

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 1:

Explain whether construction activities will occur sequentially or concurrently across the project site.

Response:

Construction activities will occur sequentially and concurrently across the Project site. Construction will occur sequentially in a given area to complete any clearing and grading activities before commencing installation of Project components. Construction activities will occur concurrently in that multiple areas of the site will commence construction activities simultaneously. The particular construction activity or set of activities needed on a given portion of the Project depends on the area's existing natural features and the extent of work required to prepare the land for installation of Project components.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
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Case No. 2024-00337

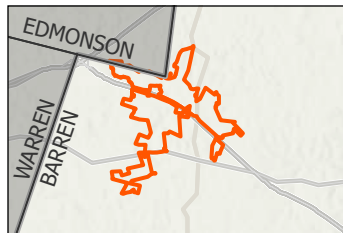
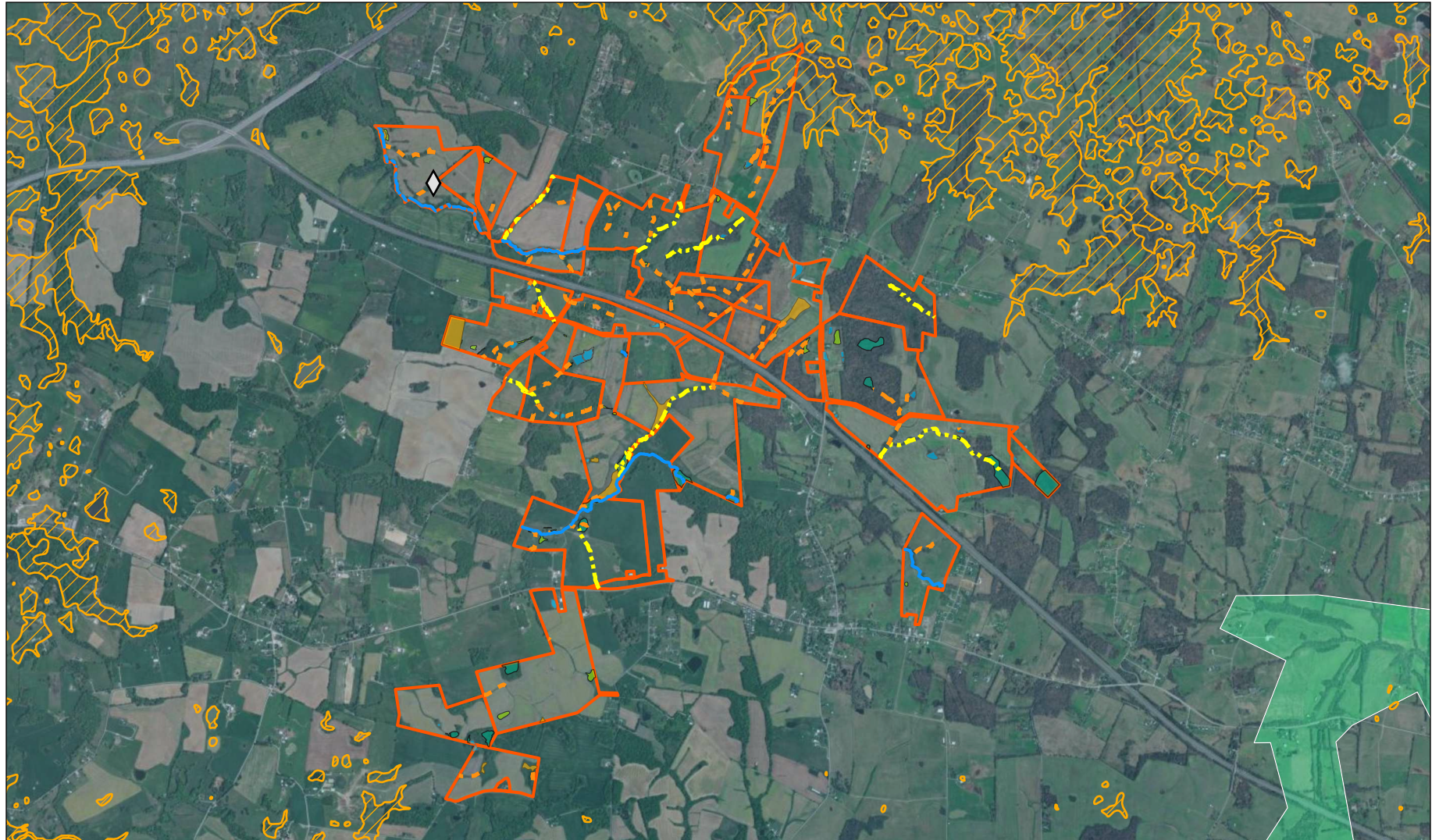
Request No. 2:

Provide a one-page site map that contains the locations of water features, including rivers, streams, lakes, and ponds. Also include any known or suspected karst features.

Response:

See attached. See also the Karst Assessment Report attached to Response to Request No. 33, which was completed by Terracon on May 9, 2023, and submitted as part of Wood Duck's local variance and development plan applications granted on December 18, 2023.

Responding Witness: Chad Martin



Legend

- Project Boundary
- Potential sinkhole area
- KGS Sink Hole Areas
- KGS Moderate Karst Area
- KGS Major Karst Area
- Intermittent Stream
- Ephemeral Stream
- Perennial Stream
- PEM
- PFO
- PSS
- PUB



0 1,000 2,000  
Feet  
(At original document size of 8.5x11)  
1:46,060

Notes

1. Coordinate System: NAD 1983 UTM Zone 16N
2. Data Sources: Wood Duck Solar Layout, USGS National Structures Dataset
3. Background: KyFromAbove Orthoimagery (2021)



Project Location  
Smiths Grove/Glasgow  
Barren Counties, Kentucky

Prepared by CRH on 2025-07-18

Client/Project Number	237801898
Client	Geenex
Project	Wood Duck Solar Project
Report	RFI

Exhibit:

**Q1**

Title

**Project Overview with Delineated  
Features and Karst Areas**

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Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 3:

List all churches or other religious facilities within a two-mile radius of the project. Provide the corresponding distances from the facility to the closest site boundary.

Response:

Based on review of updated imagery with supplemental available GIS data resources, the following ten churches are located within two miles of the Project: Walnut Hill Church (0.52 miles to participating parcel boundary); Mount Vernon Church of Christ (0.28 miles to participating parcel boundary); Fairview Baptist Church (0.30 miles to participating parcel boundary); Oak Grove Church (0.86 miles to participating parcel boundary); Merry Oaks Community Church (0.45 miles to participating parcel boundary); Woodland Church (50 feet to participating parcel boundary); Bon Ayr Methodist (0.33 miles to participating parcel); Bon Ayr Missionary (0.10 miles to participating parcel); New Beginnings Baptist (0.33 miles to participating parcel); and Loving Spring Baptist (1.86 miles to participating property boundary).

Responding Witness: Chad Martin



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Case No. 2024-00337

Request No. 4:

Provide any communication with any churches or other religious facilities regarding the project.

Describe any concerns that were raised.

Response:

Please see the public involvement report attached to the Application as Exhibit B. As part of its outreach activities, the Project attempted to initiate communications with local church representatives of Oak Grove Church (now Woodland United Baptist Church). Project representatives provided information related to the Project's public meeting and public information meeting. However, to date, no communications with local church representatives have occurred.

Responding Witness: Kelley Pope

Wood Duck Solar LLC  
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Case No. 2024-00337

Request No. 5:

Provide any communication with any schools within a two-mile radius of the project. Describe any concerns that were raised.

Response:

Refer to Application Exhibit A, Map C203: Public Resources within 2 Miles of the Study Area.

No schools are located within a two-mile radius of the Project.

Responding Witness: Kelley Pope

Wood Duck Solar LLC  
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Case No. 2024-00337

Request No. 6:

Provide a narrative description of the location of each of the following site features:

- a. Each construction entrance.
- b. Each entrance to be used in operations.
- c. Operating & Maintenance area.
- d. Meteorological station.

Response:

- a. Please refer to the updated site plan attached to the Response to Request No. 58 below. Narrative descriptions for proposed Project construction entrances are as follows:

- Area 1: construction entrance is located on Waller Rd. approximately 0.75 miles east of Red Cross Rd.
- Area 2: construction entrance is located on New Bowling Greed Rd., Hwy 68, approximately 1.5 miles east of Merry Oaks Railton Rd.
- Area 3: construction entrance is also located on Highway 68 approximately 0.2 miles east of Area 2's construction access point.
- Area 4 will be accessed via the Area 3 construction entrance.
- Area 5 has two construction entrances on Oak Grove Church Rd. with one approximately 0.25 miles east of Millstown Rd., and another approximately 0.75 miles east of Millstown Rd.
- Area 6: construction entrance is located on Millstown Rd. approximately 0.33 miles south of Oak Grove Church Rd.
- Area 7 will be accessed via the Area 5 construction entrance.
- Area 8 will be accessed via the Area 6 construction entrance.
- Area 9 will be accessed via the Area 6 construction entrance.
- Area 10 will be accessed via the Area 5 construction entrance.

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

- Area 11: construction entrance is located on Millstown Rd. approximately 275 feet south of Oak Grove Church Rd.
- Area 12: construction access is located on Oak Grove Church Rd. approximately 250 feet west of Millstown Rd.
- Area 13: construction access is located on Oak Grove Church Rd. approximately 450 feet east of Millstown Rd.
- Area 14: construction access is located on Oak Grove Church Rd. approximately 0.2 miles west of Millstown Rd.
- Area 15: construction access is located on R. Crump Rd. approximately 0.2 miles south of Fairview Church Rd.
- Area 16: construction access is located on R Crump Rd. approximately 0.2 miles south of Fairview Church Rd. across from the construction entrance to Area 15.
- Area 17: construction access is located on Millstown Rd. approximately 0.4 miles south of Fairview Church Rd.
- Area 18: construction access is located on Millstown Rd. approximately 0.5 miles south of Fairview Church Rd.
- Area 19 construction access is located on Millstown Rd. approximately 0.5 miles north of Fairview Church Rd.
- Area 20 construction entrance is located on Apple Grove Rd. (Fairview Church Rd.) approximately 0.4 miles east of Millstown Rd.
- Area 21 construction entrance is located on Apple Grove Rd. (Fairview Church Rd.) approximately 0.75 miles east of Millstown Rd.
- Area 22: construction entrance is located on Dripping Springs Rd. approximately 0.4 miles east of Park City Bon Ayr Rd.
- Area 23 is accessed via the Area 26 construction entrance.
- Area 24: construction entrance is located on Mayhew Rd. approximately 0.75 miles east of Park City Bon Ayr Rd.
- Area 25 will be accessed via the Area 26 construction entrance.



Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

- Area 26: construction entrance is located on Mayhew Rd. approximately 0.5 miles east of Park City/Bon Ayr Rd.
- The substation construction entrance is located on New Bowling Green Rd., Highway 68, approximately 0.4 miles east of Park City Bon Ayr Rd.

b. See the Response to Request No. 6(a) above. At this time, all anticipated construction access points will be used for operations.

c. The proposed O&M building will be located on the same parcel as the Point of Interconnection, parcel 33-7A. It will be used to store spare equipment and parts such as modules, tracker motors, and fuses.

d. The metrological station will most likely be located at the O&M building but may be located central to the solar array if final engineering plans determine the area is more suitable location for recording meteorological data.

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Responding Witness: Steve Hazel

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Request No. 7:

Explain how Wood Duck Solar will coordinate with local law enforcement and fire services regarding security and emergency protocols during construction and operations.

Response:

Prior to commencing construction, Project site plans will be provided to local fire, EMS and other first responders. These activities typically occur once an EPC partner is selected for the Project, as EPCs have established safety programs and their involvement is crucial for effective planning and implementation of safety protocols. The Project will plan to engage in Project-specific training for local emergency services and first responders. Once an EPC is hired, coordination with emergency service providers will begin for both the construction and operations phase.

