFI recommends properly abandoning the well in accordance with Kentucky Division of Water protocols.

5.14 Septic Systems

A septic system was reported to be located near the residential structures on the southwest portion of the subject property.

6.0 INTERVIEWS

The following interviews were conducted during the assessment in an effort to obtain information indicating potential RECs in connection with the subject property.

6.1 Property Representative

An interview was conducted with Mr. Steve Simmons with BTM Engineering, Inc. during the site reconnaissance. Mr. Simmons had been at the site for two weeks prior to LFI's reconnaissance and reported no observed environmental concerns associated with the subject property.

6.2 Occupants

The subject property is predominately farm land.

6.3 Local Government Officials

No local government officials were contacted as part of this environmental site assessment based on current and historical uses of the subject property.

7.0 NON-SCOPE CONSIDERATIONS

The following sections address environmental issues or conditions on the subject property that are outside the scope of ASTM E1527-13. Substances or materials may be present on the subject property that may lead to contamination of the subject property but are not defined by CERCLA as hazardous substances.

7.1 Asbestos Containing Materials (ACMs)

Asbestos is a general term for a group of fibrous minerals (primarily chrysotile, amosite and crocidolite) that have long been used as fireproof insulation and as a strengthener in pipe insulation, roofing tiles, floor tiles, wall coverings and other materials. Undisturbed asbestos-containing material (ACM) is not dangerous; however, when ACM is broken or torn, as during remodeling

or demolition, the fibers can be spread into the air, especially if the material is friable. A friable material, by definition, is one that can be crushed, crumbled, pulverized, or reduced by hand pressure when dry. Due to health hazards, ACM use has been phased out since approximately 1978. The U.S. EPA classifies ACM as any material which contains more than 1% asbestos by Polarized Light Microscopy (PLM) analysis.

An ACM survey was not included in the scope of work for this assessment. Based on the construction date (prior to the 1950s) of the residential structures, ACMs are potentially present. LFI recommends performing an asbestos survey prior to demolishing the site structures.

7.2 Lead-Based Paint (LBP)

Use of lead in household paint was banned by the U.S. EPA effective January 1, 1978. The U.S. EPA and the U.S. Department of Housing and Urban Development (HUD) define lead-based paint (LBP) as any paint that contains 1.0 mg/cm² or higher of lead by x-ray fluorescence (XRF) analysis or 0.5% (5,000 ppm) lead by weight.

An LBP survey was not included in the scope of work for this assessment. Based on the construction date (prior to the 1950s) of the residential structures, LBPs are potentially present.

8.0 USER PROVIDED INFORMATION

In accordance with the ASTM E1527-13 and AAI standards, the user of this ESA, Copperhead Environmental Consulting, Inc. (the Client), may obtain information through other due diligence activities associated with the pending property transaction that could help identify the possibility of potential environmental conditions in connection with the subject property.

8.1 Environmental Liens or Activity and Use Limitations

The Client has reported no information regarding environmental liens or use limitations.

8.2 Common/Specialized Knowledge or Experience

The Client has reported no information regarding common/specialized knowledge or experience relative to the subject property.

8.3 Reasons for Significantly Lower Purchase Price

The Client reported the site will be leased.

9.0 DATA GAPS

No data gaps as defined by ASTM E1527-13, (i.e. considered to have significantly affected the ability to identify recognized environmental conditions in connection with the subject property) were identified during completion of this assessment with the exception of a site owner with prior knowledge of the site history. However, due to rural nature of the site based on other available historical information, LFI does not consider this to be a significant data gap.

10.0 FINDINGS AND OPINIONS

The following summarizes known or suspected RECs, HRECs, CRECs, *de minimis* conditions, and non-scope environmental conditions in connection with the subject property based on information collected during the assessment. For each condition, LFI provides an opinion of the impact on the site based on an evaluation of the results of record reviews, site reconnaissance work and interviews performed as part of this assessment. LFI also provides a rationale for concluding that an environmental condition is or is not a REC.

Recognized Environmental Conditions (REC)

This assessment has revealed no evidence of RECs in connection with the subject property.

Historical Recognized Environmental Conditions (HREC)

This assessment has revealed no evidence of HRECs in connection with the subject property.

Controlled Recognized Environmental Conditions (CREC)

This assessment has revealed no evidence of CRECs in connection with the subject property.

De Minimis Conditions

No *de minimis* conditions were observed in connection with the subject property.

Non-Scope Environmental Conditions

Based on the construction date (early-1950s) of the residential structure, ACMs and LBP are potentially present.

11.0 CONCLUSIONS AND RECOMMENDATIONS

LFI has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-13 of the farm property located in Green County, Kentucky, the subject property. Any exceptions to, or deletions from, this practice were described in this report. This assessment has revealed no evidence of *recognized environmental conditions* in connection with the property.

LFI identified one (1) water supply well on the property. If this well is no longer going to be used in the future, LFI recommends properly abandoning the well in accordance with Kentucky Division of Water protocols.

An ACM survey was not included in the scope of work for this assessment. Based on the construction date (prior to the 1950s) of the residential structures, ACMs are potentially present. LFI recommends performing an asbestos survey prior to demolishing the site structures.

12.0 CERTIFICATION OF ENVIRONMENTAL PROFESSIONAL

LFI has the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312. We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of this part.



Environmental Professional

August 13, 2020

Date

13.0 REFERENCES

Environmental Data Resources, Inc. *The EDR Radius Map Report Horseshoe Bend Project Area, Green County, KY. Inquiry Number: 5946033.2s.* January 24, 2020.

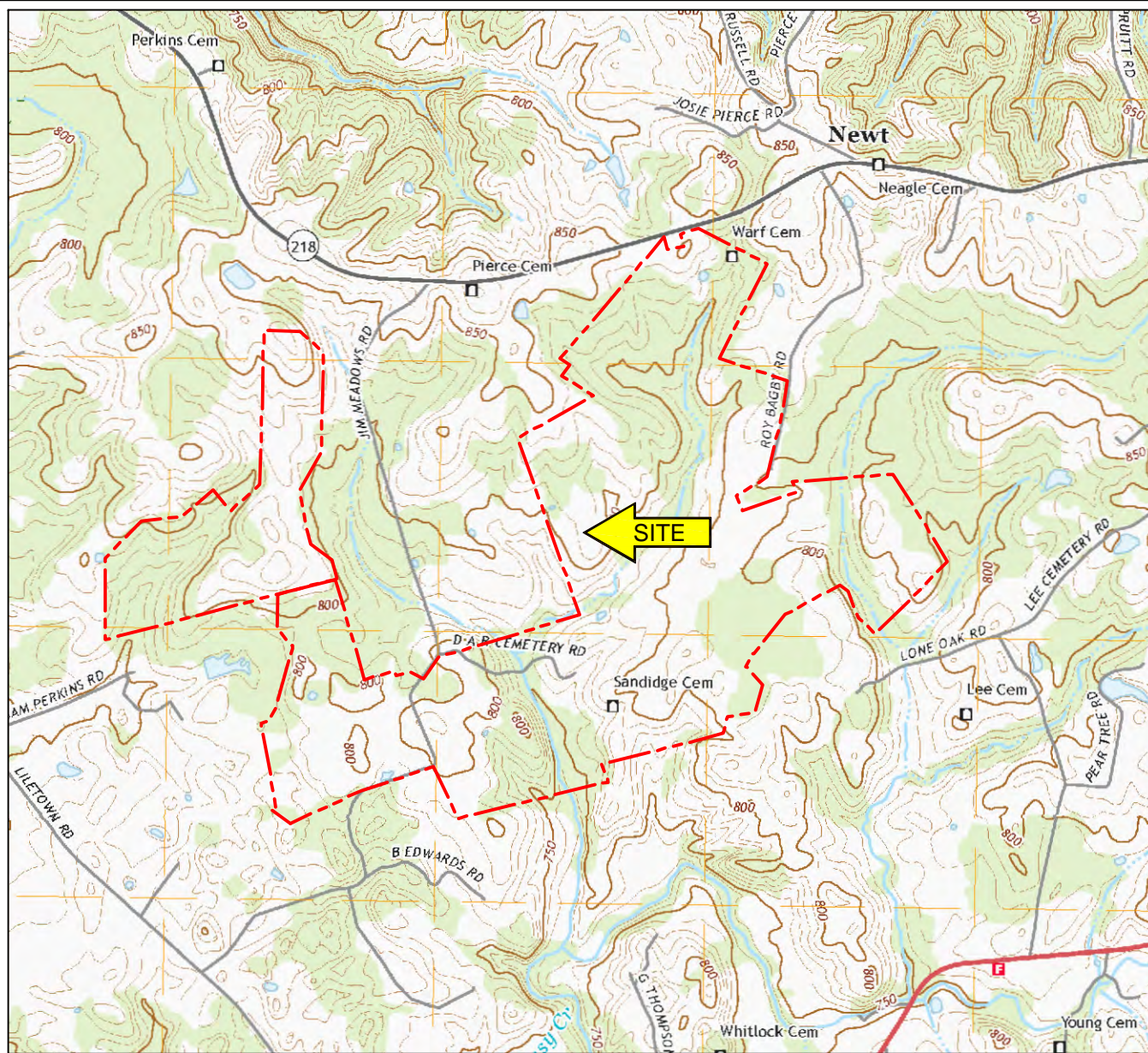
Environmental Data Resources, Inc. *EDR Historical Topographic Map Report Horseshoe Bend Project Area, Green County, KY. Inquiry Number: 5946033.4.* January 24, 2020.

Environmental Data Resources, Inc. *EDR Aerial Photo Decade Package Horseshoe Bend Project Area, Green County, KY. Inquiry Number: 5946033.9.* January 28, 2020.

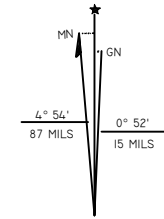
Environmental Data Resources, Inc. *Certified Sanborn Map Report Horseshoe Bend Project Area, Green County, KY. Inquiry Number: 5946033.3.* January 24, 2020.

Environmental Data Resources, Inc. *EDR City Directory Image Report Horseshoe Bend Project Area, Green County, KY. Inquiry Number: 5946033.5.* January 28, 2020.

Figures

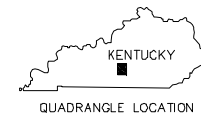


LEGEND

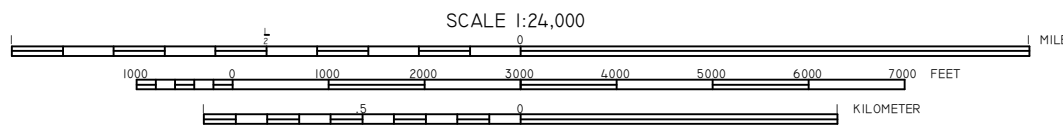


UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

EXIE, KY.
2019
 7.5 MINUTE SERIES
 (TOPOGRAPHIC)



SITE LOCATION MAP	SCALE: 1:24,000	FIGURE 1
	DATE: 08/13/20	
HORSESHOE BEND GREEN COUNTY, KENTUCKY	PROJ#: 018-20	
	DRAWN BY: MKA	
	CHECKED BY:	



CONTOUR INTERVAL 10 FEET
 SUPPLEMENTARY CONTOUR INTERVAL 5 FEET
 NATIONAL GEODETIC VERTICAL DATUM OF 1929



Linebach Funkhouser, Inc.
 ENVIRONMENTAL COMPLIANCE & CONSULTING

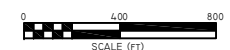


LEGEND



--- PROPERTY BOUNDARY

② PHOTO LOCATIONS



SOURCE: Google Earth, Imagery Date: June 7, 2018.

AERIAL PHOTOGRAPH SHOWING SITE AND VICINITY	SCALE: 1"=800'	FIGURE 2
	DATE: 08/13/20	
PROJ#: 018-20		
DRAWN BY: MKA		
HORSESHOE BEND GREEN COUNTY, KENTUCKY	CHECKED BY:	

Appendix A
Site Photographs



Photographic Record

Client: Copperhead Environmental

Site Name: Horseshoe Bend Solar Energy Project

Project Number: 018-20

Site Location: Green County, Kentucky

Photo Number:

1

Photographer:

Kevin Alexander

Date:

March 6, 2020

Direction:

South

Comments:

View of the western portion of the site.



Photo Number:

2

Photographer:

Kevin Alexander

Date:

March 6, 2020

Direction:

Interior

Comments:

View of the barn structure of Jim Meadows Road.





Photographic Record

Client: Copperhead Environmental

Site Name: Horseshoe Bend Solar Energy Project

Project Number: 018-20

Site Location: Green County, Kentucky

Photo Number:

3

Photographer:

Kevin Alexander

Date:

March 6, 2020

Direction:

East

Comments:

View of the barn structure of Jim Meadows Road.



Photo Number:

4

Photographer:

Kevin Alexander

Date:

March 6, 2020

Direction:

East

Comments:

View of DAR Cemetery Road.





Photographic Record

Client: Copperhead Environmental

Site Name: Horseshoe Bend Solar Energy Project

Project Number: 018-20

Site Location: Green County, Kentucky

Photo Number:

5

Photographer:

Kevin Alexander

Date:

March 6, 2020

Direction:

North

Comments:

View of structures off of DAR Cemetery Road.



Photo Number:

6

Photographer:

Kevin Alexander

Date:

March 6, 2020

Direction:

North

Comments:

View of structures off of DAR Cemetery Road.