Responding Witness: Kelley Pope

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Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 8:

Provide a detailed table listing all residential structures located within 2,000 square feet of the project boundary line(s). The table must state the distance measurement in feet (not meters) for each structure, listed below:

- a. The distance to the boundary line.
- b. The distance to the closest solar panel
- c. The distance to the nearest inverter.
- d. The distance to the substation.

Response:

- a. See attached for a table listing all residential structures within 2,000 feet of the Project boundary, nearest solar panel, nearest inverter, and substation.
- b. See Response No. 8(a) above.
- c. See Response No. 8(a) above.
- d. See Response No. 8(a) above.

Responding Witness: Chad Martin

**Appendix A.1 Wood Duck Solar Project - Receptor Locations and Operational Sound Model Results**

<b>Receptor ID</b>	<b>Sound Level (dBA Leq)</b>	<b>Distance to Inverter (ft)</b>	<b>Distance to Substation (ft)</b>	<b>Distance to Panel (ft)</b>	<b>Distance to Parcel Boundary (ft)</b>	<b>X, UTM 16 (m)</b>	<b>Y, UTM 16 (m)</b>	<b>Z, UTM 16 (m)</b>
SR-001	33	2,223	14,537	1,131	979	581,599	4,101,674	218
SR-002	30	2,579	14,298	1,192	993	581,730	4,101,679	220
SR-003	31	2,587	12,601	480	123	582,011	4,101,244	224
SR-004	30	3,717	12,682	1,226	741	582,298	4,101,458	226
SR-005	30	3,676	12,541	1,122	672	582,330	4,101,427	226
SR-006	29	3,524	12,395	1,015	564	582,363	4,101,395	223
SR-007	30	3,334	12,186	814	424	582,384	4,101,333	224
SR-008	30	3,106	11,917	544	217	582,400	4,101,248	224
SR-009	31	2,744	11,685	875	162	582,568	4,101,261	226
SR-010	31	2,671	11,640	841	290	582,612	4,101,269	226
SR-011	30	2,555	11,557	627	110	582,677	4,101,273	226
SR-012	29	3,034	12,035	759	384	582,603	4,101,399	223
SR-013	29	3,214	12,183	989	324	582,522	4,101,408	224
SR-014	28	3,567	12,550	1,020	588	582,486	4,101,516	217
SR-015	28	3,282	12,302	630	317	582,614	4,101,495	219
SR-016	27	4,258	13,266	1,157	799	582,434	4,101,734	221
SR-017	24	4,809	13,770	424	103	582,822	4,102,067	200
SR-018	24	4,888	13,763	522	0	582,966	4,102,114	206
SR-019	22	6,037	14,891	1,666	744	582,928	4,102,462	202
SR-020	21	6,379	15,044	2,143	878	583,168	4,102,575	206
SR-021	32	2,034	11,069	143	0	582,876	4,101,202	228
SR-022	35	1,853	10,884	328	71	582,858	4,101,132	229
SR-023	34	1,591	10,544	449	39	583,083	4,101,115	228
SR-024	33	1,267	10,184	679	211	583,135	4,101,017	227
SR-025	34	1,209	10,093	697	304	583,161	4,100,998	228
SR-026	36	1,128	9,981	706	386	583,183	4,100,969	230
SR-027	38	1,108	9,913	692	387	583,210	4,100,957	232
SR-028	38	1,162	9,867	694	347	583,255	4,100,958	233
SR-029	38	1,138	9,789	635	290	583,277	4,100,941	233
SR-030	37	991	9,543	408	138	583,303	4,100,871	234
SR-031	38	1,161	10,152	463	65	583,073	4,100,983	230
SR-032	40	945	9,896	465	139	583,125	4,100,919	230
SR-033	40	920	9,704	483	198	583,220	4,100,893	233
SR-034	41	835	9,544	343	51	583,248	4,100,851	234
SR-035	32	1,760	9,519	1,083	692	583,560	4,100,937	234
SR-036	33	1,691	9,261	1,025	438	583,580	4,100,861	235
SR-037	34	1,787	9,045	1,002	267	583,634	4,100,807	237
SR-038	35	1,523	8,718	948	0	583,579	4,100,691	236
SR-039	37	1,361	7,961	791	99	583,539	4,100,440	234
SR-040	39	1,535	6,925	753	0	583,530	4,100,104	234
SR-041	37	1,941	6,240	696	0	583,535	4,099,883	234
SR-042	38	2,053	6,028	624	0	583,554	4,099,821	235



**Appendix A.1 Wood Duck Solar Project - Receptor Locations and Operational Sound Model Results**

Receptor ID	Sound Level (dBA Leq)	Distance to Inverter (ft)	Distance to Substation (ft)	Distance to Panel (ft)	Distance to Parcel Boundary (ft)	X, UTM 16 (m)	Y, UTM 16 (m)	Z, UTM 16 (m)
SR-043	32	2,265	9,239	880	656	583,758	4,100,892	236
SR-044	31	2,517	9,359	931	563	583,822	4,100,939	234
SR-045	31	2,971	8,694	311	0	584,016	4,100,758	233
SR-046	32	3,002	8,495	189	0	584,031	4,100,698	231
SR-047	32	2,630	8,114	587	0	584,270	4,100,590	233
SR-048	32	2,669	8,141	667	0	584,306	4,100,598	232
SR-049	32	2,512	7,947	691	92	584,376	4,100,536	232
SR-050	29	2,733	8,168	947	252	584,427	4,100,600	230
SR-051	29	2,740	8,174	1,060	395	584,471	4,100,598	229
SR-052	32	2,535	7,969	850	247	584,450	4,100,538	232
SR-053	30	2,426	7,859	753	184	584,465	4,100,502	231
SR-054	30	2,290	7,718	647	147	584,489	4,100,457	232
SR-055	28	3,019	8,397	1,466	953	584,660	4,100,642	229
SR-056	29	2,781	8,176	1,212	705	584,613	4,100,582	230
SR-057	30	2,465	7,864	919	476	584,583	4,100,490	231
SR-058	29	2,784	5,519	833	561	585,235	4,099,519	228
SR-059	33	2,199	3,174	862	670	585,048	4,098,757	236
SR-060	35	1,772	2,496	861	698	584,813	4,098,692	232
SR-061	38	1,086	2,870	344	35	584,716	4,098,884	236
SR-062	41	2,845	1,047	2,006	211	584,614	4,098,264	229
SR-063	41	2,747	1,127	1,906	194	584,622	4,098,295	230
SR-064	40	2,632	1,246	1,785	192	584,637	4,098,334	230
SR-065	39	2,522	1,354	1,672	179	584,649	4,098,370	230
SR-066	39	2,411	1,441	1,558	141	584,652	4,098,406	230
SR-067	38	2,473	1,580	1,613	329	584,713	4,098,403	230
SR-068	38	2,664	1,564	1,804	490	584,744	4,098,352	230
SR-069	38	2,777	1,457	1,918	503	584,731	4,098,311	230
SR-070	39	2,876	1,376	2,018	517	584,721	4,098,277	229.5
SR-071	40	3,361	1,181	2,509	634	584,704	4,098,121	223.5
SR-072	41	3,420	998	2,578	488	584,650	4,098,092	225.1
SR-073	41	3,501	988	2,661	513	584,646	4,098,066	226.7
SR-074	42	3,637	952	2,801	557	584,627	4,098,022	228.3
SR-075	42	3,739	949	2,906	622	584,618	4,097,989	228.3
SR-076	42	3,840	882	3,014	675	584,588	4,097,955	229.5
SR-077	42	3,959	909	3,134	784	584,586	4,097,919	230.6
SR-078	43	3,220	788	2,394	219	584,580	4,098,144	223.5
SR-079	44	3,318	740	2,494	220	584,570	4,098,114	224.6
SR-080	44	3,548	683	2,730	363	584,548	4,098,042	228.6
SR-081	45	3,771	633	2,955	518	584,514	4,097,972	230.0
SR-082	45	3,876	597	3,061	472	584,491	4,097,940	230.6
SR-083	45	4,015	638	3,199	469	584,480	4,097,898	231.5
SR-084	44	4,124	688	3,308	466	584,470	4,097,864	233.1
SR-085	43	4,260	779	3,443	477	584,463	4,097,823	235

**Appendix A.1 Wood Duck Solar Project - Receptor Locations and Operational Sound Model Results**

<b>Receptor ID</b>	<b>Sound Level (dBA Leq)</b>	<b>Distance to Inverter (ft)</b>	<b>Distance to Substation (ft)</b>	<b>Distance to Panel (ft)</b>	<b>Distance to Parcel Boundary (ft)</b>	<b>X, UTM 16 (m)</b>	<b>Y, UTM 16 (m)</b>	<b>Z, UTM 16 (m)</b>
SR-086	42	4,390	883	3,573	491	584,460	4,097,783	236
SR-087	38	4,543	918	3,726	221	584,345	4,097,738	236
SR-088	39	4,520	892	3,709	163	584,310	4,097,746	237
SR-089	39	4,488	873	3,684	155	584,266	4,097,758	238
SR-090	36	4,891	1,275	4,088	554	584,251	4,097,636	236
SR-091	38	4,530	938	3,736	271	584,218	4,097,750	238
SR-092	41	4,241	663	3,453	140	584,204	4,097,840	240
SR-093	41	4,260	691	3,478	206	584,177	4,097,838	239
SR-094	38	4,481	912	3,699	401	584,162	4,097,772	237
SR-095	41	4,202	648	3,428	261	584,150	4,097,860	238
SR-096	39	4,220	692	3,455	362	584,119	4,097,860	238
SR-097	39	4,221	731	3,465	434	584,088	4,097,866	238
SR-098	37	4,431	894	3,665	475	584,106	4,097,798	237
SR-099	37	4,468	975	3,714	613	584,059	4,097,796	236
SR-100	36	4,491	1,065	3,754	766	584,006	4,097,802	235
SR-101	37	4,271	946	3,547	709	583,988	4,097,877	238
SR-102	35	4,531	1,203	3,813	940	583,942	4,097,809	234
SR-103	35	4,305	1,091	3,601	880	583,931	4,097,885	237
SR-104	37	1,717	3,968	1,090	938	583,612	4,099,150	230
SR-105	36	1,842	4,402	1,001	880	583,520	4,099,248	230
SR-106	35	1,766	4,962	775	485	583,510	4,099,441	227
SR-107	35	2,233	5,334	1,284	513	583,354	4,099,480	225
SR-108	35	2,200	5,708	1,402	257	583,318	4,099,591	227
SR-109	36	2,108	5,818	1,391	160	583,282	4,099,609	226
SR-110	38	1,720	6,327	976	0	583,144	4,099,703	228
SR-111	39	1,526	6,706	664	0	583,012	4,099,750	224
SR-112	40	1,252	7,086	523	122	582,873	4,099,789	222
SR-113	39	1,161	7,181	411	111	582,829	4,099,789	219
SR-114	39	1,826	8,688	348	52	582,455	4,100,071	224
SR-115	39	1,451	9,469	630	98	582,163	4,100,120	224
SR-116	38	1,614	10,032	360	117	581,986	4,100,181	225
SR-117	39	1,041	11,238	151	0	581,572	4,100,264	218
SR-118	36	1,520	11,304	295	20	581,680	4,100,421	214
SR-119	33	1,988	11,667	630	155	581,748	4,100,652	209
SR-120	43	686	13,984	491	102	581,057	4,100,951	200
SR-121	38	1,340	14,628	684	277	580,796	4,100,947	206
SR-122	45	454	11,895	323	89	581,363	4,100,322	214
SR-123	39	857	12,861	351	72	581,055	4,100,400	212
SR-124	39	1,160	13,411	630	455	580,842	4,100,386	212
SR-125	32	2,242	14,522	1,388	909	580,522	4,100,517	206
SR-126	46	500	11,323	267	0	581,377	4,100,043	218
SR-127	42	843	11,832	397	109	581,093	4,099,875	207
SR-128	31	2,816	11,818	1,246	1,028	580,831	4,099,277	210