Photographic Record

Client: Copperhead Environmental

Site Name: Horseshoe Bend Solar Energy Project

Project Number: 018-20

Site Location: Green County, Kentucky

Photo Number:

7

Photographer:

Kevin Alexander

Date:

March 6, 2020

Direction:

Southeast

Comments:

View of the barn structure near the northeast portion of the site.



Photo Number:

8

Photographer:

Kevin Alexander

Date:

March 6, 2020

Direction:

South

Comments:

Containers near the barn structure near the northeast portion of the site.





Photographic Record

Client: Copperhead Environmental
Project Number: 018-20

Site Name: Horseshoe Bend Solar Energy Project
Site Location: Green County, Kentucky

Photo Number:
9

Photographer:
Kevin Alexander

Date:
March 6, 2020

Direction:
North

Comments:
Empty buckets near the barn structure near the northeast portion of the site.



Photo Number:
10

Photographer:
Kevin Alexander

Date:
March 6, 2020

Direction:
North

Comments:
View near the barn structure near the northeast portion of the site.





Linebach Funkhouser, Inc.
environmental compliance & consulting

Photographic Record

Client: Copperhead Environmental

Site Name: Horseshoe Bend Solar Energy Project

Project Number: 018-20

Site Location: Green County, Kentucky

Photo Number:

11

Photographer:

Kevin Alexander

Date:

March 6, 2020

Direction:

East

Comments:

View of the adjoining chicken house operation property to the east.



Photo Number:

12

Photographer:

Kevin Alexander

Date:

March 6, 2020

Direction:

Southwest

Comments:

View of utility corridor through the northeast portion of the site.





Photographic Record

Client: Copperhead Environmental

Site Name: Horseshoe Bend Solar Energy Project

Project Number: 018-20

Site Location: Green County, Kentucky

Photo Number:

13

Photographer:

Kevin Alexander

Date:

March 6, 2020

Direction:

Southwest

Comments:

View of the central portion of the site.



Photo Number:

14

Photographer:

Kevin Alexander

Date:

March 6, 2020

Direction:

Southeast

Comments:

View of dumping near the trailer structure located on the southeast portion of the site.





Photographic Record

Client: Copperhead Environmental

Site Name: Horseshoe Bend Solar Energy Project

Project Number: 018-20

Site Location: Green County, Kentucky

Photo Number:

15

Photographer:

Kevin Alexander

Date:

March 6, 2020

Direction:

South

Comments:

View of the water well located on the southeast portion of the site.



Photo Number:

16

Photographer:

Kevin Alexander

Date:

March 6, 2020

Direction:

North

Comments:

View of the southeast portion of the site.



Appendix B

Historical Research Documentation

Horseshoe Bend Property
Green County
Greensburg, KY 42743

Inquiry Number: 5946033.4
January 24, 2020

EDR Historical Topo Map Report

with QuadMatch™



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

01/24/20

Site Name:

Horseshoe Bend Property
Green County
Greensburg, KY 42743
EDR Inquiry # 5946033.4

Client Name:

Linebach Funkhouser Inc.
114 Fairfax Ave
Louisville, KY 40207
Contact: Jayson Carey



EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Linebach Funkhouser Inc. were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDR's Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:**Coordinates:**

P.O.#	NA	Latitude:	37.1611 37° 9' 40" North
Project:	018-20A	Longitude:	-85.5756 -85° 34' 32" West
		UTM Zone:	Zone 16 North
		UTM X Meters:	626473.18
		UTM Y Meters:	4113693.71
		Elevation:	753.06' above sea level

Maps Provided:

2013
1987
1961
1953

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2013 Source Sheets



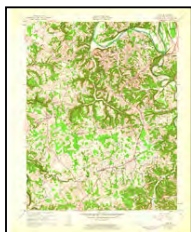
Exie
2013
7.5-minute, 24000

1987 Source Sheets



Exie
1987
7.5-minute, 24000
Aerial Photo Revised 1984

1961 Source Sheets

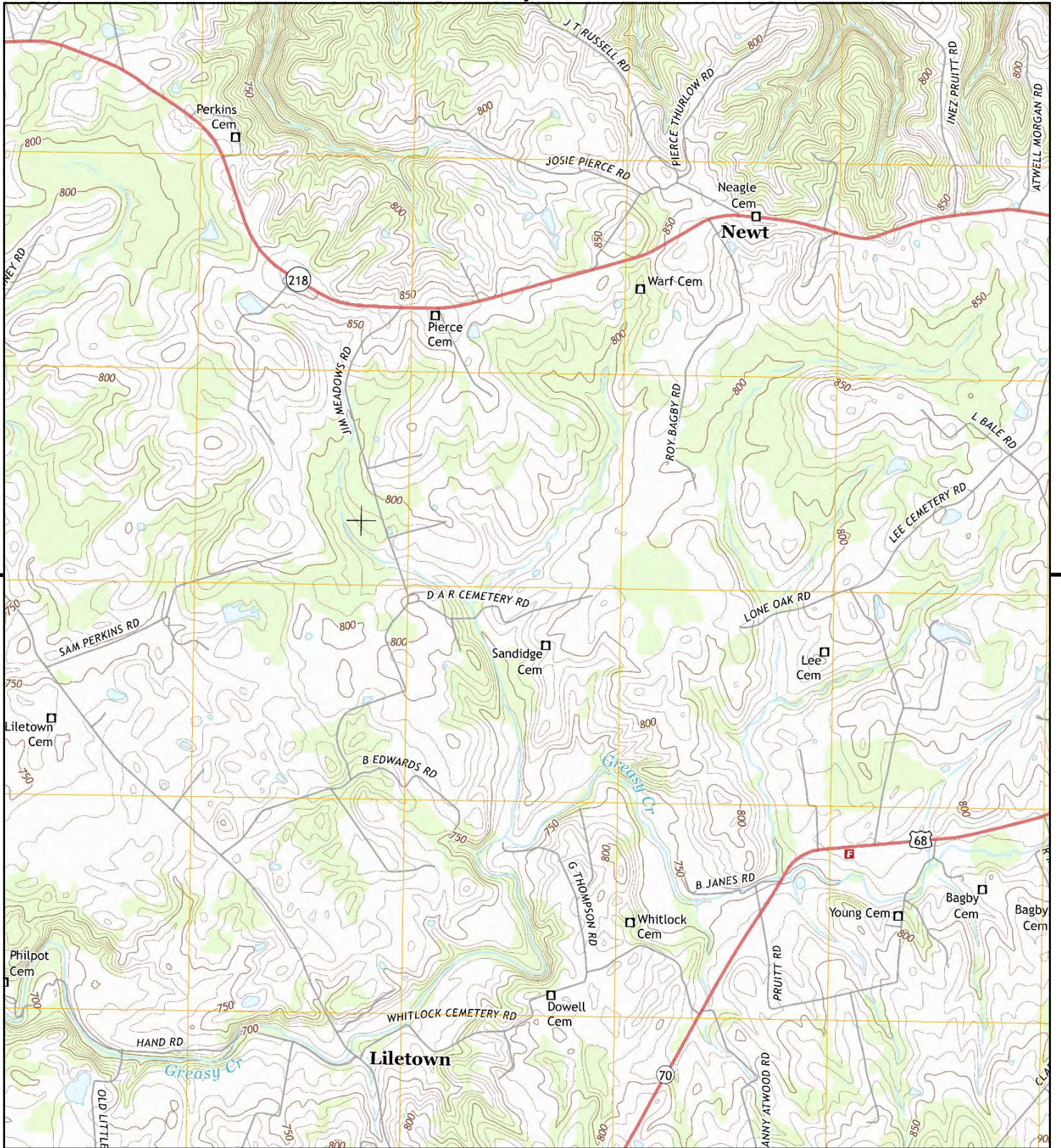


Exie
1961
7.5-minute, 24000
Aerial Photo Revised 1951

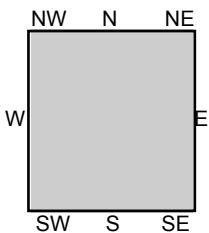
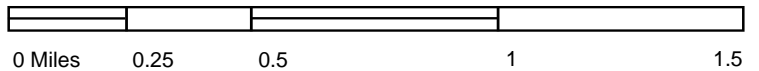
1953 Source Sheets



Exie
1953
7.5-minute, 24000
Aerial Photo Revised 1951



This report includes information from the following map sheet(s).



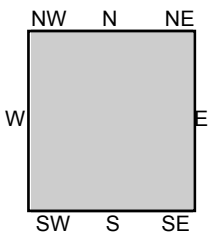
TP, Exie, 2013, 7.5-minute

SITE NAME: Horseshoe Bend Property
ADDRESS: Green County
 Greensburg, KY 42743
CLIENT: Linebach Funkhouser Inc.





This report includes information from the following map sheet(s).



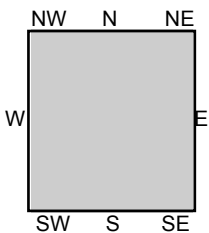
TP, Exie, 1987, 7.5-minute

SITE NAME: Horseshoe Bend Property
ADDRESS: Green County
 Greensburg, KY 42743
CLIENT: Linebach Funkhouser Inc.





This report includes information from the following map sheet(s).



TP, Exie, 1961, 7.5-minute

SITE NAME: Horseshoe Bend Property
ADDRESS: Green County
 Greensburg, KY 42743
CLIENT: Linebach Funkhouser Inc.





This report includes information from the following map sheet(s).



TP, Exie, 1953, 7.5-minute

SITE NAME: Horseshoe Bend Property
ADDRESS: Green County
 Greensburg, KY 42743
CLIENT: Linebach Funkhouser Inc.





Horseshoe Bend Property

Green County

Greensburg, KY 42743

Inquiry Number: 5946033.8

January 28, 2020

The EDR Aerial Photo Decade Package



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Date EDR Searched Historical Sources:

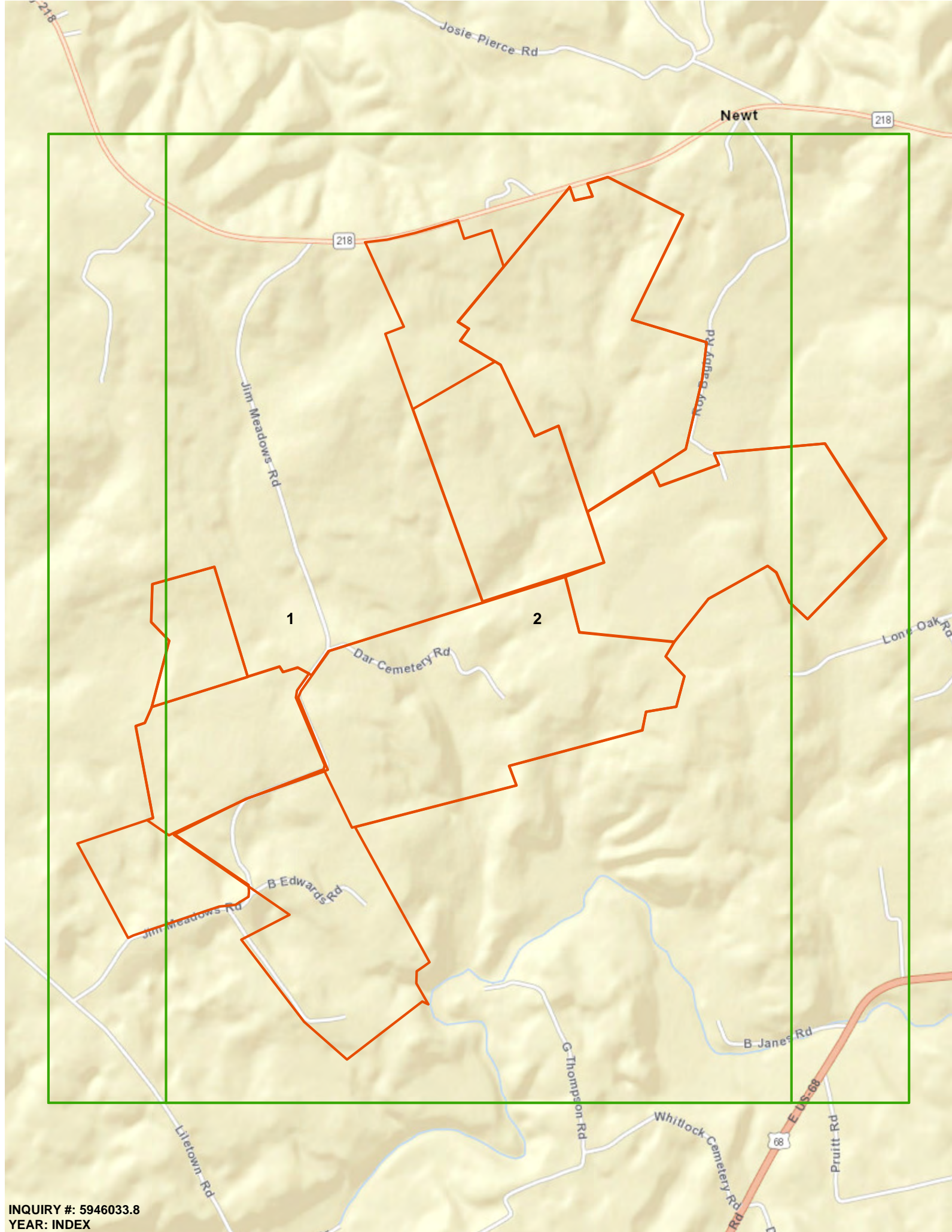
Aerial Photography January 28, 2020

Target Property:

Green County

Greensburg, KY 42473

<u><i>Year</i></u>	<u><i>Scale</i></u>	<u><i>Details</i></u>	<u><i>Source</i></u>
1951	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1951	USGS
1960	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1960	USGS
1973	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1973	USGS
1983	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1983	USDA
1993	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1993	USGS
1998	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1998	DOQQ_USGS
2008	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2008	NAIP_USGS
2012	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2012	NAIP_USGS
2016	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2016	NAIP_USGS



INQUIRY #: 5946033.8
YEAR: INDEX



INQUIRY #: 5946033.8
YEAR: 1951
SCALE: 1"=1000'



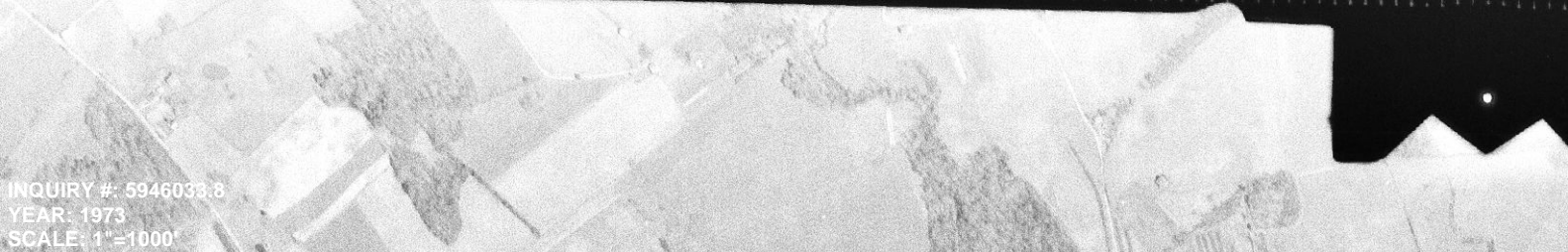
INQUIRY #: 5946033.8
YEAR: 1951
SCALE: 1"=1000'



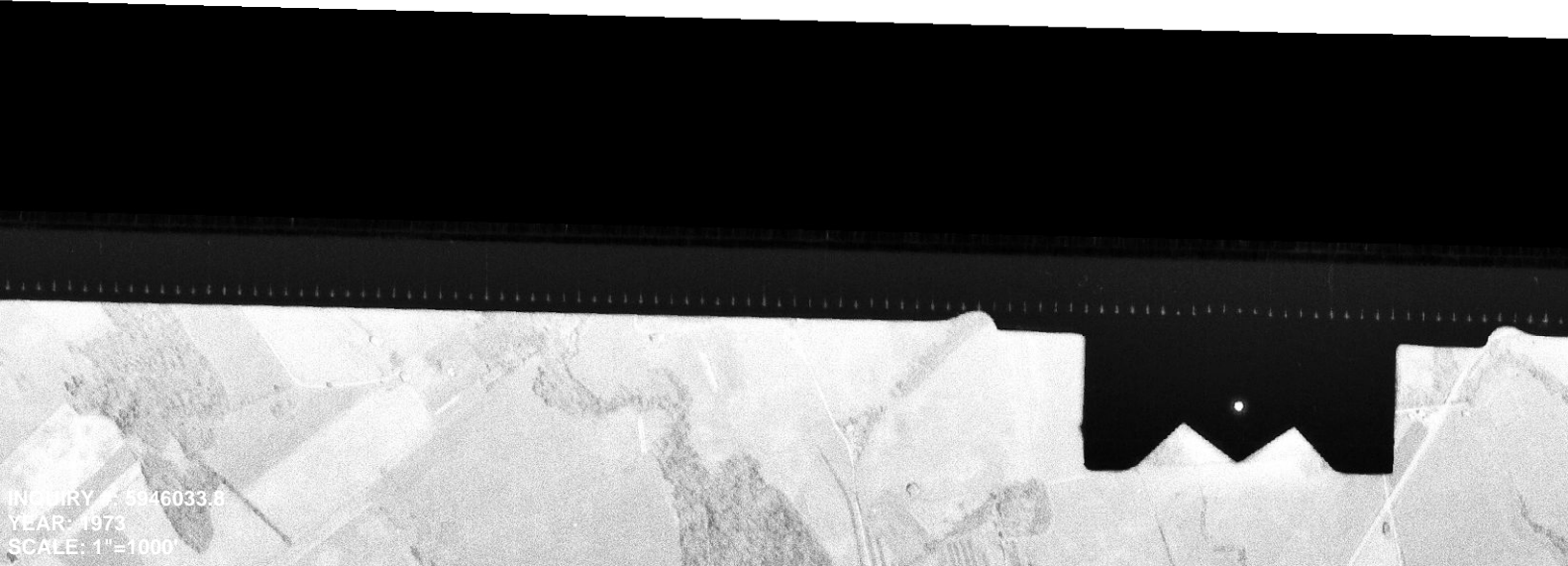
INQUIRY #: 5946033.8
YEAR: 1960
SCALE: 1"=1000'



INQUIRY #: 5946033.8
YEAR: 1960
SCALE: 1"=1000'



INQUIRY #: 5946038-8
YEAR: 1973
SCALE: 1"=1000'



INQUIRY # 5946033.8
YEAR: 1973
SCALE: 1"=1000'



INQUIRY #: 5946033.8
YEAR: 1983
SCALE: 1"=1000'



INQUIRY #: 5946033.8
YEAR: 1983
SCALE: 1" = 1000'



INQUIRY #: 5946033.8
YEAR: 1993
SCALE: 1"=1000'



INQUIRY #: 5946033.8
YEAR: 1993
SCALE: 1"=1000'



INQUIRY #: 5946033.8
YEAR: 1998
SCALE: 1"=1000'



INQUIRY #: 5946033.8
YEAR: 1998
SCALE: 1"=1000'



INQUIRY #: 5946033.8
YEAR: 2008
SCALE: 1"=1000'



INQUIRY #: 5946033.8
YEAR: 2008
SCALE: 1"=1000'



INQUIRY #: 5946033.8
YEAR: 2012
SCALE: 1"=1000'



INQUIRY #: 5946033.8
YEAR: 2012
SCALE: 1"=1000'



INQUIRY #: 5946033.8
YEAR: 2016
SCALE: 1"=1000'



INQUIRY #: 5946033.8
YEAR: 2016
SCALE: 1"=1000'

Horseshoe Bend Property

Green County

Greensburg, KY 42743

Inquiry Number: 5946033.3

January 24, 2020

Certified Sanborn® Map Report



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

01/24/20

Site Name:

Horseshoe Bend Property
Green County
Greensburg, KY 42743
EDR Inquiry # 5946033.3

Client Name:

Linebach Funkhouser Inc.
114 Fairfax Ave
Louisville, KY 40207
Contact: Jayson Carey



The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Linebach Funkhouser Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 8771-4D92-A0CB

PO # NA

Project 018-20A

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.



Sanborn® Library search results

Certification #: 8771-4D92-A0CB

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- Library of Congress
- University Publications of America
- EDR Private Collection

The Sanborn Library LLC Since 1866™

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Horseshoe Bend Property

Green County
Greensburg, KY 42743

Inquiry Number: 5946033.5
January 28, 2020

The EDR-City Directory Image Report

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SECTION

Executive Summary

Findings

City Directory Images

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

<u>Year</u>	<u>Target Street</u>	<u>Cross Street</u>	<u>Source</u>
2014	<input type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
2010	<input type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
2005	<input type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
2000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
1995	<input type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
1992	<input type="checkbox"/>	<input type="checkbox"/>	EDR Digital Archive

FINDINGS

TARGET PROPERTY STREET

Green County
Greensburg, KY 42743

No Addresses Found

FINDINGS

CROSS STREETS

<u>Year</u>	<u>CD Image</u>	<u>Source</u>
-------------	-----------------	---------------

JIM mEADOWS RD

2014	pg. A1	EDR Digital Archive	
2010	pg. A2	EDR Digital Archive	
2005	pg. A3	EDR Digital Archive	
2000	pg. A4	EDR Digital Archive	
1995	pg. A5	EDR Digital Archive	
1992	-	EDR Digital Archive	Target and Adjoining not listed in Source

City Directory Images

JIM mEADOWS RD 2014

67	COOMER DONNIE COOMER, DONNIE E
187	JUDD, CHARLES V
221	JUDD, VALLE M
521	LOWE, BRANDON D
529	MCKINNEY, BILL E
615	WRIGHT, MARCUS W
735	RAMSEY, GERALDINE Y
798	BISHOP, HERMAN D
917	MEADOWS, ANTHONY R

JIM mEADOWS RD 2010

67	COOMER DONNIE COOMER, DONNIE E
187	JUDD, CHARLES V
221	JUDD, MADEAN
529	MCKINNEY, BILL E
615	WRIGHT, MARCUS W
735	RAMSEY, GERALDINE Y
917	MEADOWS, ANTHONY R

JIM mEADOWS RD 2005

67	COOMER DONNIE COOMER, DONNIE E
187	JUDD, CHARLES V
221	JUDD, NADINE
521	MCKINNEY, OGDEN H
529	MCKINNEY, BILL E
615	WRIGHT, MARCUS W
735	RAMSEY, GERALDINE Y
850	MEADOWS ANTHONY R
917	MEADOWS, ANTHONY R

JIM mEADOWS RD 2000

735 RAMSEY, ROBERT V

JIM mEADOWS RD 1995

674 POWELL, ERICA

Appendix C

Regulatory Database Documentation

Horseshoe Bend Property

Green County

Greensburg, KY 42743

Inquiry Number: 5946033.10s

January 27, 2020

EDR Area / Corridor Report



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Map Findings	25
Orphan Summary	OR-1
Government Records Searched/Data Currency Tracking	GR-1

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

SUBJECT PROPERTY INFORMATION

ADDRESS

GREEN COUNTY
GREENSBURG, KY 42743

TARGET PROPERTY SEARCH RESULTS

The Target Property was identified in the following databases.

Page Numbers and Map Identifications refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

Unmappable (orphan) sites are not considered in the foregoing analysis.

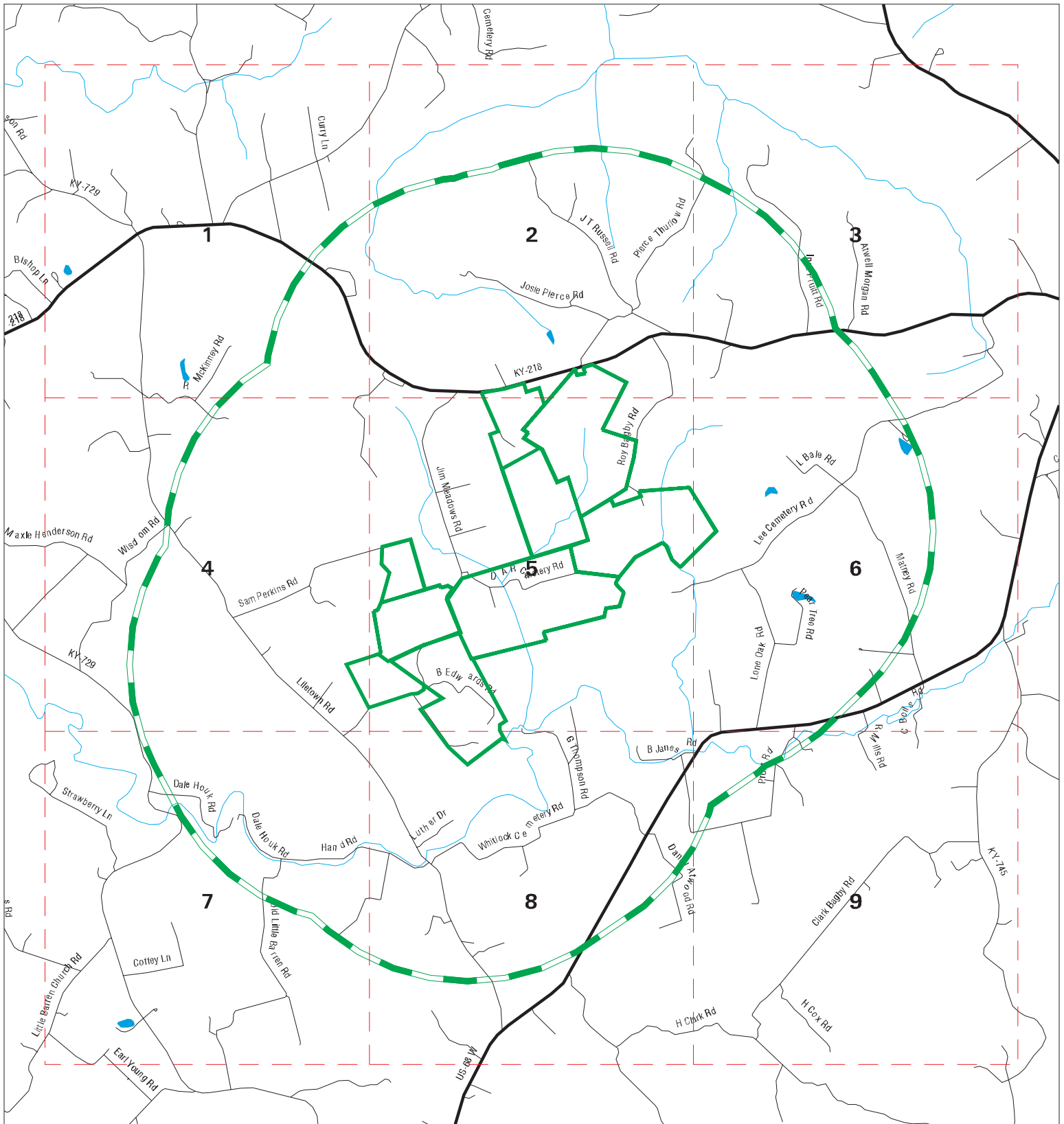
MAPPED SITES SUMMARY

Target Property:
GREEN COUNTY
GREENSBURG, KY 42743

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
-----------------------	-----------	---------	-------------------	-------------------------------