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SR-129	35	2,207	10,562	1,561	941	581,006	4,098,162	222
SR-130	36	1,760	10,097	1,172	478	581,148	4,098,161	222
SR-131	36	1,769	10,069	1,021	482	581,155	4,098,091	220
SR-132	36	1,617	9,872	888	278	581,215	4,098,106	217
SR-133	41	704	8,994	303	0	581,486	4,098,197	224
SR-134	42	762	8,881	273	0	581,518	4,098,140	224
SR-135	35	1,887	12,913	495	116	580,601	4,096,503	221
SR-136	34	1,505	12,505	371	158	580,755	4,096,462	223
SR-137	46	430	11,362	243	0	581,072	4,096,606	228
SR-138	34	1,677	10,559	1,138	822	581,486	4,096,352	227
SR-139	36	1,345	8,217	728	622	581,891	4,097,131	229
SR-140	37	1,270	8,175	649	505	581,888	4,097,175	229
SR-141	35	1,681	7,902	1,061	688	582,000	4,097,118	229
SR-142	36	1,281	7,989	694	241	581,920	4,097,254	226
SR-143	37	1,241	7,943	657	63	581,916	4,097,309	223
SR-144	35	2,123	7,013	1,529	722	582,184	4,097,403	228
SR-145	35	2,117	6,989	1,498	768	582,173	4,097,463	228
SR-146	36	1,372	7,355	957	822	582,013	4,097,667	223
SR-147	45	546	8,147	359	196	581,741	4,097,995	221
SR-148	38	1,789	6,719	882	721	582,177	4,097,969	226
SR-149	39	1,722	6,653	634	480	582,195	4,098,047	224
SR-150	36	2,022	6,469	1,009	879	582,255	4,097,933	226
SR-151	37	1,862	6,455	725	600	582,256	4,098,020	224
SR-152	36	2,000	5,498	999	532	582,550	4,098,142	228
SR-153	36	2,001	5,316	1,122	663	582,612	4,098,214	229
SR-154	38	1,578	10,656	83	0	581,773	4,100,228	223
SR-155	38	1,630	10,437	141	0	581,827	4,100,188	224
SR-156	21	6,859	15,822	2,472	1,783	582,644	4,102,668	202
SR-157	19	7,702	16,101	3,631	1,790	583,433	4,102,958	206
SR-158	23	5,358	12,978	2,948	1,835	583,912	4,102,059	219
SR-159	23	5,459	13,359	2,580	1,311	583,772	4,102,162	220
SR-160	24	4,491	11,985	2,888	1,980	583,901	4,101,755	207
SR-161	30	2,541	9,875	1,470	1,092	583,746	4,101,086	228
SR-162	29	2,858	10,309	1,881	1,454	583,759	4,101,222	228
SR-163	27	3,394	10,630	2,195	1,710	583,876	4,101,337	222
SR-164	26	4,377	9,812	2,096	1,662	584,468	4,101,100	220
SR-165	27	3,947	9,938	1,730	1,344	584,206	4,101,146	225
SR-166	30	2,630	7,894	1,367	1,063	584,768	4,100,465	227
SR-167	29	2,651	7,876	1,457	1,181	584,805	4,100,451	226
SR-168	29	2,687	7,868	1,558	1,301	584,842	4,100,439	224
SR-169	28	2,742	7,877	1,668	1,423	584,879	4,100,433	224
SR-170	28	2,831	7,871	1,858	1,634	584,944	4,100,414	223
SR-171	27	3,441	6,615	1,876	1,632	585,420	4,099,797	224

**Appendix A.1 Wood Duck Solar Project - Receptor Locations and Operational Sound Model Results**

<b>Receptor ID</b>	<b>Sound Level (dBA Leq)</b>	<b>Distance to Inverter (ft)</b>	<b>Distance to Substation (ft)</b>	<b>Distance to Panel (ft)</b>	<b>Distance to Parcel Boundary (ft)</b>	<b>X, UTM 16 (m)</b>	<b>Y, UTM 16 (m)</b>	<b>Z, UTM 16 (m)</b>
SR-172	28	3,314	6,354	1,626	1,377	585,380	4,099,728	224
SR-173	27	3,630	6,827	2,101	1,854	585,475	4,099,838	223
SR-174	27	5,054	6,173	3,377	1,951	586,017	4,098,955	241
SR-175	25	5,012	5,519	3,523	1,999	585,935	4,098,641	237
SR-176	31	4,959	2,142	4,102	1,901	584,873	4,097,660	234
SR-177	38	4,571	1,549	3,726	1,332	584,713	4,097,747	236
SR-178	31	5,438	2,274	4,591	1,829	584,776	4,097,489	234
SR-179	33	4,687	1,896	3,831	1,708	584,831	4,097,735	234
SR-180	35	4,389	2,048	3,528	1,666	584,931	4,097,860	231
SR-181	34	4,355	1,249	3,672	1,056	583,875	4,097,889	235
SR-182	34	4,555	1,344	3,861	1,109	583,878	4,097,823	234
SR-183	34	4,404	1,356	3,733	1,169	583,840	4,097,888	235
SR-184	34	4,427	1,454	3,770	1,278	583,806	4,097,895	235
SR-185	34	4,464	1,536	3,817	1,364	583,779	4,097,895	234
SR-186	33	4,650	1,588	3,987	1,377	583,790	4,097,828	233
SR-187	33	4,689	1,671	4,035	1,464	583,762	4,097,827	232
SR-188	32	4,748	2,058	4,154	1,899	583,616	4,097,885	230
SR-189	33	4,688	1,919	4,080	1,752	583,662	4,097,880	232
SR-190	33	4,536	1,617	3,894	1,440	583,758	4,097,881	234
SR-191	34	4,382	1,628	3,762	1,491	583,737	4,097,945	234
SR-192	34	4,272	1,575	3,655	1,451	583,748	4,097,977	234
SR-193	34	4,159	1,675	3,566	1,570	583,713	4,098,036	237
SR-194	33	4,034	1,885	3,474	1,772	583,654	4,098,121	236
SR-195	35	3,783	1,660	3,210	1,523	583,731	4,098,160	241
SR-196	32	3,846	2,032	3,318	1,868	583,627	4,098,213	234
SR-197	33	3,773	2,077	3,256	1,890	583,622	4,098,246	235
SR-198	32	3,316	3,010	2,311	1,822	583,414	4,098,514	218
SR-199	32	3,387	2,901	2,398	1,936	583,484	4,098,573	217
SR-200	32	3,151	2,893	2,402	1,999	583,526	4,098,632	215
SR-201	32	2,907	3,307	2,036	1,740	583,471	4,098,766	217
SR-202	34	2,669	3,626	1,666	1,298	583,333	4,098,746	226
SR-203	32	2,785	3,380	2,008	1,760	583,478	4,098,809	221
SR-204	34	2,520	3,544	1,984	1,800	583,499	4,098,901	226
SR-205	33	2,672	4,803	1,724	1,252	582,760	4,098,070	230
SR-206	32	2,947	4,396	2,086	1,606	582,885	4,098,104	230
SR-207	31	3,258	6,379	2,661	1,863	582,509	4,097,127	234
SR-208	33	2,278	6,446	1,898	1,449	582,300	4,097,640	223
SR-209	34	2,428	6,280	1,971	1,590	582,351	4,097,647	225
SR-210	34	2,576	6,122	1,987	1,725	582,399	4,097,651	226
SR-211	34	2,705	5,986	2,011	1,844	582,441	4,097,654	227
SR-212	34	2,400	6,214	1,764	1,652	582,358	4,097,712	224
SR-213	34	2,865	5,922	2,227	1,845	582,475	4,097,596	228
SR-214	35	2,368	6,131	1,308	1,191	582,364	4,097,855	225



**Appendix A.1 Wood Duck Solar Project - Receptor Locations and Operational Sound Model Results**

<b>Receptor ID</b>	<b>Sound Level (dBA Leq)</b>	<b>Distance to Inverter (ft)</b>	<b>Distance to Substation (ft)</b>	<b>Distance to Panel (ft)</b>	<b>Distance to Parcel Boundary (ft)</b>	<b>X, UTM 16 (m)</b>	<b>Y, UTM 16 (m)</b>	<b>Z, UTM 16 (m)</b>
SR-215	35	2,374	6,116	1,211	1,090	582,366	4,097,887	225
SR-216	34	2,457	5,904	1,276	1,091	582,430	4,097,890	225
SR-217	35	2,561	5,940	1,381	1,214	582,423	4,097,852	227
SR-218	35	2,563	5,958	1,502	1,344	582,422	4,097,812	228
SR-219	35	2,370	6,152	1,457	1,342	582,363	4,097,808	226
SR-220	36	2,010	6,479	1,143	1,012	582,254	4,097,892	226
SR-221	35	2,005	6,494	1,287	1,153	582,253	4,097,849	225
SR-222	35	2,022	6,499	1,419	1,285	582,256	4,097,808	224
SR-223	34	2,030	6,529	1,572	1,434	582,253	4,097,762	223
SR-224	34	2,106	8,707	1,558	1,474	581,879	4,096,799	230
SR-225	28	3,013	14,015	1,664	1,297	580,349	4,096,245	220
SR-226	30	3,021	14,174	1,487	226	579,923	4,097,631	215
SR-227	29	3,330	14,121	1,843	284	579,927	4,097,791	215
SR-228	29	3,408	14,275	1,900	422	579,881	4,097,773	214
SR-229	28	3,557	14,472	2,035	615	579,821	4,097,770	214
SR-230	31	2,907	11,777	1,349	1,141	580,832	4,099,239	211
SR-231	30	3,128	11,813	1,576	1,369	580,801	4,099,176	208
SR-232	30	2,856	16,180	1,865	1,440	580,098	4,100,792	205
SR-233	29	3,370	16,910	2,259	1,828	579,867	4,100,842	206
SR-234	28	2,526	17,799	1,856	1,216	580,590	4,102,130	200
SR-235	27	2,721	18,012	2,028	1,381	580,550	4,102,181	200
SR-236	29	2,142	16,782	1,622	1,315	580,917	4,102,005	206
SR-237	31	2,139	16,645	1,654	1,285	580,963	4,101,989	208
SR-238	25	3,125	18,294	2,452	1,807	580,567	4,102,311	194
SR-239	25	3,210	18,209	2,573	1,952	580,651	4,102,349	195
SR-240	30	2,202	15,895	1,551	1,415	581,218	4,101,902	212
SR-241	31	2,237	15,210	1,620	1,366	581,447	4,101,817	216
SR-242	26	3,100	14,385	1,599	1,460	581,846	4,101,790	215
SR-243	28	2,963	14,684	1,718	1,523	581,755	4,101,839	220
SR-244	31	2,773	14,745	1,639	1,436	581,694	4,101,820	222
SR-245	27	3,153	14,971	2,035	1,831	581,743	4,101,936	216
SR-246	29	3,183	13,354	1,229	1,095	582,061	4,101,554	220
SR-247	32	5,038	2,115	4,414	1,903	583,640	4,097,770	231
SR-248	32	5,153	2,208	4,528	1,988	583,623	4,097,739	231
SR-249	32	5,279	2,135	4,616	1,877	583,698	4,097,659	234
SR-250	34	2,239	6,105	1,060	934	582,366	4,097,935	223
SR-251	34	2,327	5,914	1,147	956	582,424	4,097,931	223
SR-252	33	3,306	2,347	2,733	1,951	583,611	4,098,455	228
SR-253	33	4,298	1,863	3,718	1,756	583,656	4,098,022	236
SR-254	33	4,406	1,866	3,818	1,746	583,658	4,097,982	234
SR-255	28	4,538	4,565	3,159	1,840	585,691	4,098,444	236
SR-256	28	4,760	4,925	3,370	1,960	585,792	4,098,491	237
SR-257	27	4,738	5,197	3,297	1,787	585,839	4,098,619	238

**Appendix A.1 Wood Duck Solar Project - Receptor Locations and Operational Sound Model Results**

<b>Receptor ID</b>	<b>Sound Level (dBA Leq)</b>	<b>Distance to Inverter (ft)</b>	<b>Distance to Substation (ft)</b>	<b>Distance to Panel (ft)</b>	<b>Distance to Parcel Boundary (ft)</b>	<b>X, UTM 16 (m)</b>	<b>Y, UTM 16 (m)</b>	<b>Z, UTM 16 (m)</b>
SR-258	23	5,435	13,272	2,666	1,445	583,806	4,102,139	222
SR-259	29	2,136	16,926	1,581	1,278	580,863	4,102,015	205
SR-260	28	2,327	17,372	1,709	1,196	580,734	4,102,084	202
SR-261	27	2,421	17,607	1,781	1,174	580,653	4,102,107	200
SR-262	26	2,887	18,110	2,210	1,567	580,568	4,102,237	198
SR-263	28	3,019	18,434	2,264	1,551	580,421	4,102,237	202
SR-264	26	3,050	18,539	2,267	1,490	580,356	4,102,220	199
SR-265	30	3,308	11,840	1,762	1,556	580,777	4,099,125	206
SR-266	30	3,454	11,824	1,919	1,718	580,767	4,099,075	206

SR = Sensitive Receptor

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 9:

Provide a detailed table listing all non-residential structures located within 2,000 feet of the project boundary line(s). For each structure, provide:

- a. The distance to the boundary line.
- b. The distance to the closest solar panel
- c. The distance to the nearest inverter.
- d. The distance to the substation.