NO MAPPED SITES FOUND

Key Map - 5946033.10s



- ▲ Sites
- ▬ Target Property
- - - Search Buffer
- - - Focus Map - No Sites
- ▨ Focus Map - Sites
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA



<p>SITE NAME: Horseshoe Bend Property ADDRESS: Green County CITY/STATE: Greensburg KY ZIP: 42743</p>	<p>CLIENT: Linebach Funkhouser Inc. CONTACT: Jayson Carey INQUIRY #: 5946033.10s DATE: 01/27/20 2:17 PM</p>
---	--

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
<u>STANDARD ENVIRONMENTAL RECORDS</u>								
<i>Federal NPL site list</i>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<i>Federal CERCLIS NFRAP site list</i>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
<i>Federal institutional controls / engineering controls registries</i>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	TP		NR	NR	NR	NR	NR	0
<i>State- and tribal - equivalent CERCLIS</i>								
SHWS	1.000		0	0	0	0	NR	0
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
SWF/LF	0.500		0	0	0	NR	NR	0
<i>State and tribal leaking storage tank lists</i>								
PSTEAF	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
SB193	0.500		0	0	0	NR	NR	0
<i>State and tribal registered storage tank lists</i>								
FEMA UST	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
ENG CONTROLS	0.500		0	0	0	NR	NR	0
INST CONTROL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
<u>ADDITIONAL ENVIRONMENTAL RECORDS</u>								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
SWRCY	0.500		0	0	0	NR	NR	0
HIST LF	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
SPILLS	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0
ASBESTOS	TP		NR	NR	NR	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
LEAD	TP		NR	NR	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
MINES MRDS	TP		NR	NR	NR	NR	NR	0

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS	TP		NR	NR	NR	NR	NR	0
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MAP FINDINGS SUMMARY

<u>Database</u>	<u>Search Distance (Miles)</u>	<u>Target Property</u>	<u>< 1/8</u>	<u>1/8 - 1/4</u>	<u>1/4 - 1/2</u>	<u>1/2 - 1</u>	<u>> 1</u>	<u>Total Plotted</u>
RGA LF	TP		NR	NR	NR	NR	NR	0
- Totals --		0	0	0	0	0	0	0

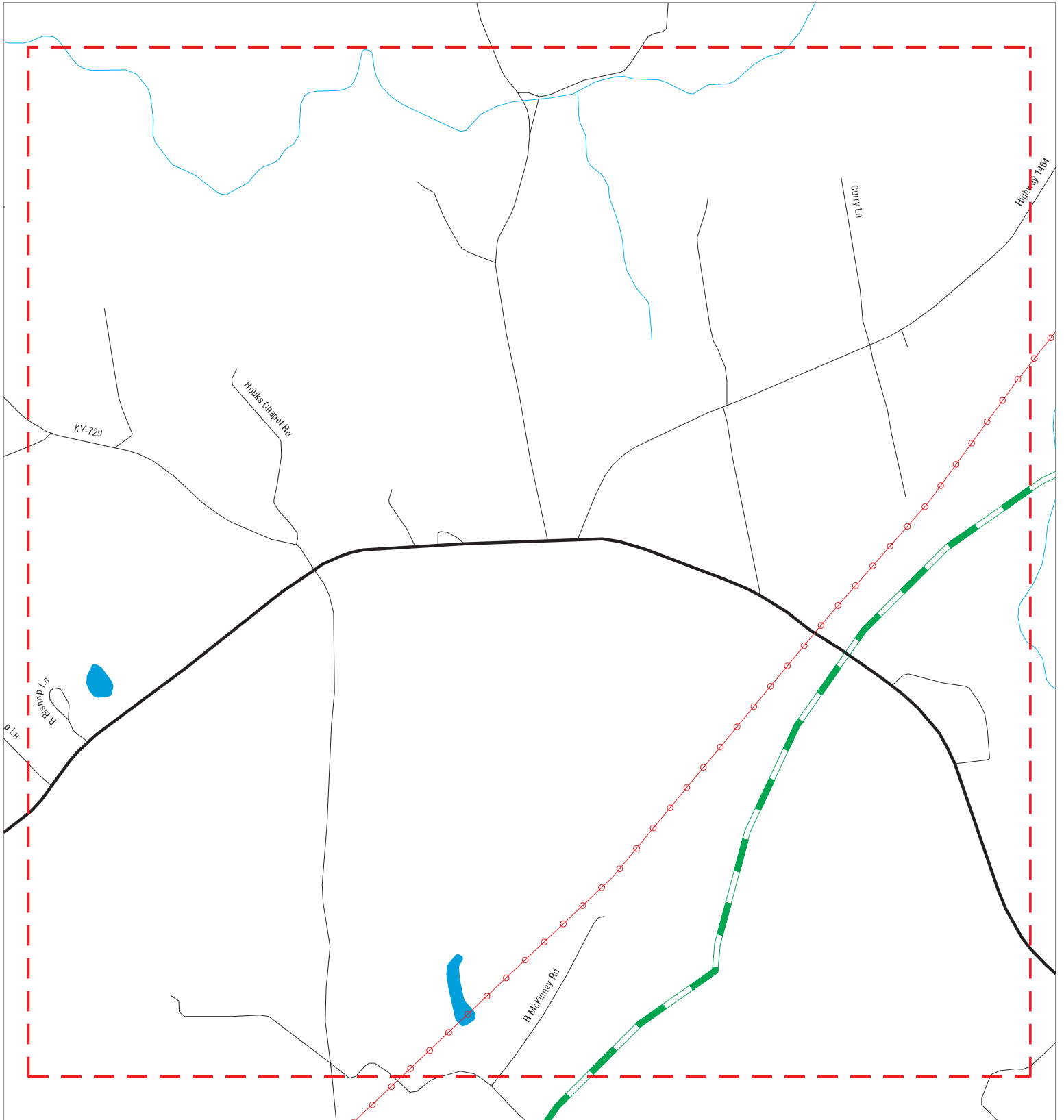
NOTES:

TP = Target Property

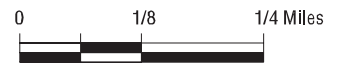
NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Focus Map - 1 - 5946033.10s



- ▲ Sites
- █ Target Property
- █ Search Buffer
- ▬▬ Focus Map - No Sites
- ▬▬ Focus Map - Sites
- ▬▬ Power Line
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA



SITE NAME: Horseshoe Bend Property
ADDRESS: Green County
CITY/STATE: Greensburg KY
ZIP: 42743

CLIENT: Linebach Funkhouser Inc.
CONTACT: Jayson Carey
INQUIRY #: 5946033.10s
DATE: 01/27/20

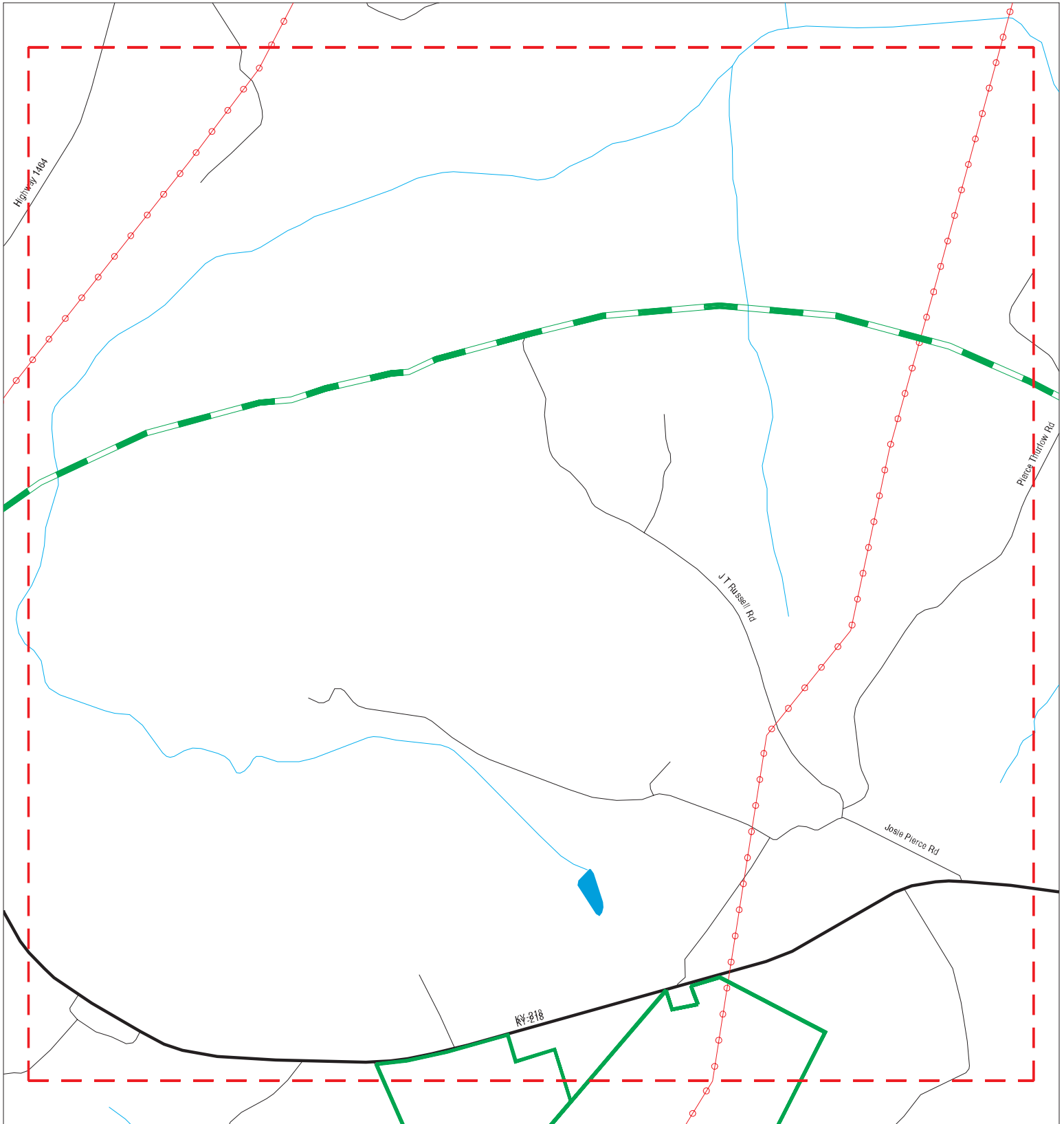
MAPPED SITES SUMMARY - FOCUS MAP 1

Target Property:
GREEN COUNTY
GREENSBURG, KY 42743

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
-----------------------	-----------	---------	-------------------	-------------------------------

NO MAPPED SITES FOUND

Focus Map - 2 - 5946033.10s



- | | | | |
|----------------------|---------------------|------------------------------|--|
| Sites | Focus Map - Sites | Indian Reservations BIA | |
| Target Property | Power Line | National Priority List Sites | |
| Search Buffer | Dept. Defense Sites | | |
| Focus Map - No Sites | | | |

SITE NAME: Horseshoe Bend Property
ADDRESS: Green County
CITY/STATE: Greensburg KY
ZIP: 42743

CLIENT: Linebach Funkhouser Inc.
CONTACT: Jayson Carey
INQUIRY #: 5946033.10s
DATE: 01/27/20

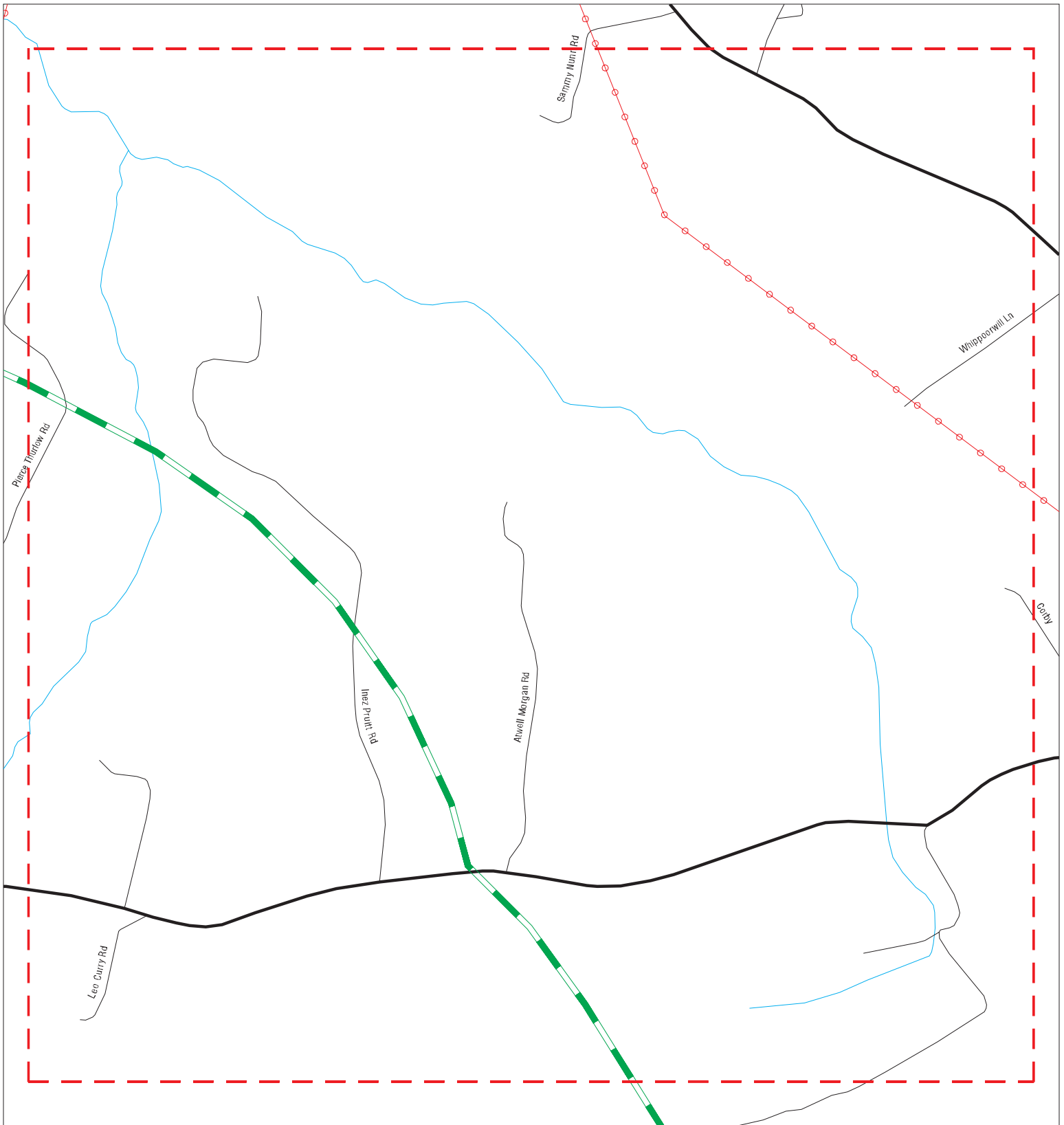
MAPPED SITES SUMMARY - FOCUS MAP 2

Target Property:
GREEN COUNTY
GREENSBURG, KY 42743

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
-----------------------	-----------	---------	-------------------	-------------------------------

NO MAPPED SITES FOUND

Focus Map - 3 - 5946033.10s



- ▲ Sites
- ▬ Focus Map - Sites
- ▨ Indian Reservations BIA
- ▬ Target Property
- ⚡ Power Line
- ▬ Search Buffer
- ▨ National Priority List Sites
- ▬ Focus Map - No Sites
- ▨ Dept. Defense Sites



SITE NAME: Horseshoe Bend Property
ADDRESS: Green County
CITY/STATE: Greensburg KY
ZIP: 42743

CLIENT: Linebach Funkhouser Inc.
CONTACT: Jayson Carey
INQUIRY #: 5946033.10s
DATE: 01/27/20

MAPPED SITES SUMMARY - FOCUS MAP 3










Target Property:
GREEN COUNTY
GREENSBURG, KY 42743

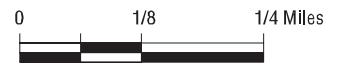
MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
-----------------------	-----------	---------	-------------------	-------------------------------

NO MAPPED SITES FOUND

Focus Map - 4 - 5946033.10s



- | | | |
|---|--|---|
|  Sites |  Focus Map - Sites |  Indian Reservations BIA |
|  Target Property |  Power Line | |
|  Search Buffer |  National Priority List Sites | |
|  Focus Map - No Sites |  Dept. Defense Sites | |



SITE NAME: Horseshoe Bend Property
ADDRESS: Green County
CITY/STATE: Greensburg KY
ZIP: 42743

CLIENT: Linebach Funkhouser Inc.
CONTACT: Jayson Carey
INQUIRY #: 5946033.10s
DATE: 01/27/20

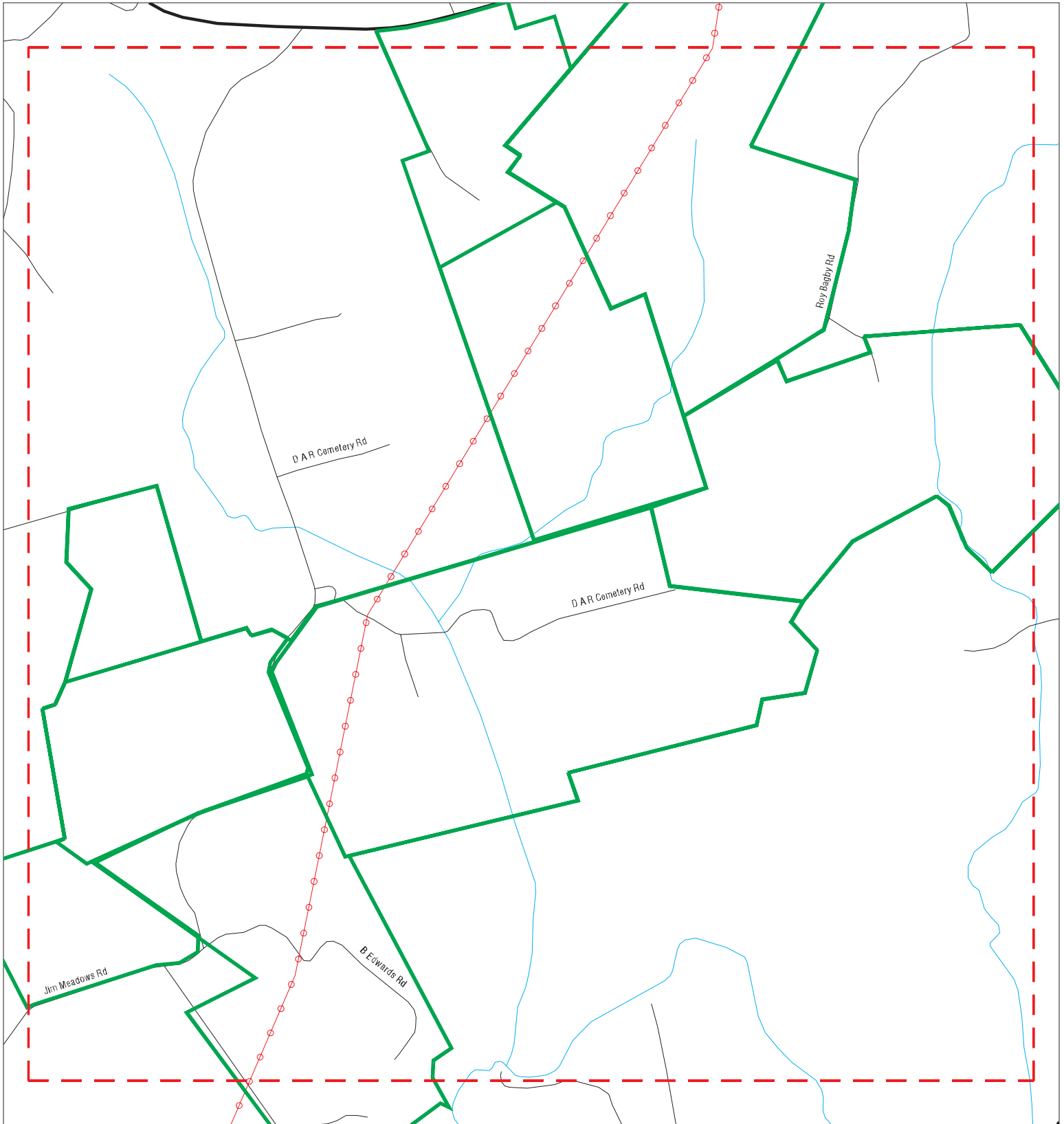
MAPPED SITES SUMMARY - FOCUS MAP 4

Target Property:
GREEN COUNTY
GREENSBURG, KY 42743

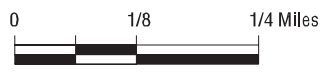
MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
-----------------------	-----------	---------	-------------------	-------------------------------

NO MAPPED SITES FOUND

Focus Map - 5 - 5946033.10s



- ▲ Sites
- ▬ Target Property
- ▬ Search Buffer
- ▬ Focus Map - No Sites
- ▬ Focus Map - Sites
- ⚡ Power Line
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA



<p>SITE NAME: Horseshoe Bend Property ADDRESS: Green County CITY/STATE: Greensburg KY ZIP: 42743</p>	<p>CLIENT: Linebach Funkhouser Inc. CONTACT: Jayson Carey INQUIRY #: 5946033.10s DATE: 01/27/20</p>
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MAPPED SITES SUMMARY - FOCUS MAP 5

Target Property:
GREEN COUNTY
GREENSBURG, KY 42743

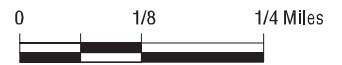
MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
-----------------------	-----------	---------	-------------------	-------------------------------

NO MAPPED SITES FOUND

Focus Map - 6 - 5946033.10s



- ▲ Sites
- / / Focus Map - Sites
- Indian Reservations BIA
- / / Target Property
- / / Power Line
- / / National Priority List Sites
- / / Search Buffer
- / / Dept. Defense Sites
- / / Focus Map - No Sites



SITE NAME: Horseshoe Bend Property
 ADDRESS: Green County
 CITY/STATE: Greensburg KY
 ZIP: 42743

CLIENT: Linebach Funkhouser Inc.
 CONTACT: Jayson Carey
 INQUIRY #: 5946033.10s
 DATE: 01/27/20

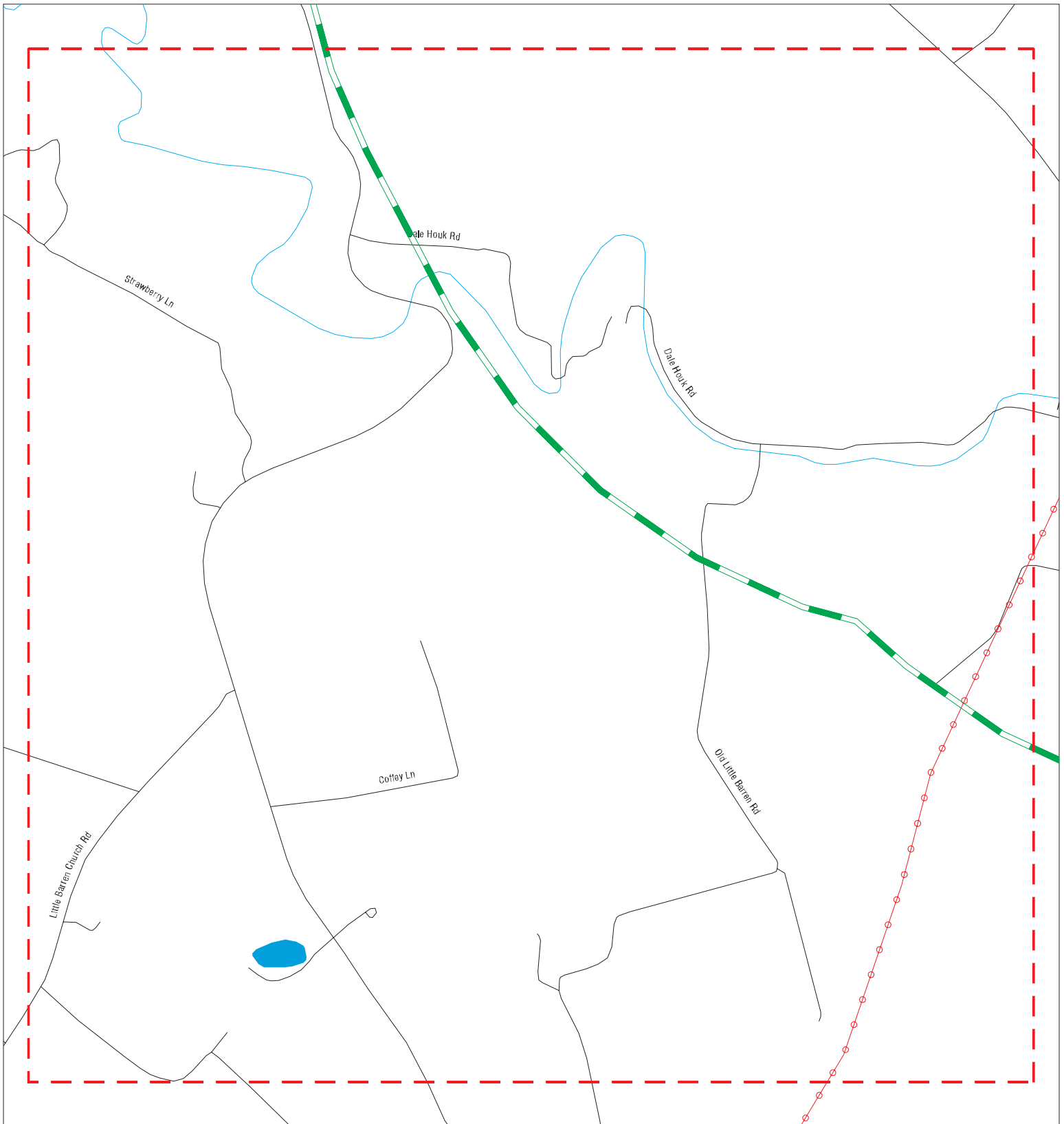
MAPPED SITES SUMMARY - FOCUS MAP 6

Target Property:
GREEN COUNTY
GREENSBURG, KY 42743

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
-----------------------	-----------	---------	-------------------	-------------------------------