Response:

- a. See attached for a table listing all non-residential structures within 2,000 feet of the Project boundary, nearest solar panel, nearest inverter, and substation, and an associated map depicting the same.
- b. See Response No. 9(a) above.
- c. See Response No. 9(a) above.
- d. See Response No. 9(a) above.

Responding Witness: Chad Martin

**Appendix A.2 Wood Duck Solar Project - Receptor Locations and Operational Sound Model Results**

<b>Receptor ID</b>	<b>Sound Level (dBA Leq)</b>	<b>Distance to Inverter (ft)</b>	<b>Distance to Substation (ft)</b>	<b>Distance to Panel (ft)</b>	<b>Distance to Parcel Boundary (ft)</b>	<b>X, UTM 16 (m)</b>	<b>Y, UTM 16 (m)</b>	<b>Z, UTM 16 (m)</b>
NRS-001	44	603	14,184	421	15	581,079	4,100,968	200
NRS-002	44	605	14,149	412	46	581,081	4,100,956	200
NRS-003	38	1,474	14,673	894	366	580,810	4,100,883	206
NRS-004	33	2,014	11,841	742	135	581,734	4,100,621	210
NRS-005	33	2,084	11,779	714	226	581,763	4,100,623	211
NRS-006	30	3,496	12,488	766	310	582,304	4,101,318	224
NRS-007	31	2,725	13,583	798	701	581,941	4,101,481	220
NRS-008	30	2,705	13,627	797	703	581,929	4,101,488	220
NRS-009	31	2,862	13,421	883	742	582,003	4,101,463	222
NRS-010	29	3,114	13,668	1,189	1,080	582,025	4,101,568	220
NRS-011	30	3,707	12,899	1,227	741	582,295	4,101,459	226
NRS-012	30	3,073	12,052	413	82	582,383	4,101,211	224
NRS-013	30	3,341	12,402	815	432	582,381	4,101,334	224
NRS-014	30	3,340	12,379	758	383	582,366	4,101,317	224
NRS-015	31	2,743	11,892	875	162	582,568	4,101,261	226
NRS-016	32	2,753	11,880	781	109	582,545	4,101,244	226
NRS-017	32	2,646	11,808	870	269	582,598	4,101,248	227
NRS-018	31	2,672	11,848	850	283	582,609	4,101,267	226
NRS-019	31	2,562	11,748	755	209	582,641	4,101,250	227
NRS-020	31	2,258	11,497	152	0	582,837	4,101,259	227
NRS-021	35	1,860	11,096	336	59	582,853	4,101,133	229
NRS-022	39	1,106	10,336	307	0	583,023	4,100,955	230
NRS-023	38	1,161	10,354	467	70	583,075	4,100,983	230
NRS-024	40	898	10,037	489	129	583,138	4,100,905	230
NRS-025	40	873	9,884	446	208	583,209	4,100,882	232
NRS-026	39	1,108	8,626	505	0	583,449	4,100,561	234
NRS-027	39	1,076	8,522	496	0	583,446	4,100,527	234
NRS-028	38	1,202	8,480	624	0	583,485	4,100,526	234
NRS-029	39	1,482	7,065	913	0	583,485	4,100,068	231
NRS-030	39	1,526	7,134	759	0	583,527	4,100,106	233
NRS-031	38	1,864	6,874	485	0	583,616	4,100,054	234
NRS-032	38	1,622	6,308	169	0	583,711	4,099,903	235
NRS-033	37	1,822	6,647	751	0	583,533	4,099,950	233
NRS-034	38	1,721	7,027	575	0	583,588	4,100,093	234
NRS-035	38	1,618	5,770	359	0	583,632	4,099,701	232
NRS-036	38	1,299	5,232	261	0	583,666	4,099,538	233
NRS-037	41	1,036	4,892	487	183	584,578	4,099,530	231
NRS-038	34	2,289	4,886	501	76	585,167	4,099,268	236
NRS-039	47	450	3,950	2	0	584,548	4,099,243	230
NRS-040	40	1,138	2,425	322	71	584,501	4,098,775	231
NRS-041	40	1,010	3,013	324	0	584,691	4,098,892	236
NRS-042	35	1,786	2,676	872	709	584,815	4,098,688	232

**Appendix A.2 Wood Duck Solar Project - Receptor Locations and Operational Sound Model Results**

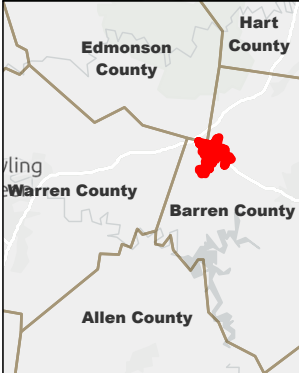
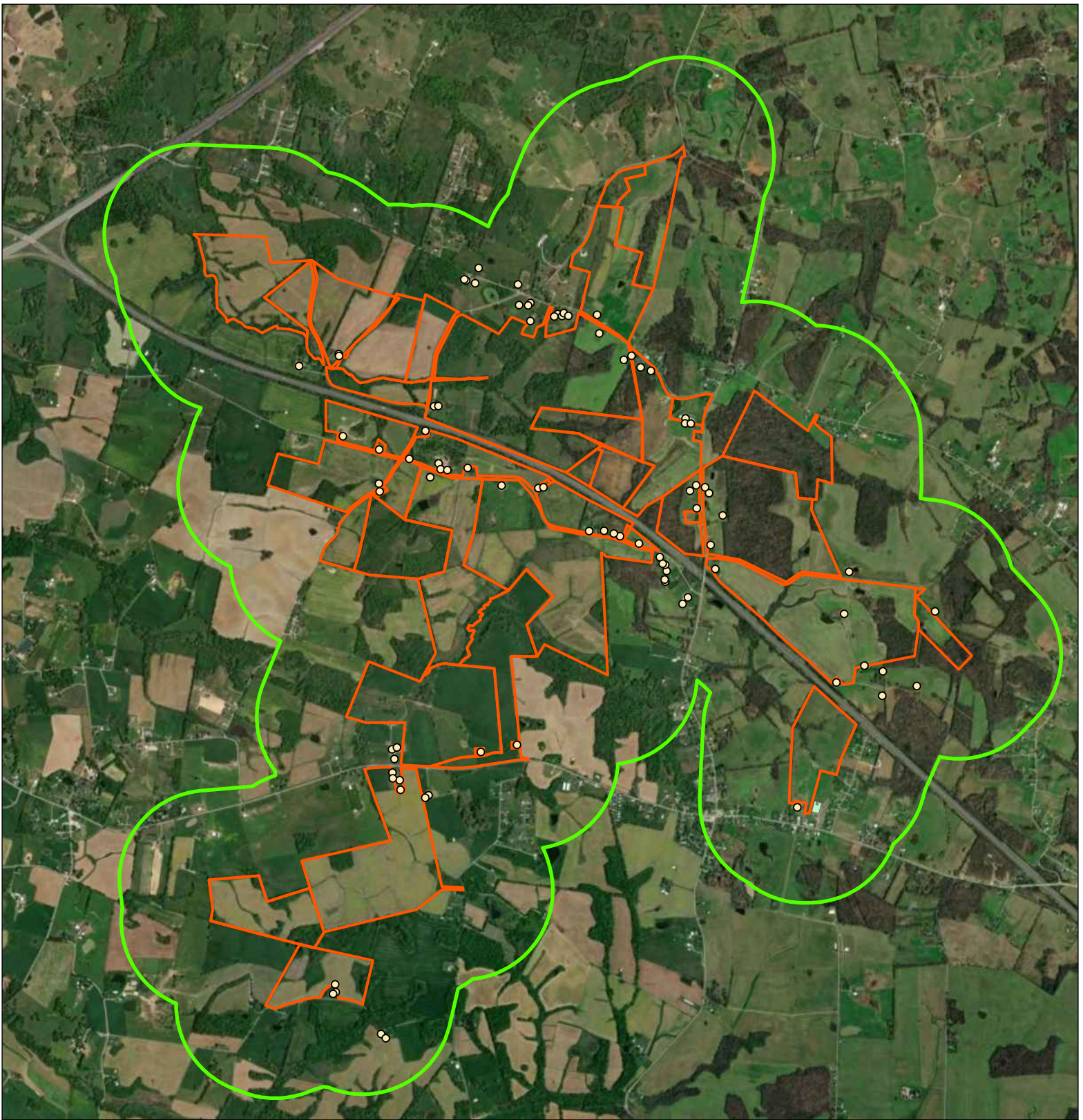
<b>Receptor ID</b>	<b>Sound Level (dBA Leq)</b>	<b>Distance to Inverter (ft)</b>	<b>Distance to Substation (ft)</b>	<b>Distance to Panel (ft)</b>	<b>Distance to Parcel Boundary (ft)</b>	<b>X, UTM 16 (m)</b>	<b>Y, UTM 16 (m)</b>	<b>Z, UTM 16 (m)</b>
NRS-043	33	2,202	3,378	863	667	585,050	4,098,758	236
NRS-044	36	1,396	3,115	326	196	584,817	4,098,855	234
NRS-045	53	178	11,376	112	0	581,111	4,096,672	228
NRS-046	47	342	11,432	98	0	581,116	4,096,619	228
NRS-047	46	392	11,501	157	0	581,098	4,096,608	228
NRS-048	43	774	9,030	320	0	581,533	4,098,070	224
NRS-049	44	578	9,010	105	0	581,539	4,098,004	224
NRS-050	41	883	9,194	401	0	581,483	4,098,121	224
NRS-051	42	889	9,184	413	0	581,486	4,098,082	224
NRS-052	46	459	8,385	322	147	581,731	4,097,969	222
NRS-053	47	371	8,461	248	63	581,709	4,097,952	222
NRS-054	41	650	9,167	274	0	581,495	4,098,214	224
NRS-055	41	612	9,236	327	0	581,478	4,098,280	224
NRS-056	45	496	9,131	217	0	581,511	4,098,293	224
NRS-057	43	906	7,253	150	0	582,084	4,098,270	222
NRS-058	41	1,074	6,470	162	0	582,329	4,098,321	225
NRS-059	35	2,032	4,881	1,112	963	583,446	4,099,297	230
NRS-060	35	1,887	4,940	942	781	583,481	4,099,342	229
NRS-061	35	2,127	5,510	1,380	524	583,326	4,099,447	224
NRS-062	35	2,118	5,556	1,393	478	583,321	4,099,461	224
NRS-063	35	2,190	5,694	1,350	385	583,334	4,099,520	226
NRS-064	35	2,189	5,828	1,382	309	583,323	4,099,562	227
NRS-065	36	2,141	5,878	1,438	251	583,306	4,099,569	226
NRS-066	36	2,125	6,037	1,403	154	583,286	4,099,613	227
NRS-067	38	1,715	6,546	974	0	583,143	4,099,704	228
NRS-068	39	1,532	6,924	670	0	583,013	4,099,752	224
NRS-069	39	1,449	7,055	617	0	582,970	4,099,770	222
NRS-070	40	1,320	7,236	573	23	582,904	4,099,788	221
NRS-071	39	1,098	7,442	342	88	582,802	4,099,785	216
NRS-072	39	1,822	8,911	357	46	582,452	4,100,073	224
NRS-073	39	1,894	8,850	309	11	582,487	4,100,079	224
NRS-074	39	1,387	9,519	726	205	582,201	4,100,087	224
NRS-075	37	1,694	10,338	285	49	581,968	4,100,204	224
NRS-076	36	1,555	11,595	390	83	581,677	4,100,453	214
NRS-077	39	1,030	11,450	163	0	581,569	4,100,260	218
NRS-078	38	1,577	10,887	75	0	581,769	4,100,232	223
NRS-079	38	1,526	10,767	181	0	581,784	4,100,193	224
NRS-080	38	1,635	10,641	140	0	581,830	4,100,187	224
NRS-081	38	1,232	10,828	17	0	581,714	4,100,137	223
NRS-082	46	592	11,652	185	0	581,364	4,100,089	218
NRS-083	46	486	11,537	290	0	581,370	4,100,035	218
NRS-084	45	452	12,104	292	89	581,363	4,100,321	214
NRS-085	39	739	12,928	189	0	581,115	4,100,409	211

## Appendix A.2 Wood Duck Solar Project - Receptor Locations and Operational Sound Model Results

Receptor ID	Sound Level (dBA Leq)	Distance to Inverter (ft)	Distance to Substation (ft)	Distance to Panel (ft)	Distance to Parcel Boundary (ft)	X, UTM 16 (m)	Y, UTM 16 (m)	Z, UTM 16 (m)
NRS-086	49	3,964	502	3,169	0	584,246	4,097,920	237
NRS-087	32	1,589	10,954	1,062	745	581,429	4,096,339	226
NRS-088	33	1,727	10,914	1,198	880	581,461	4,096,310	228

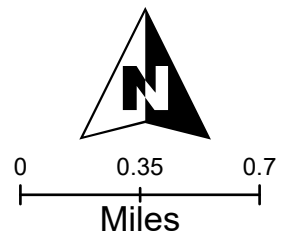
NRS= Non-Residential Structure





**Legend**

- non-res\_structures\_2K
- ▭ 2000ft\_buffer
- ▭ Project\_Bndry\_2023

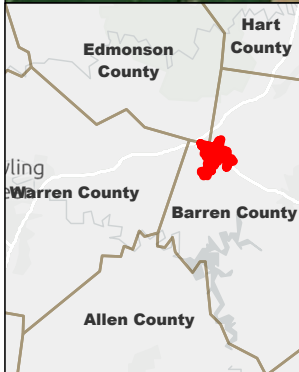


Wood Duck Solar Project  
RFI - Follow up  
Barren County, Kentucky

Non-Residential Structures  
in 2000 ft

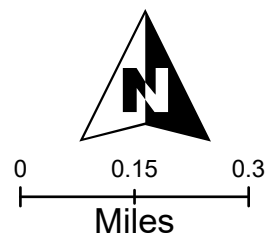
Date:	Project No:	Figure No:
July 2025	237801898	--





#### Legend

- non-res\_structures\_2K
- 2000ft\_buffer
- Project\_Bndry\_2023

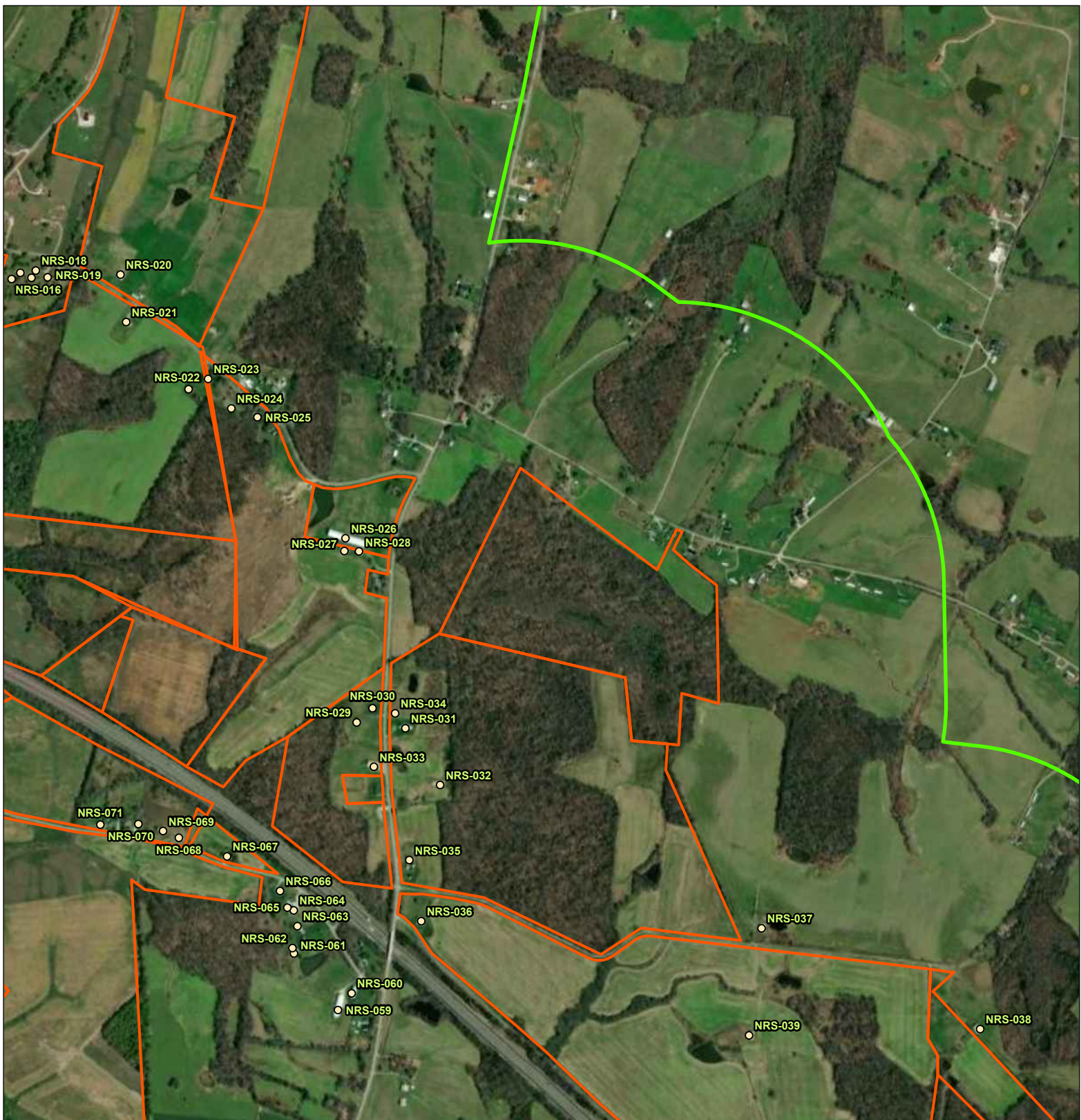


Wood Duck Solar Project  
RFI - Follow up  
Barren County, Kentucky

Non-Residential Structures  
in 2000 ft

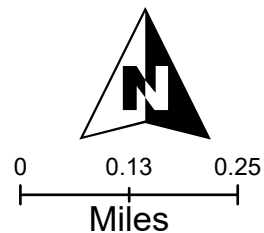
Date:	Project No:	Figure No:
July 2025	237801898	--





#### Legend

- non-res\_structures\_2K
- 2000ft\_buffer
- Project\_Bndry\_2023



Wood Duck Solar Project  
RFI - Follow up  
Barren County, Kentucky

Non-Residential Structures  
in 2000 ft

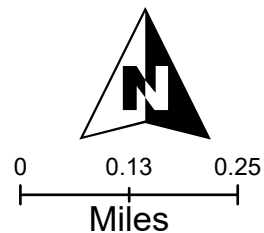
Date:	Project No:	Figure No:
July 2025	237801898	--





#### Legend

- non-res\_structures\_2K
- ▭ 2000ft\_buffer
- ▭ Project\_Bndry\_2023

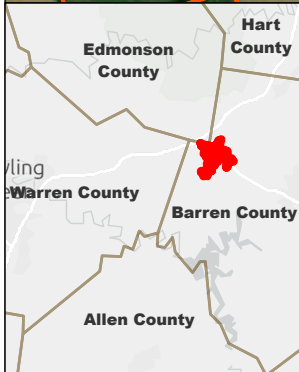


Wood Duck Solar Project  
RFI - Follow up  
Barren County, Kentucky

Non-Residential Structures  
in 2000 ft

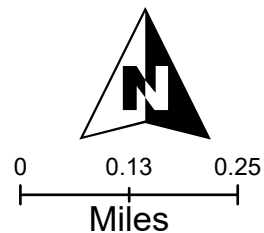
Date:	Project No:	Figure No:
July 2025	237801898	--





#### Legend

- non-res\_structures\_2K
- 2000ft\_buffer
- Project\_Bndry\_2023



Wood Duck Solar Project  
RFI - Follow up  
Barren County, Kentucky

Non-Residential Structures  
in 2000 ft

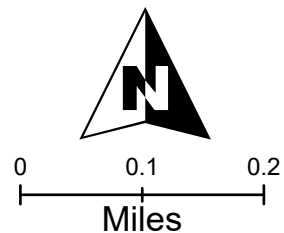
Date:	Project No:	Figure No:
July 2025	237801898	--





#### Legend

- non-res\_structures\_2K
- 2000ft\_buffer
- Project\_Bndry\_2023



Wood Duck Solar Project  
RFI - Follow up  
Barren County, Kentucky

Non-Residential Structures  
in 2000 ft

Date:	Project No:	Figure No:
July 2025	237801898	--

## Appendix A.2 Wood Duck Solar Project - Receptor Locations and Operational Sound Model Results

Receptor ID	Sound Level (dBA Leq)	Distance to Inverter (ft)	Distance to Substation (ft)	Distance to Panel (ft)	Distance to Parcel Boundary (ft)	X, UTM 16 (m)	Y, UTM 16 (m)	Z, UTM 16 (m)
NRS-001	44	603	14,184	421	15	581,079	4,100,968	200
NRS-002	44	605	14,149	412	46	581,081	4,100,956	200
NRS-003	38	1,474	14,673	894	366	580,810	4,100,883	206
NRS-004	33	2,014	11,841	742	135	581,734	4,100,621	210
NRS-005	33	2,084	11,779	714	226	581,763	4,100,623	211
NRS-006	30	3,496	12,488	766	310	582,304	4,101,318	224
NRS-007	31	2,725	13,583	798	701	581,941	4,101,481	220
NRS-008	30	2,705	13,627	797	703	581,929	4,101,488	220
NRS-009	31	2,862	13,421	883	742	582,003	4,101,463	222
NRS-010	29	3,114	13,668	1,189	1,080	582,025	4,101,568	220
NRS-011	30	3,707	12,899	1,227	741	582,295	4,101,459	226
NRS-012	30	3,073	12,052	413	82	582,383	4,101,211	224
NRS-013	30	3,341	12,402	815	432	582,381	4,101,334	224
NRS-014	30	3,340	12,379	758	383	582,366	4,101,317	224
NRS-015	31	2,743	11,892	875	162	582,568	4,101,261	226
NRS-016	32	2,753	11,880	781	109	582,545	4,101,244	226
NRS-017	32	2,646	11,808	870	269	582,598	4,101,248	227
NRS-018	31	2,672	11,848	850	283	582,609	4,101,267	226
NRS-019	31	2,562	11,748	755	209	582,641	4,101,250	227
NRS-020	31	2,258	11,497	152	0	582,837	4,101,259	227
NRS-021	35	1,860	11,096	336	59	582,853	4,101,133	229
NRS-022	39	1,106	10,336	307	0	583,023	4,100,955	230
NRS-023	38	1,161	10,354	467	70	583,075	4,100,983	230
NRS-024	40	898	10,037	489	129	583,138	4,100,905	230
NRS-025	40	873	9,884	446	208	583,209	4,100,882	232
NRS-026	39	1,108	8,626	505	0	583,449	4,100,561	234
NRS-027	39	1,076	8,522	496	0	583,446	4,100,527	234
NRS-028	38	1,202	8,480	624	0	583,485	4,100,526	234
NRS-029	39	1,482	7,065	913	0	583,485	4,100,068	231
NRS-030	39	1,526	7,134	759	0	583,527	4,100,106	233
NRS-031	38	1,864	6,874	485	0	583,616	4,100,054	234
NRS-032	38	1,622	6,308	169	0	583,711	4,099,903	235
NRS-033	37	1,822	6,647	751	0	583,533	4,099,950	233
NRS-034	38	1,721	7,027	575	0	583,588	4,100,093	234
NRS-035	38	1,618	5,770	359	0	583,632	4,099,701	232
NRS-036	38	1,299	5,232	261	0	583,666	4,099,538	233
NRS-037	41	1,036	4,892	487	183	584,578	4,099,530	231
NRS-038	34	2,289	4,886	501	76	585,167	4,099,268	236
NRS-039	47	450	3,950	2	0	584,548	4,099,243	230
NRS-040	40	1,138	2,425	322	71	584,501	4,098,775	231
NRS-041	40	1,010	3,013	324	0	584,691	4,098,892	236
NRS-042	35	1,786	2,676	872	709	584,815	4,098,688	232