NO MAPPED SITES FOUND

Focus Map - 7 - 5946033.10s



- ▲ Sites
- ▬ Focus Map - Sites
- ▨ Indian Reservations BIA
- ▬ Target Property
- ▬ Power Line
- ▬ Search Buffer
- ▨ National Priority List Sites
- ▬ Focus Map - No Sites
- ▨ Dept. Defense Sites



SITE NAME: Horseshoe Bend Property
ADDRESS: Green County
CITY/STATE: Greensburg KY
ZIP: 42743

CLIENT: Linebach Funkhouser Inc.
CONTACT: Jayson Carey
INQUIRY #: 5946033.10s
DATE: 01/27/20

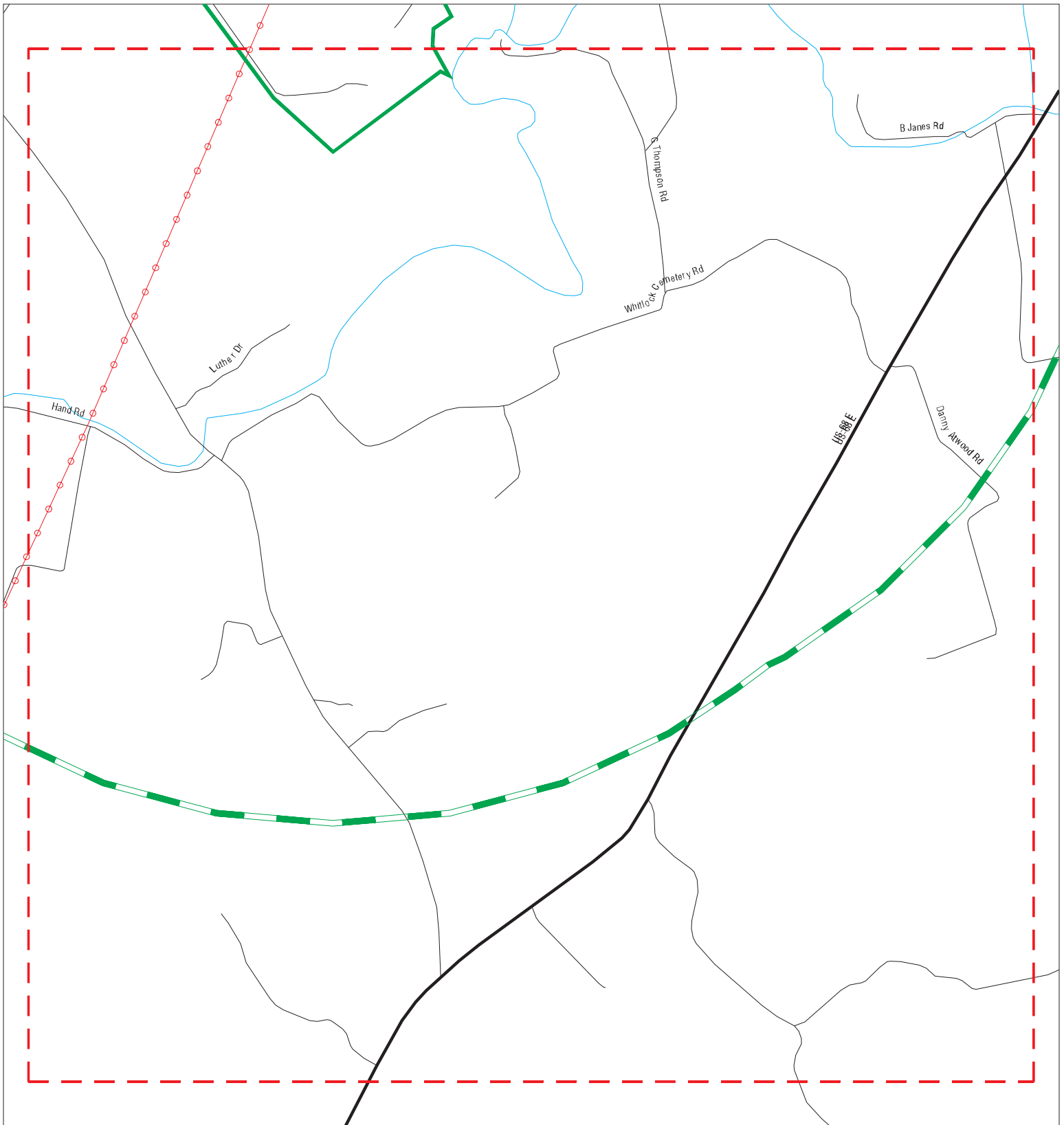
MAPPED SITES SUMMARY - FOCUS MAP 7

Target Property:
GREEN COUNTY
GREENSBURG, KY 42743

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
-----------------------	-----------	---------	-------------------	-------------------------------

NO MAPPED SITES FOUND

Focus Map - 8 - 5946033.10s



- ▲ Sites
- █ Target Property
- █ Search Buffer
- - - Focus Map - No Sites
- - - Focus Map - Sites
- Power Line
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA



SITE NAME: Horseshoe Bend Property
ADDRESS: Green County
CITY/STATE: Greensburg KY
ZIP: 42743

CLIENT: Linebach Funkhouser Inc.
CONTACT: Jayson Carey
INQUIRY #: 5946033.10s
DATE: 01/27/20

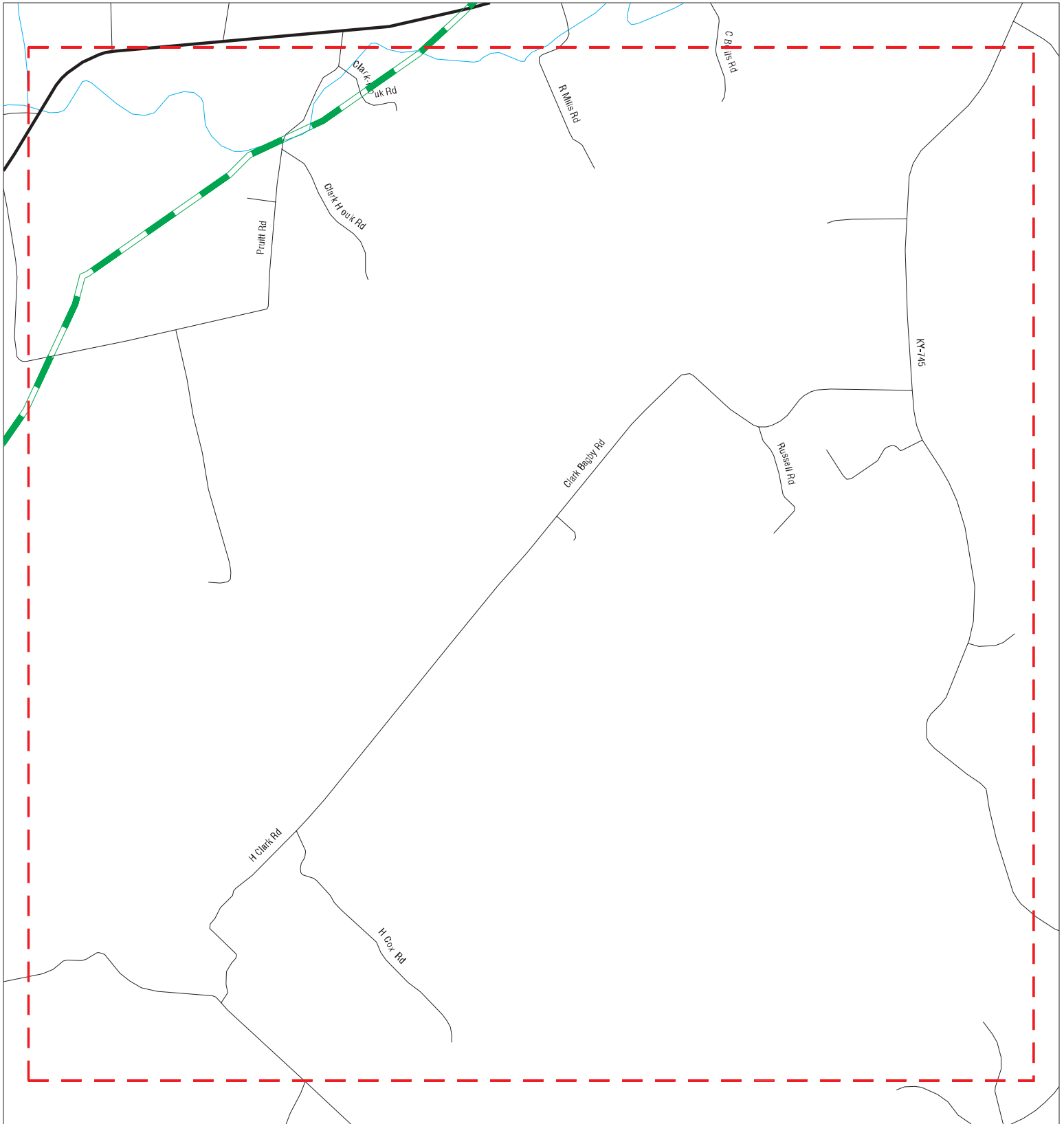
MAPPED SITES SUMMARY - FOCUS MAP 8

Target Property:
GREEN COUNTY
GREENSBURG, KY 42743

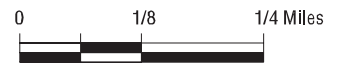
MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
-----------------------	-----------	---------	-------------------	-------------------------------

NO MAPPED SITES FOUND

Focus Map - 9 - 5946033.10s



- ▲ Sites
- ↗ Focus Map - Sites
- ▨ Indian Reservations BIA
- ↗ Target Property
- ⚡ Power Line
- ↗ Search Buffer
- ▨ National Priority List Sites
- ↗ Focus Map - No Sites
- ▨ Dept. Defense Sites



SITE NAME: Horseshoe Bend Property
ADDRESS: Green County
CITY/STATE: Greensburg KY
ZIP: 42743

CLIENT: Linebach Funkhouser Inc.
CONTACT: Jayson Carey
INQUIRY #: 5946033.10s
DATE: 01/27/20

MAPPED SITES SUMMARY - FOCUS MAP 9

Target Property:
GREEN COUNTY
GREENSBURG, KY 42743

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
-----------------------	-----------	---------	-------------------	-------------------------------

NO MAPPED SITES FOUND

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NO SITES FOUND

Count: 1 records

ORPHAN SUMMARY

<u>City</u>	<u>EDR ID</u>	<u>Site Name</u>	<u>Site Address</u>	<u>Zip</u>	<u>Database(s)</u>
GREENSBURG	S123239729	NEWCOMB OIL COMPANY	219 SOUTH MAIN STREET - FORMER CAR WASH & BUILDING, 219 SOUTH MAIN STREET, (GREEN)	42743	ASBESTOS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/25/2019	Source: EPA
Date Data Arrived at EDR: 11/07/2019	Telephone: N/A
Date Made Active in Reports: 11/20/2019	Last EDR Contact: 01/03/2020
Number of Days to Update: 13	Next Scheduled EDR Contact: 04/13/2020
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 10/25/2019	Source: EPA
Date Data Arrived at EDR: 11/07/2019	Telephone: N/A
Date Made Active in Reports: 11/20/2019	Last EDR Contact: 01/03/2020
Number of Days to Update: 13	Next Scheduled EDR Contact: 04/13/2020
	Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 08/15/2011
Number of Days to Update: 56	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/25/2019	Source: EPA
Date Data Arrived at EDR: 11/07/2019	Telephone: N/A
Date Made Active in Reports: 11/20/2019	Last EDR Contact: 01/03/2020
Number of Days to Update: 13	Next Scheduled EDR Contact: 04/13/2020
	Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 04/03/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/05/2019	Telephone: 703-603-8704
Date Made Active in Reports: 05/14/2019	Last EDR Contact: 04/05/2019
Number of Days to Update: 39	Next Scheduled EDR Contact: 04/13/2020
	Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/25/2019	Source: EPA
Date Data Arrived at EDR: 11/07/2019	Telephone: 800-424-9346
Date Made Active in Reports: 11/21/2019	Last EDR Contact: 01/03/2020
Number of Days to Update: 14	Next Scheduled EDR Contact: 04/27/2020
	Data Release Frequency: Quarterly

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 10/25/2019	Source: EPA
Date Data Arrived at EDR: 11/07/2019	Telephone: 800-424-9346
Date Made Active in Reports: 11/21/2019	Last EDR Contact: 01/03/2020
Number of Days to Update: 14	Next Scheduled EDR Contact: 04/27/2020
	Data Release Frequency: Quarterly

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/16/2019	Source: EPA
Date Data Arrived at EDR: 12/16/2019	Telephone: 800-424-9346
Date Made Active in Reports: 12/20/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 4	Next Scheduled EDR Contact: 04/06/2020
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/16/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/16/2019	Telephone: (404) 562-8651
Date Made Active in Reports: 12/20/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 4	Next Scheduled EDR Contact: 04/06/2020
	Data Release Frequency: Quarterly

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/16/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/16/2019	Telephone: (404) 562-8651
Date Made Active in Reports: 12/20/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 4	Next Scheduled EDR Contact: 04/06/2020
	Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/16/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/16/2019	Telephone: (404) 562-8651
Date Made Active in Reports: 12/20/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 4	Next Scheduled EDR Contact: 04/06/2020
	Data Release Frequency: Quarterly

RCRA-VSQQ: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/16/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/16/2019	Telephone: (404) 562-8651
Date Made Active in Reports: 12/20/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 4	Next Scheduled EDR Contact: 04/06/2020
	Data Release Frequency: Quarterly

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 08/13/2019	Source: Department of the Navy
Date Data Arrived at EDR: 08/20/2019	Telephone: 843-820-7326
Date Made Active in Reports: 08/26/2019	Last EDR Contact: 11/07/2019
Number of Days to Update: 6	Next Scheduled EDR Contact: 02/24/2020
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 08/19/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/20/2019	Telephone: 703-603-0695
Date Made Active in Reports: 08/26/2019	Last EDR Contact: 11/22/2019
Number of Days to Update: 6	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 08/19/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/20/2019	Telephone: 703-603-0695
Date Made Active in Reports: 08/26/2019	Last EDR Contact: 11/22/2019
Number of Days to Update: 6	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: Varies

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/09/2019	Source: National Response Center, United States Coast Guard
Date Data Arrived at EDR: 09/09/2019	Telephone: 202-267-2180
Date Made Active in Reports: 09/23/2019	Last EDR Contact: 12/19/2019
Number of Days to Update: 14	Next Scheduled EDR Contact: 04/06/2020
	Data Release Frequency: Quarterly

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

KY SHWS: State Leads List

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 09/23/2019	Source: Department of Environmental Protection
Date Data Arrived at EDR: 09/24/2019	Telephone: 502-564-6716
Date Made Active in Reports: 10/22/2019	Last EDR Contact: 11/21/2019
Number of Days to Update: 28	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

KY SWF/LF: Solid Waste Facilities List

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 09/05/2019	Source: Department of Environmental Protection
Date Data Arrived at EDR: 09/06/2019	Telephone: 502-564-6716
Date Made Active in Reports: 11/08/2019	Last EDR Contact: 10/28/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 02/10/2020
	Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

State and tribal leaking storage tank lists

KY PSTEAF: Facility Ranking List

The Underground Storage Tank Branch (USTB) has ranked all PSTEAF reimbursable facilities requiring corrective action, in accordance with 401 KAR 42:290. Directive letters will be issued on the basis of facility ranking and available PSTEAF funding in sequential order as ranked. For example, Rank 2 facilities will be issued directives before Rank 3 facilities.

Date of Government Version: 10/01/2019	Source: Department of Environmental Protection
Date Data Arrived at EDR: 10/08/2019	Telephone: 502-564-5981
Date Made Active in Reports: 11/15/2019	Last EDR Contact: 01/08/2020
Number of Days to Update: 38	Next Scheduled EDR Contact: 04/20/2020
	Data Release Frequency: Quarterly

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/16/2019	Source: EPA Region 10
Date Data Arrived at EDR: 07/29/2019	Telephone: 206-553-2857
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 01/24/2020
Number of Days to Update: 80	Next Scheduled EDR Contact: 05/04/2020
	Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/16/2019	Source: EPA Region 10
Date Data Arrived at EDR: 07/29/2019	Telephone: 206-553-2857
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 01/24/2020
Number of Days to Update: 80	Next Scheduled EDR Contact: 05/04/2020
	Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/16/2019	Source: EPA Region 10
Date Data Arrived at EDR: 07/29/2019	Telephone: 206-553-2857
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 01/24/2020
Number of Days to Update: 80	Next Scheduled EDR Contact: 05/04/2020
	Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/16/2019	Source: EPA Region 10
Date Data Arrived at EDR: 07/29/2019	Telephone: 206-553-2857
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 01/24/2020
Number of Days to Update: 80	Next Scheduled EDR Contact: 05/04/2020
	Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/16/2019	Source: EPA Region 10
Date Data Arrived at EDR: 07/29/2019	Telephone: 206-553-2857
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 01/24/2020
Number of Days to Update: 80	Next Scheduled EDR Contact: 05/04/2020
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/16/2019	Source: EPA Region 10
Date Data Arrived at EDR: 07/29/2019	Telephone: 206-553-2857
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 01/24/2020
Number of Days to Update: 80	Next Scheduled EDR Contact: 05/04/2020
	Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/16/2019	Source: EPA Region 10
Date Data Arrived at EDR: 07/29/2019	Telephone: 206-553-2857
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 01/24/2020
Number of Days to Update: 80	Next Scheduled EDR Contact: 05/04/2020
	Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/16/2019	Source: EPA Region 10
Date Data Arrived at EDR: 07/29/2019	Telephone: 206-553-2857
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 01/24/2020
Number of Days to Update: 80	Next Scheduled EDR Contact: 05/04/2020
	Data Release Frequency: Varies

KY SB193: SB193 Branch Site Inventory List

The inventory indicates facilities that have performed permanent closure activities at a regulated underground storage tank facility and have known soil and/or groundwater contamination.

Date of Government Version: 09/05/2006	Source: Department of Environmental Protection
Date Data Arrived at EDR: 09/13/2006	Telephone: 502-564-5981
Date Made Active in Reports: 10/18/2006	Last EDR Contact: 04/08/2016
Number of Days to Update: 35	Next Scheduled EDR Contact: 07/25/2016
	Data Release Frequency: No Update Planned

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 08/27/2019	Source: FEMA
Date Data Arrived at EDR: 08/28/2019	Telephone: 202-646-5797
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 01/21/2020
Number of Days to Update: 75	Next Scheduled EDR Contact: 04/20/2020
	Data Release Frequency: Varies

State and tribal registered storage tank lists

KY UST: Underground Storage Tank Database

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 08/02/2019	Source: Department of Environmental Protection
Date Data Arrived at EDR: 08/27/2019	Telephone: 502-564-5981
Date Made Active in Reports: 11/06/2019	Last EDR Contact: 11/22/2019
Number of Days to Update: 71	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

KY AST: Above Ground Storage Tanks

A listing of aboveground storage tank site locations.

Date of Government Version: 08/27/2019	Source: Office of State Fire Marshal
Date Data Arrived at EDR: 08/28/2019	Telephone: 502-564-4010
Date Made Active in Reports: 11/07/2019	Last EDR Contact: 11/20/2019
Number of Days to Update: 71	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/02/2019	Source: EPA Region 8
Date Data Arrived at EDR: 10/22/2019	Telephone: 303-312-6137
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 01/24/2020
Number of Days to Update: 20	Next Scheduled EDR Contact: 05/04/2020
	Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/02/2019	Source: EPA Region 8
Date Data Arrived at EDR: 10/22/2019	Telephone: 303-312-6137
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 01/24/2020
Number of Days to Update: 20	Next Scheduled EDR Contact: 05/04/2020
	Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/02/2019	Source: EPA Region 8
Date Data Arrived at EDR: 10/22/2019	Telephone: 303-312-6137
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 01/24/2020
Number of Days to Update: 20	Next Scheduled EDR Contact: 05/04/2020
	Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/02/2019	Source: EPA Region 8
Date Data Arrived at EDR: 10/22/2019	Telephone: 303-312-6137
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 01/24/2020
Number of Days to Update: 20	Next Scheduled EDR Contact: 05/04/2020
	Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/02/2019	Source: EPA Region 8
Date Data Arrived at EDR: 10/22/2019	Telephone: 303-312-6137
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 01/24/2020
Number of Days to Update: 20	Next Scheduled EDR Contact: 05/04/2020
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/02/2019	Source: EPA Region 8
Date Data Arrived at EDR: 10/22/2019	Telephone: 303-312-6137
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 01/24/2020
Number of Days to Update: 20	Next Scheduled EDR Contact: 05/04/2020
	Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/02/2019	Source: EPA Region 8
Date Data Arrived at EDR: 10/22/2019	Telephone: 303-312-6137
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 01/24/2020
Number of Days to Update: 20	Next Scheduled EDR Contact: 05/04/2020
	Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/02/2019	Source: EPA Region 8
Date Data Arrived at EDR: 10/22/2019	Telephone: 303-312-6137
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 01/24/2020
Number of Days to Update: 20	Next Scheduled EDR Contact: 05/04/2020
	Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

KY ENG CONTROLS: Engineering Controls Site Listing

A listing of sites that use engineering controls.

Date of Government Version: 09/24/2019	Source: Department of Environmental Protection
Date Data Arrived at EDR: 09/25/2019	Telephone: 502-564-6716
Date Made Active in Reports: 10/22/2019	Last EDR Contact: 11/21/2019
Number of Days to Update: 27	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: Varies

KY INST CONTROL: State Superfund Database

A list of closed sites in the State Superfund Database. Institutional controls would be in place at any site that uses Contained or Managed as a Closure Option.

Date of Government Version: 09/23/2019	Source: Department of Environmental Protection
Date Data Arrived at EDR: 09/24/2019	Telephone: 502-564-6716
Date Made Active in Reports: 11/08/2019	Last EDR Contact: 11/21/2019
Number of Days to Update: 45	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: Varies

State and tribal voluntary cleanup sites

KY VCP: Voluntary Cleanup Program Sites

Sites that have been accepted into the Voluntary Cleanup Program or have submitted an application.

Date of Government Version: 09/23/2019	Source: Department of Environmental Protection
Date Data Arrived at EDR: 09/25/2019	Telephone: 502-564-6716
Date Made Active in Reports: 10/22/2019	Last EDR Contact: 11/21/2019
Number of Days to Update: 27	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008	Source: EPA, Region 7
Date Data Arrived at EDR: 04/22/2008	Telephone: 913-551-7365
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 04/20/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/20/2009
	Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008	Source: EPA, Region 7
Date Data Arrived at EDR: 04/22/2008	Telephone: 913-551-7365
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 04/20/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/20/2009
	Data Release Frequency: Varies

State and tribal Brownfields sites

KY BROWNFIELDS: Kentucky Brownfield Inventory

The Kentucky Brownfield Program has created an inventory of brownfield sites in order to market the properties to those interested in brownfield redevelopment. The Kentucky Brownfield Program is working to promote the redevelopment of these sites by helping to remove barriers that prevent reuse, providing useful information to communities, developers and the public and encouraging a climate that fosters redevelopment of contaminated sites.

Date of Government Version: 09/30/2019	Source: Division of Compliance Assistance
Date Data Arrived at EDR: 11/07/2019	Telephone: 502-564-0323
Date Made Active in Reports: 01/15/2020	Last EDR Contact: 01/12/2020
Number of Days to Update: 69	Next Scheduled EDR Contact: 04/26/2020
	Data Release Frequency: Varies

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/03/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/04/2019	Telephone: 202-566-2777
Date Made Active in Reports: 08/26/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 83	Next Scheduled EDR Contact: 03/30/2020
	Data Release Frequency: Semi-Annually

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

KY HIST LF: Historical Landfills

This solid waste facility listing contains detail information that is not included in the landfill listing. A listing with detail information is no longer available by the Department of Environmental Protection.

Date of Government Version: 05/01/2003	Source: Department of Environmental Protection
Date Data Arrived at EDR: 03/30/2006	Telephone: 502-564-6716
Date Made Active in Reports: 05/01/2006	Last EDR Contact: 02/23/2009
Number of Days to Update: 32	Next Scheduled EDR Contact: 05/25/2009
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

KY SWRCY: Recycling Facilities

A listing of recycling facilities located in the state of Kentucky.

Date of Government Version: 09/13/2019	Source: Department of Environmental Protection
Date Data Arrived at EDR: 10/23/2019	Telephone: 502-564-6716
Date Made Active in Reports: 01/03/2020	Last EDR Contact: 01/17/2020
Number of Days to Update: 72	Next Scheduled EDR Contact: 04/27/2020
	Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/03/2007	Telephone: 703-308-8245
Date Made Active in Reports: 01/24/2008	Last EDR Contact: 10/28/2019
Number of Days to Update: 52	Next Scheduled EDR Contact: 02/10/2020
	Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/09/2004	Telephone: 800-424-9346
Date Made Active in Reports: 09/17/2004	Last EDR Contact: 06/09/2004
Number of Days to Update: 39	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009	Source: EPA, Region 9
Date Data Arrived at EDR: 05/07/2009	Telephone: 415-947-4219
Date Made Active in Reports: 09/21/2009	Last EDR Contact: 01/17/2020
Number of Days to Update: 137	Next Scheduled EDR Contact: 05/04/2020
	Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014	Source: Department of Health & Human Services, Indian Health Service
Date Data Arrived at EDR: 08/06/2014	Telephone: 301-443-1452
Date Made Active in Reports: 01/29/2015	Last EDR Contact: 11/01/2019
Number of Days to Update: 176	Next Scheduled EDR Contact: 02/10/2020
	Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 06/11/2019	Source: Drug Enforcement Administration
Date Data Arrived at EDR: 06/13/2019	Telephone: 202-307-1000
Date Made Active in Reports: 09/03/2019	Last EDR Contact: 11/20/2019
Number of Days to Update: 82	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: No Update Planned

Local Lists of Hazardous waste / Contaminated Sites

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

KY CDL: Clandestine Drug Lab Location Listing

Clandestine drug lab site locations.