**Appendix A.2 Wood Duck Solar Project - Receptor Locations and Operational Sound Model Results**

<b>Receptor ID</b>	<b>Sound Level (dBA Leq)</b>	<b>Distance to Inverter (ft)</b>	<b>Distance to Substation (ft)</b>	<b>Distance to Panel (ft)</b>	<b>Distance to Parcel Boundary (ft)</b>	<b>X, UTM 16 (m)</b>	<b>Y, UTM 16 (m)</b>	<b>Z, UTM 16 (m)</b>
NRS-043	33	2,202	3,378	863	667	585,050	4,098,758	236
NRS-044	36	1,396	3,115	326	196	584,817	4,098,855	234
NRS-045	53	178	11,376	112	0	581,111	4,096,672	228
NRS-046	47	342	11,432	98	0	581,116	4,096,619	228
NRS-047	46	392	11,501	157	0	581,098	4,096,608	228
NRS-048	43	774	9,030	320	0	581,533	4,098,070	224
NRS-049	44	578	9,010	105	0	581,539	4,098,004	224
NRS-050	41	883	9,194	401	0	581,483	4,098,121	224
NRS-051	42	889	9,184	413	0	581,486	4,098,082	224
NRS-052	46	459	8,385	322	147	581,731	4,097,969	222
NRS-053	47	371	8,461	248	63	581,709	4,097,952	222
NRS-054	41	650	9,167	274	0	581,495	4,098,214	224
NRS-055	41	612	9,236	327	0	581,478	4,098,280	224
NRS-056	45	496	9,131	217	0	581,511	4,098,293	224
NRS-057	43	906	7,253	150	0	582,084	4,098,270	222
NRS-058	41	1,074	6,470	162	0	582,329	4,098,321	225
NRS-059	35	2,032	4,881	1,112	963	583,446	4,099,297	230
NRS-060	35	1,887	4,940	942	781	583,481	4,099,342	229
NRS-061	35	2,127	5,510	1,380	524	583,326	4,099,447	224
NRS-062	35	2,118	5,556	1,393	478	583,321	4,099,461	224
NRS-063	35	2,190	5,694	1,350	385	583,334	4,099,520	226
NRS-064	35	2,189	5,828	1,382	309	583,323	4,099,562	227
NRS-065	36	2,141	5,878	1,438	251	583,306	4,099,569	226
NRS-066	36	2,125	6,037	1,403	154	583,286	4,099,613	227
NRS-067	38	1,715	6,546	974	0	583,143	4,099,704	228
NRS-068	39	1,532	6,924	670	0	583,013	4,099,752	224
NRS-069	39	1,449	7,055	617	0	582,970	4,099,770	222
NRS-070	40	1,320	7,236	573	23	582,904	4,099,788	221
NRS-071	39	1,098	7,442	342	88	582,802	4,099,785	216
NRS-072	39	1,822	8,911	357	46	582,452	4,100,073	224
NRS-073	39	1,894	8,850	309	11	582,487	4,100,079	224
NRS-074	39	1,387	9,519	726	205	582,201	4,100,087	224
NRS-075	37	1,694	10,338	285	49	581,968	4,100,204	224
NRS-076	36	1,555	11,595	390	83	581,677	4,100,453	214
NRS-077	39	1,030	11,450	163	0	581,569	4,100,260	218
NRS-078	38	1,577	10,887	75	0	581,769	4,100,232	223
NRS-079	38	1,526	10,767	181	0	581,784	4,100,193	224
NRS-080	38	1,635	10,641	140	0	581,830	4,100,187	224
NRS-081	38	1,232	10,828	17	0	581,714	4,100,137	223
NRS-082	46	592	11,652	185	0	581,364	4,100,089	218
NRS-083	46	486	11,537	290	0	581,370	4,100,035	218
NRS-084	45	452	12,104	292	89	581,363	4,100,321	214
NRS-085	39	739	12,928	189	0	581,115	4,100,409	211

## Appendix A.2 Wood Duck Solar Project - Receptor Locations and Operational Sound Model Results

Receptor ID	Sound Level (dBA Leq)	Distance to Inverter (ft)	Distance to Substation (ft)	Distance to Panel (ft)	Distance to Parcel Boundary (ft)	X, UTM 16 (m)	Y, UTM 16 (m)	Z, UTM 16 (m)
NRS-086	49	3,964	502	3,169	0	584,246	4,097,920	237
NRS-087	32	1,589	10,954	1,062	745	581,429	4,096,339	226
NRS-088	33	1,727	10,914	1,198	880	581,461	4,096,310	228

NRS= Non-Residential Structure

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 10:

Provide a detailed description of different construction activities, including a construction timeline and schedule by activity, including development of the transmission line.

Response:

Construction is expected to take approximately 18 months to complete. The construction of a solar facility such as Wood Duck's proposed facility typically is built in the following order. First, the panel module posts are installed; second, the panel racking or framing is bolted to the posts; and finally, the panel modules are bolted to the racking. Modules are plugged into each other like Christmas lights to form strings, which then run to the end of the panel rows and collect into fused combiner boxes. These combiners will serve as disconnect points to the individual strings. The combiner box wiring will be placed underground and connect to the Project's inverters, which convert the DC power from the modules to AC power. The wiring from the inverters will also be installed underground and connect to the Project's collection substation. It is anticipated that the Project's transmission line will be developed within the same 18-month window as the generation facility.

Responding Witness: Steve Hazel



Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 11:

Provide a schedule for the project, starting from the receipt of the proposed certificate of construction to the completion of the project, including the length of each construction phase.

Include when the peak construction would occur within the timeline.

Response:

Construction is expected to take approximately 18 months to complete. The proposed construction certificate would be issued no later than November 14, 2025. Construction would likely begin in Q1 2026. Construction can be broken down into 4 main phases:

- Phase 1, Preparation: Fencing, access, staging, inverter pad preparation and deliveries. This phase is expected to take approximately two months;
- Phase 2, Foundations and Racking: this includes piles and racking assembly and will take approximately six months with three to four weeks of peak activity;
- Phase 3, Module Assembly: this is the most lengthy process and will continue when the first rack is complete and ready for module mounting to the final rack is completed; and
- Phase 4, Electrical: this includes inverter mounting, underground wiring and substation. This will take place parcel by parcel as each of the other parcels complete Phases 1-3.

Responding Witness: Steve Hazel

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 12:

Describe any communication with the residents closest to the proposed substation location.

Response:

Project representatives engaged in a door-knocking campaign in 2023 that included the areas around the proposed substation location. These residents also received notices for the public information meetings. To the best of Project representatives' knowledge at this time, there have been no other communications to date.

Responding Witness: Kelley Pope

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 13:

Provide the maximum expected load weights for each type of delivery truck, including cement and water trucks, heavy equipment, gravel for access roads, panels, inverters, and the transformer.

Response:

Cement/Gravel Truck: 80,000 pounds; Water Truck: 40,000 pounds; Tractor Trailer: 80,000 pounds; General Delivery Trucks: 20,000 pounds. See the Response to Request No. 15 for the expected weight and truck class for delivery of the Project's transformer.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 14:

Identify the specific roadways used by heavy trucks, including for delivery of the transformer.

Response:

Wood Duck anticipates that deliveries of construction materials and equipment to the Project would utilize Highway 65 and Cumberland Parkway to access the general Project area. Once within proximity of the Project, local roads and Project access roads would be used to complete deliveries to Project laydown yards or equipment locations. These roads include US Route 68 (New Bowling Green Road), Merry Oaks-Raiton Road, Red Cross Road, Waller Road, Oak Grove Church Road, Millstown Road, Mayhew Road, Apple Grove Road, Park City-Bon Ayr Road, Dripping Spring Road, and C. Bellamy Road. The specific route will be approved by state road authorities prior to delivery of overweight/over-dimensional construction materials and facility components.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 15:

Provide the estimated weight of the project's required substation transformer and the truck class necessary for its delivery.

Response:

The estimated weight of the Project's 69 kV substation transformer is 40,000 to 60,000 pounds and will be delivered via semi-truck with drop axles and a flatbed trailer capable of hauling up to 105,000 pounds.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 16:

Explain whether any oversize or overweight deliveries will require special permits from the Barren County Road Department or the Kentucky Department of Transportation. Explain the plan for repairing project-related damage to any roadways or bridges.

Response:

Overweight and over-dimensional (OW/OD) permits are issued through the Kentucky Transportation Cabinet. For delivery vehicles that exceed the size and weight restrictions on interstate and designated highways, an overweight or over-dimensional permit will be obtained or Wood Duck will utilize a carrier with an existing annual permit, as allowed. Wood Duck will document conditions of local roads that will be utilized during Project construction to establish pre-construction conditions. Wood Duck will coordinate with Barren County and State of Kentucky road authorities regarding road or bridge damage caused by construction of the Project.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 17:

Explain whether any traffic stoppages will be necessary to accommodate large truck deliveries for the project and/or for constructing the project transmission line. If yes, provide the expected location, frequency and length of those stoppages.

Response:

Entrances to laydown areas or the proposed substation area will be constructed to accommodate turning radii required for large semi-trucks and tractor trailers. Many of the laydown areas are off main county roads or in the case of the substation, a four-lane highway that will accommodate large trucks. Any anticipated slowdowns or stoppages would be minimal (less than 5 minutes) with low frequency (5-10 per week).

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 18:

Provide a description of current traffic and road conditions, including number of lanes, presence of shoulders and/or bridges, speed and weight limits for each road proposed to be used during construction.

Response:

Wood Duck has compiled a list of roads that may potentially be used for delivery of equipment and construction materials to the Project. Road information including AADT counts, number of lanes, presence of shoulders, presence of bridges, speed limits, road width, and weight limit ratings for each of the potential roads is included in the table below. Road information such as number of lanes, presence of shoulders, and road width was determined from Google Earth imagery. Speed limits were obtained from the WAZE map planner where available. Bridges and AADT data were determined from the Kentucky Transportation Cabinet Bridge Weight Limits Interactive Map and Interactive Statewide Traffic Counts Map, respectively. Road Weight Limit Ratings were obtained from the Kentucky Truck Weight Classification Map. Bridge weight limits are discussed in the Response to Request No. 19 below.

Table RFI 1-18 - Wood Duck Solar RFI 1-18 Response Road Condition Information.							
Road/Highway	Number of Lanes	Shoulder Present	Bridge Present	Speed Limit	Weight Limit Rating	Total Road Width (feet)	Annual Average Daily Traffic
Highway 65 (north of Project)	6	Yes	Yes	70	AAA	78	46,671
Highway 65 (south of Project)	6	Yes	Yes	70	AAA	78	60,651
Cumberland Parkway	4	Yes	Yes	70	AAA	36*	14,067
US Route 68 (KY 68/New Bowling Green Road)	2	No	Yes	55	AAA	22	1,879
Merry Oaks-Railton Road	2	No	Yes	55	County	20	215
Red Cross Road	2	No	Yes	No Data	County	17	No Data
Waller Road	2	No	No	No Data	County	16	No Data
Oak Grove Church Road	2	No	No	No Data	County	16	No Data
Millstown Road	2	No	Yes	No Data	County	16	0
Mayhew Road	2	No	No	No Data	County	12	No Data
Apple Grove Road (CR-1399)	2	No	No	55	A	20	280
Park City-Bon Ayr Road (KY-255)	2	No	No	55	A	22	1,021
Dripping Spring Road	2	No	No	No Data	County	16	No Data
CBellamy Road	2	No	No	No Data	County	12	No Data
Rick Road	2	No	No	No Data	County	16	No Data
Note:							
* - Divided highway width is representative of east bound travel lane.							
Weight Limit Rating - County (All truck type ratings 18 tons), A (Truck Type 1 - 20 tons), (Truck Type 2, 3, and 4 - 22 tons), AAA (Truck Type 1 - 20 tons), (Truck Type 2 - 27 tons), (Truck Type 3 - 34 tons), (Truck Type 4 - 40 tons).							

Responding Witness: Chad Martin



Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 19:

Provide the width and weight limit ratings of all bridges and culverts within a two-mile radius of the project.

Response:

15 bridges were identified within two miles of the Project according to the Kentucky Transportation Cabinet's Bridge Weight Limits Interactive Map (available at <https://maps.kytc.ky.gov/bridgeweightlimits/?extent=-9587651.390%2C4435657.995%2C-9578333.731%2C4444162.208%2C102100>). Two of these bridges are in Park City where the railroad navigates under and over roadways. Of the remaining 13 bridges, only one has a listed weight restriction (bridge at 255/Cumberland Parkway). Posted weight limits are as follows: EV Gross Tons: 35; Truck Type 1: 28 Tons; Type 2: 29 Tons; Type 3: 31 Tons; Type 4: 40 Tons; SUV 5 or 6: 33 Tons; and SUV 7: 34 Tons.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 20:

Describe any repairs or upgrades that will need to be made to any bridges or culverts prior to the delivery and construction phase of the project.

Response:

No repairs or upgrades to bridges or culverts are currently anticipated to facilitate Project construction. Interstate 65 and US Route 68 are AAA rated roadways and no bridges were identified along this route. If a bridge is identified that would require upgrades or repairs to construct the Project, Wood Duck would work with carriers to determine potential alternative routes or otherwise coordinate with state or county bridge authorities in order to perform required upgrades or repairs.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

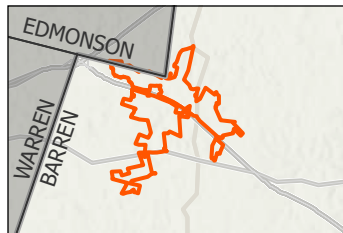
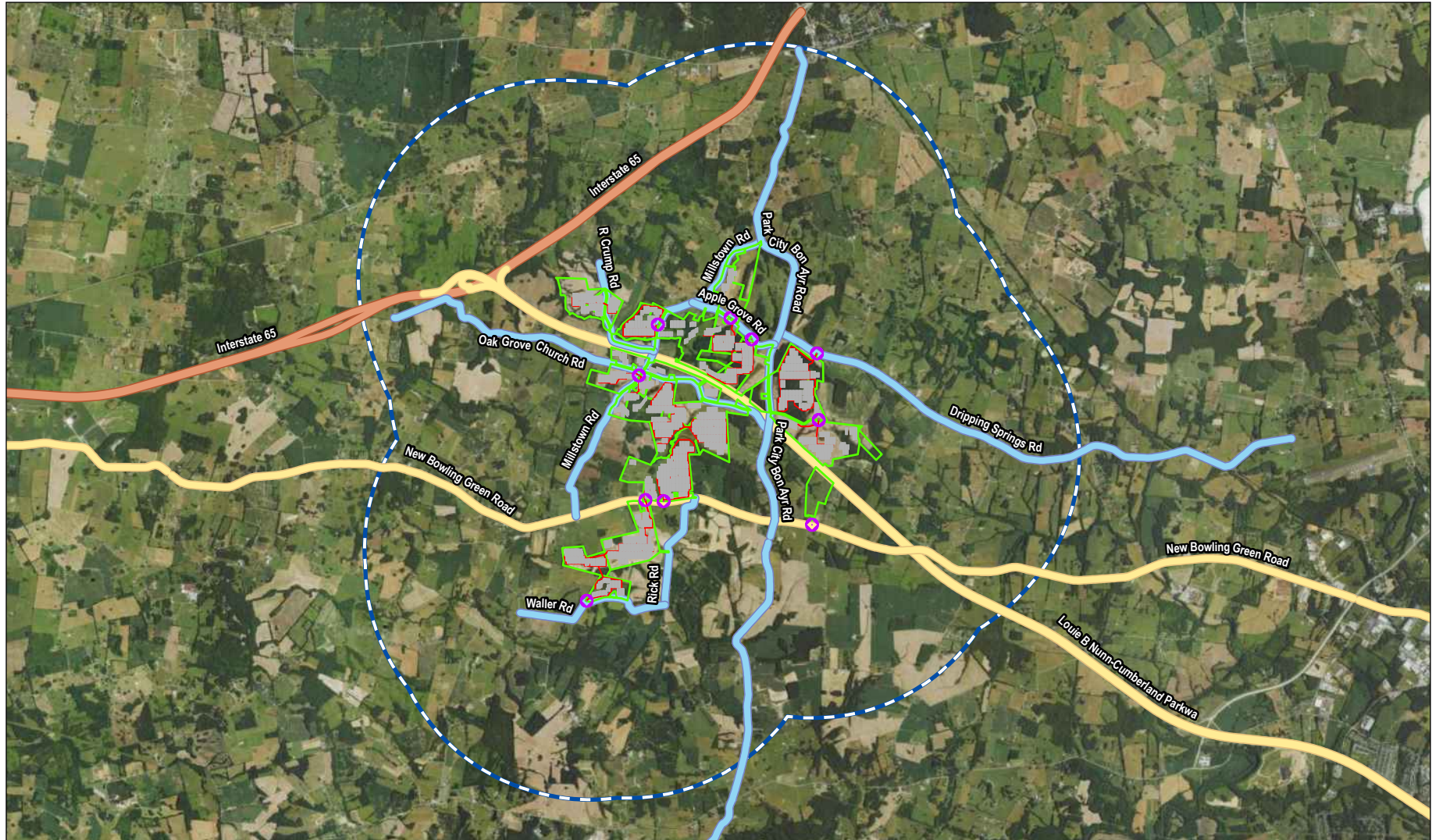
Request No. 21:

Provide a one-page directional map showing highlighted anticipated delivery routes for the project. Include on the map: access roads, access points, existing roads, bridges, electric generation components, and all structures within two miles of the project. Differentiate between roads and bridges that will and will not be used for deliveries.

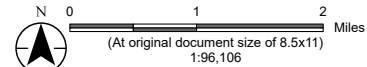
Response:

Please see the attached map. To the extent that this Request is duplicative of prior requests, please also see the attachments for Responses to Request Nos. 8 and 9. Primary access to the Project is expected to originate from Interstate 65, approximately 1.8 miles northwest of the first laydown areas and access points. Secondary access roads will consist of Cumberland Gap Parkway and New Bowling Green Road. Tertiary roads will consist of Millstown Road, Apple Grove Road, Rick/Waller Road, Oak Grove Church Road, Park City/Bon Ayr Road, R. Crump Road, and Dripping Springs Road. Only those roads listed above are proposed to be used for delivery access; however, delivery routes could be altered depending on local road closures or road work, or as otherwise directed by state or local road authorities.

Responding Witness: Chad Martin



- Project Boundary
- 2 Mile Buffer
- Arrays
- Access Points
- Access Roads
- Primary Road
- Secondary Road
- Tertiary Road



**Notes**

1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet
2. Data Sources: Wood Duck Solar Layout, USGS National Structures Dataset
3. Background: KyFromAbove Orthoimagery (2021)



Project Location  
Smiths Grove/Glasgow  
Barren Counties, Kentucky

Prepared by CRH on 2025-07-18

Client/Project Number	237801898
Client	Geenex
Project Report	Wood Duck Solar Project RFI

Exhibit:  
**Q21.**

Title  
**Delivery Roads**

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 22:

Provide any communication with the Federal Aviation Administration (FAA) or the Kentucky Airport Zoning Commission (KAZC) regarding the project.

Response:

Refer to the FAA Notice Criteria Tool results attached to the Response to Request No. 33 below. The Notice Criteria Tool was completed via the FAA online system in March 2023 and submitted as part of this Project's local variance and development plan applications. Coordinates were utilized at perimeter locations on all sides of the proposed project; the process resulted in no exceedance for Notice Criteria. No coordination is required with the KAZC for this Project.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 23:

Provide any communication with the Glasgow Municipal Airport regarding the project.

Response:

No communications with the Glasgow Municipal Airport regarding the Project have occurred.

Responding Witness: Kelley Pope

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 24:

Refer to the Kentucky Geological Survey Oil and Gas Wells Search (KY Geode: KGS Oil and Gas Wells Search (uky.edu)).

- a. Provide a map with all active and inactive oil or gas wells on the proposed site. Also include any gas- gathering pipelines associated with the wells.
- b. Determine and provide an explanation of whether any of these wells are currently permitted and active.
- c. Confirm whether the existence of oil and gas wells and pipelines will require adjustments to the proposed location of solar panels for each oil and gas wells and pipelines. If confirmed, explain the adjusted locations.
- d. Confirm the ownership, diameter, and set-back requirements for each well or pipeline. Provide that information.

Response:

- a. See attached.
- b. According to the data from Kentucky Geological Survey, there are 26 known oil and gas wells located within Project boundaries, with eight wells located under areas anticipated for Project panel installation. Of these eight wells, seven are listed as plugged, abandoned, or have a permit which has been terminated. The status of one well is unclear if it still exists or is active according to available data, and will require further investigation.
- c. No pipelines are located within the Project site. To the extent that solar components overlap with known active oil and gas wells, the Project will implement a 25-foot setback from those features.

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

- d. Please see table below for identified oil and gas wells, with operator information and diameter. Please see Response to (c) above for setback information.