Date of Government Version: 09/23/2019
Date Data Arrived at EDR: 09/25/2019
Date Made Active in Reports: 10/22/2019
Number of Days to Update: 27

Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 11/21/2019
Next Scheduled EDR Contact: 03/09/2020
Data Release Frequency: Varies

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 06/11/2019
Date Data Arrived at EDR: 06/13/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/20/2019
Next Scheduled EDR Contact: 03/09/2020
Data Release Frequency: Quarterly

LIENS 2: CERCLA Lien Information

A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 10/25/2019
Date Data Arrived at EDR: 11/07/2019
Date Made Active in Reports: 11/20/2019
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 01/03/2020
Next Scheduled EDR Contact: 04/13/2020
Data Release Frequency: Semi-Annually

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/24/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 89

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 12/06/2019
Next Scheduled EDR Contact: 04/06/2020
Data Release Frequency: Quarterly

Records of Emergency Release Reports

KY SPILLS: State spills

A listing of spill and/or release related incidents.

Date of Government Version: 11/06/2019
Date Data Arrived at EDR: 11/07/2019
Date Made Active in Reports: 01/15/2020
Number of Days to Update: 69

Source: DEP, Emergency Response
Telephone: 502-564-2380
Last EDR Contact: 01/13/2020
Next Scheduled EDR Contact: 04/27/2020
Data Release Frequency: Varies

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/16/2019
Date Data Arrived at EDR: 12/16/2019
Date Made Active in Reports: 12/20/2019
Number of Days to Update: 4

Source: Environmental Protection Agency
Telephone: (404) 562-8651
Last EDR Contact: 12/16/2019
Next Scheduled EDR Contact: 04/06/2020
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 05/15/2019
Date Data Arrived at EDR: 05/21/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 79

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 11/19/2019
Next Scheduled EDR Contact: 03/02/2020
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 01/10/2020
Next Scheduled EDR Contact: 04/20/2020
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 01/09/2020
Next Scheduled EDR Contact: 04/20/2020
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 12/02/2019
Next Scheduled EDR Contact: 02/24/2020
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/23/2019
Date Data Arrived at EDR: 09/24/2019
Date Made Active in Reports: 12/20/2019
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 12/19/2019
Next Scheduled EDR Contact: 04/06/2020
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/21/2014	Telephone: 617-520-3000
Date Made Active in Reports: 06/17/2014	Last EDR Contact: 10/31/2019
Number of Days to Update: 88	Next Scheduled EDR Contact: 02/17/2020
	Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/08/2018	Telephone: 703-308-4044
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 11/08/2019
Number of Days to Update: 73	Next Scheduled EDR Contact: 02/17/2020
	Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016	Source: EPA
Date Data Arrived at EDR: 06/21/2017	Telephone: 202-260-5521
Date Made Active in Reports: 01/05/2018	Last EDR Contact: 12/20/2019
Number of Days to Update: 198	Next Scheduled EDR Contact: 03/30/2020
	Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2017	Source: EPA
Date Data Arrived at EDR: 11/16/2018	Telephone: 202-566-0250
Date Made Active in Reports: 11/21/2019	Last EDR Contact: 11/22/2019
Number of Days to Update: 370	Next Scheduled EDR Contact: 03/02/2020
	Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 05/01/2019	Source: EPA
Date Data Arrived at EDR: 10/23/2019	Telephone: 202-564-4203
Date Made Active in Reports: 01/15/2020	Last EDR Contact: 01/24/2020
Number of Days to Update: 84	Next Scheduled EDR Contact: 05/04/2020
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 10/25/2019	Source: EPA
Date Data Arrived at EDR: 11/07/2019	Telephone: 703-416-0223
Date Made Active in Reports: 11/20/2019	Last EDR Contact: 01/03/2020
Number of Days to Update: 13	Next Scheduled EDR Contact: 03/16/2020
	Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 04/25/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/02/2019	Telephone: 202-564-8600
Date Made Active in Reports: 05/23/2019	Last EDR Contact: 01/21/2020
Number of Days to Update: 21	Next Scheduled EDR Contact: 05/04/2020
	Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 06/02/2008
Number of Days to Update: 35	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2019	Source: EPA
Date Data Arrived at EDR: 11/07/2019	Telephone: 202-564-6023
Date Made Active in Reports: 11/21/2019	Last EDR Contact: 01/03/2020
Number of Days to Update: 14	Next Scheduled EDR Contact: 02/17/2020
	Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 10/09/2019	Source: EPA
Date Data Arrived at EDR: 10/11/2019	Telephone: 202-566-0500
Date Made Active in Reports: 12/20/2019	Last EDR Contact: 01/10/2020
Number of Days to Update: 70	Next Scheduled EDR Contact: 04/20/2020
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/23/2016	Telephone: 202-564-2501
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 01/06/2020
Number of Days to Update: 79	Next Scheduled EDR Contact: 04/20/2020
	Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/25/2019	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 10/25/2019	Telephone: 301-415-7169
Date Made Active in Reports: 01/15/2020	Last EDR Contact: 01/21/2020
Number of Days to Update: 82	Next Scheduled EDR Contact: 05/04/2020
	Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2018	Source: Department of Energy
Date Data Arrived at EDR: 12/04/2019	Telephone: 202-586-8719
Date Made Active in Reports: 01/15/2020	Last EDR Contact: 12/04/2019
Number of Days to Update: 42	Next Scheduled EDR Contact: 03/16/2020
	Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/05/2019	Telephone: N/A
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 11/25/2019
Number of Days to Update: 251	Next Scheduled EDR Contact: 03/16/2020
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/30/2017	Telephone: 202-566-0517
Date Made Active in Reports: 12/15/2017	Last EDR Contact: 11/06/2019
Number of Days to Update: 15	Next Scheduled EDR Contact: 02/17/2020
	Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2019	Telephone: 202-343-9775
Date Made Active in Reports: 09/23/2019	Last EDR Contact: 12/20/2019
Number of Days to Update: 84	Next Scheduled EDR Contact: 04/13/2020
	Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2008
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2008
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 10/01/2019	Source: Department of Transportation, Office of Pipeline Safety
Date Data Arrived at EDR: 10/29/2019	Telephone: 202-366-4595
Date Made Active in Reports: 01/15/2020	Last EDR Contact: 10/29/2019
Number of Days to Update: 78	Next Scheduled EDR Contact: 02/10/2020
	Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/30/2019
Date Data Arrived at EDR: 10/09/2019
Date Made Active in Reports: 12/20/2019
Number of Days to Update: 72

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/06/2020
Next Scheduled EDR Contact: 04/20/2020
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 12/16/2019
Next Scheduled EDR Contact: 04/06/2020
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/07/2020
Next Scheduled EDR Contact: 04/20/2020
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 11/04/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/01/2019
Date Data Arrived at EDR: 08/21/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 82

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 11/15/2019
Next Scheduled EDR Contact: 03/02/2020
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 10/25/2019
Date Data Arrived at EDR: 11/07/2019
Date Made Active in Reports: 11/20/2019
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 01/03/2020
Next Scheduled EDR Contact: 04/13/2020
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A listing of former lead smelter site locations.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/25/2019
Date Data Arrived at EDR: 11/07/2019
Date Made Active in Reports: 11/20/2019
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 01/03/2020
Next Scheduled EDR Contact: 04/13/2020
Data Release Frequency: Varies

US AIRS (AFS): Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/22/2019
Next Scheduled EDR Contact: 03/09/2020
Data Release Frequency: Varies

MINES VIOLATIONS: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/22/2019
Next Scheduled EDR Contact: 03/09/2020
Data Release Frequency: Varies

US MINES 2: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/22/2019
Next Scheduled EDR Contact: 03/09/2020
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/22/2019
Next Scheduled EDR Contact: 03/09/2020
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/10/2019	Source: Department of Interior
Date Data Arrived at EDR: 09/10/2019	Telephone: 202-208-2609
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 37	Next Scheduled EDR Contact: 03/23/2020
	Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 08/12/2019	Source: EPA
Date Data Arrived at EDR: 09/04/2019	Telephone: (404) 562-9900
Date Made Active in Reports: 12/03/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 90	Next Scheduled EDR Contact: 03/16/2020
	Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2017	Source: Department of Defense
Date Data Arrived at EDR: 01/17/2019	Telephone: 703-704-1564
Date Made Active in Reports: 04/01/2019	Last EDR Contact: 01/13/2020
Number of Days to Update: 74	Next Scheduled EDR Contact: 04/27/2020
	Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/26/2018	Telephone: 202-564-0527
Date Made Active in Reports: 10/05/2018	Last EDR Contact: 11/20/2019
Number of Days to Update: 71	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 10/06/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/08/2019	Telephone: 202-564-2280
Date Made Active in Reports: 01/02/2020	Last EDR Contact: 01/07/2020
Number of Days to Update: 86	Next Scheduled EDR Contact: 04/20/2020
	Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/19/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 83

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 11/19/2019
Next Scheduled EDR Contact: 03/02/2020
Data Release Frequency: Quarterly

Other Ascertainable Records

KY AIRS: Permitted Airs Facility Listing
A listing of permitted Airs facilities.

Date of Government Version: 08/26/2019
Date Data Arrived at EDR: 08/28/2019
Date Made Active in Reports: 11/07/2019
Number of Days to Update: 71

Source: Department of Environmental Protection
Telephone: 502-573-3382
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Semi-Annually

KY ASBESTOS: Asbestos Notification Listing
Asbestos sites

Date of Government Version: 10/01/2019
Date Data Arrived at EDR: 10/02/2019
Date Made Active in Reports: 11/15/2019
Number of Days to Update: 44

Source: Department of Environmental Protection
Telephone: 502-782-6780
Last EDR Contact: 12/02/2019
Next Scheduled EDR Contact: 03/16/2020
Data Release Frequency: Varies

KY COAL ASH: Coal Ash Disposal Sites
A listing of coal ash pond site locations.

Date of Government Version: 02/27/2019
Date Data Arrived at EDR: 02/28/2019
Date Made Active in Reports: 05/03/2019
Number of Days to Update: 64

Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: No Update Planned

KY DRYCLEANERS: Drycleaner Listing
A listing of drycleaner facility locations.

Date of Government Version: 08/26/2019
Date Data Arrived at EDR: 08/28/2019
Date Made Active in Reports: 11/07/2019
Number of Days to Update: 71

Source: Department of Environmental Protection
Telephone: 502-573-3382
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Semi-Annually

KY Financial Assurance 1: Financial Assurance Information Listing
A listing of financial assurance information.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/06/2019
Date Made Active in Reports: 10/22/2019
Number of Days to Update: 46

Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Varies

KY Financial Assurance 2: Financial Assurance Information Listing
Financial Assurance information for underground storage tank facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 05/14/2014
Date Data Arrived at EDR: 06/06/2014
Date Made Active in Reports: 06/24/2014
Number of Days to Update: 18

Source: Department of Environmental Protection
Telephone: 502-564-5981
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

KY Financial Assurance 3: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 09/05/2019	Source: Department of Environmental Protection
Date Data Arrived at EDR: 09/06/2019	Telephone: 502-564-6716
Date Made Active in Reports: 10/22/2019	Last EDR Contact: 10/28/2019
Number of Days to Update: 46	Next Scheduled EDR Contact: 02/10/2020
	Data Release Frequency: Varies

KY LEAD: Environmental Lead Program Report Tracking Database Lead Report Tracking Database

Date of Government Version: 01/27/2017	Source: Department of Public Health
Date Data Arrived at EDR: 02/02/2017	Telephone: 502-564-4537
Date Made Active in Reports: 08/21/2017	Last EDR Contact: 10/31/2019
Number of Days to Update: 200	Next Scheduled EDR Contact: 02/17/2020
	Data Release Frequency: Varies

KY NPDES: Permitted Facility Listing

A listing of permitted wastewater facilities.

Date of Government Version: 09/04/2019	Source: Department of Environmental Protection
Date Data Arrived at EDR: 09/06/2019	Telephone: 502-564-3410
Date Made Active in Reports: 10/22/2019	Last EDR Contact: 11/04/2019
Number of Days to Update: 46	Next Scheduled EDR Contact: 02/17/2020
	Data Release Frequency: Semi-Annually

KY UIC: UIC Information

A listing of wells identified as underground injection wells, in the Kentucky Oil & Gas Wells data base.

Date of Government Version: 07/26/2019	Source: Kentucky Geological Survey
Date Data Arrived at EDR: 10/16/2019	Telephone: 859-323-0544
Date Made Active in Reports: 12/16/2019	Last EDR Contact: 01/14/2020
Number of Days to Update: 61	Next Scheduled EDR Contact: 04/27/2020
	Data Release Frequency: Quarterly

MINES MRDS: Mineral Resources Data System Mineral Resources Data System

Date of Government Version: 04/06/2018	Source: USGS
Date Data Arrived at EDR: 10/21/2019	Telephone: 703-648-6533
Date Made Active in Reports: 10/24/2019	Last EDR Contact: 11/22/2019
Number of Days to Update: 3	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: Varies

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

KY RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists.

Date of Government Version: N/A	Source: Department of Environmental Protection
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 01/03/2014	Last EDR Contact: 06/01/2012
Number of Days to Update: 186	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

KY RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists.

Date of Government Version: N/A	Source: Department of Environmental Protection
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 01/15/2014	Last EDR Contact: 06/01/2012
Number of Days to Update: 198	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Oil/Gas Pipelines

Source: PennWell Corporation
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data

Source: PennWell Corporation
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health
Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics
Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics
Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Certified Child Care Homes

Source: Cabinet for Families & Children
Telephone: 502-564-7130

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: Environmental & Public Protection Cabinet
Telephone: 502-564-6736

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STREET AND ADDRESS INFORMATION

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