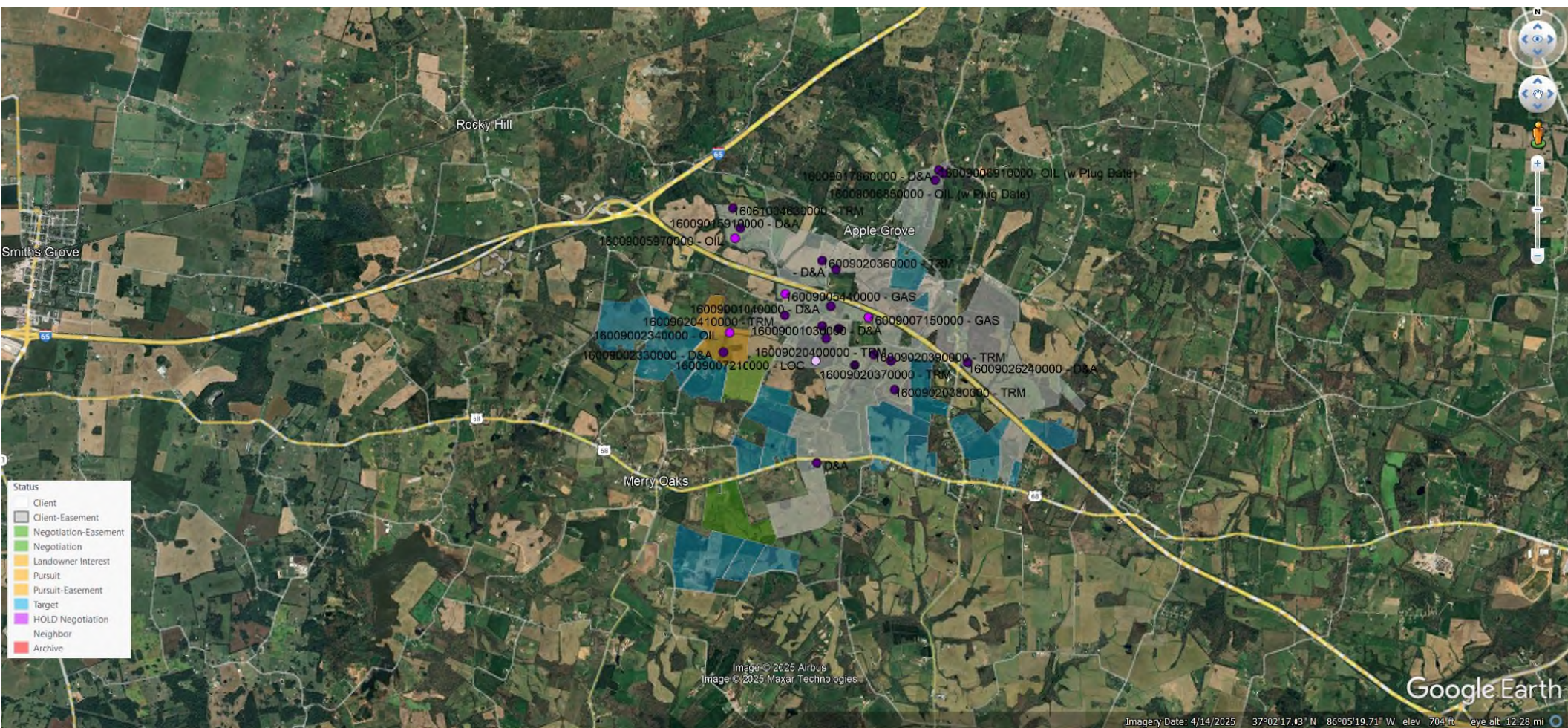
**Wood Duck Solar LLC**  
**Responses to Siting Board Staff's First Request for Information**  
**Case No. 2024-00337**

API #	Current Land Owner	Operator	Diameter
16009002340000	Elkins Dairy LLC Formerly Owned by Mike and Diane Roark	MCMEANS, LARRY K	6 5/8" Casing 8" Hole
16009007150000	Mark Bellamy	Lobb, Kenneth	7" Casing 8 3/4" Hole
16009005440000	Mark Bellamy	Creekside Drilling	Not Listed
16009005970000	Mark Bellamy	Farris, Henry Jr	5 1/2"
16009007210000	Jonluke Vincent	Mid-State Investment Corp	Not Listed
16009006850000	Mikel D. Bellamy	Zimmerman, Stanley	7" Casing 8 3/4" Hole
16009006910000	Mikel D. Bellamy	Zimmerman, Stanley	7" Casing 8 3/4" Hole
16009001030000	Mikel D. Bellamy	Creekside Drilling	7" Casing 8 3/4" Hole
16009001040000	Mark Bellamy	Creekside Drilling	7" Casing 8 3/4" Hole
16009002330000	Elkins Dairy LLC Formerly Owned by Mike and Diane Roark	MCMEANS, LARRY K	6 5/8" Casing 8" Hole
16009005230000	Mikel D. Bellamy	Creekside Drilling	Not Listed
16009015910000	Mark Bellamy	Lobb, Kenneth	7" Casing 8 3/4" Hole
16009017660000	Mikel D. Bellamy	Zimmerman, Stanley	7" Casing 8 3/4" Hole
16009020360000	Roger Cline	Kentucky Leasing and Drilling Company (Terminated Permit Expired or canceled) No additional data available	Not Listed
16009020370000	Mikel D. Bellamy	Creekside Drilling (Terminated Permit Expired or canceled) No additional data available	Not Listed
16009020380000	Mikel D. Bellamy	Creekside Drilling (Terminated Permit Expired or canceled) No additional data available	Not Listed
16009020390000	Mikel D. Bellamy	Creekside Drilling (Terminated Permit Expired or canceled) No additional data available	Not Listed
16009020400000	Mikel D. Bellamy	Oshanter Development Company (Terminated Permit Expired or canceled) No additional data available	Not Listed
16009020410000	Mikel D. Bellamy	Creekside Drilling (Terminated Permit Expired or canceled) No additional data available	Not Listed
16009020600000	Mikel D. Bellamy	Barren County Oil and Gas Company (Terminated Permit Expired or canceled) No additional data available	Not Listed
16009026240000	Luther J Garrett	Listed as N/A on Plugging and Filling Well Aff	6 5/8" Casing Size no hole diameter listed
16061004630000	Mark Bellamy	Lobb, Kenneth (Terminated Permit Expired or canceled) No additional data available	Not Listed
N/A (Called D&A on KMZ)	Darrell L. Burks	M.K. Evans	6 5/8" Casing 8 3/4" Hole
N/A (Called D&A on KMZ)	Daniel Lee Deckard	Kentucky Leasing and Drilling Company	6 5/8" Casing 8 3/4" Hole

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

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Responding Witness: Steve Hazel



Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 25:

Confirm the location of all cemeteries within a two-mile radius of the project and explain whether the project will restrict access to them.

Response:

The Project will not restrict public access to cemeteries and its planned construction activities will not impact cemeteries. The U.S. Geological Survey's National Sensitive Datasource (NSD) as well as aerial imagery and FindaGrave.com were utilized to locate all graves and burials within two miles. FindaGrave.com identified seven more features (small family burial plots confirmed with GPS and photos of headstones) that were excluded from the USGS's NSD. In total, 21 cemeteries and burial grounds were identified within two miles of the Project. Attached to the Response to Request No. 32 below contains a map depicting cemeteries within two miles of the Project.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 26:

State the number of years it will take for planted trees and scrub to reach mature height.

Response:

5 to 7 years, depending on weather.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 27:

Provide how many acres of vegetation, including trees, will be cleared during construction.

Response:

While Wood Duck anticipates clearing certain areas of the Project, the final acreage slated for clearing during construction has not been determined at this time, but it is anticipated to be no more than approximately 223 acres at maximum. Consultation with the U.S. Fish & Wildlife Service will take place to coordinate mitigation measures for potential loss of bat habitat via contribution to the Imperiled Bat Conservation Fund (IBCF). If clearing of trees is necessary, it is anticipated to take place during the non-hibernating season (Fall/Winter) to further minimize impact to bats.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 28:

Provide a narrative description of any vegetative or tree clearing that will occur across the project.

Include any permits that will be required.

Response:

Refer to the Response to Request No. 27. To the extent permits for these activities are anticipated these will be obtained, and any clearing activities will be commenced and completed in compliance with applicable laws.

Responding Witness: Chad Martin



Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 29:

Explain what factors are considered when deciding whether to remove forested areas from the project site.

Response:

Considerations of factors when deciding whether to remove forested areas from a project site include the goal of keeping natural forested areas intact to the extent practicable. These areas are then analyzed by forest type, size, ability to harbor state and federally listed animal species, and proximity to wetlands. Once these factors have been analyzed, any forested areas that are to be removed are done in such a way to minimize impacts to natural resources while meeting the needs of the Project.

Responding Witness: Chad Martin



Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 30:

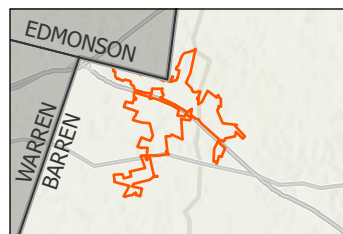
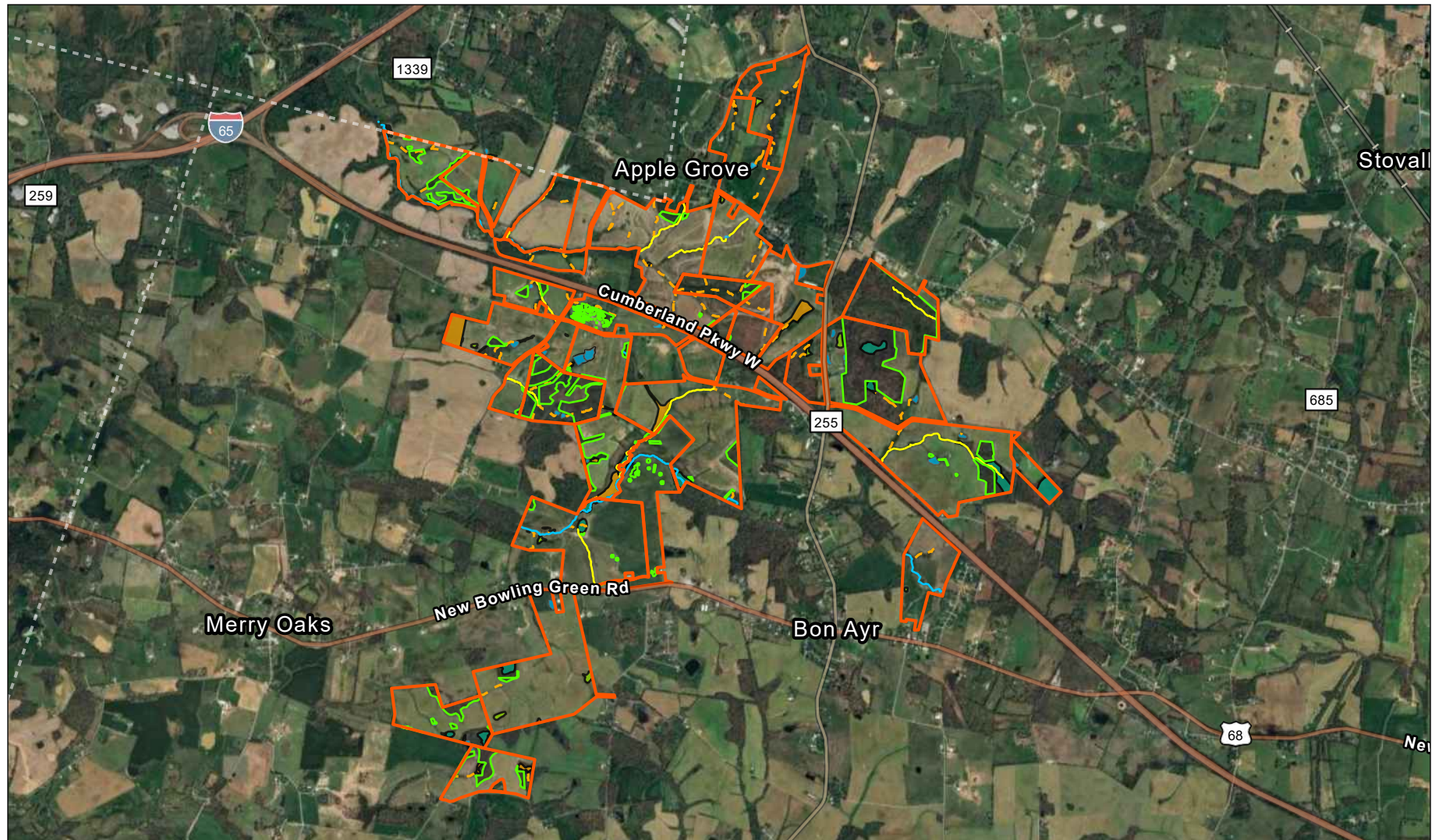
Provide a map showing all planned areas of vegetative clearing. Include on the map satellite imagery, wetland features, and elevation contours.

Response:

Please see the Response to Request No. 27 and the attached map showing proposed areas that may require vegetative clearing.

Responding Witness: Chad Martin

U:\2353\235301184\03\_data\gis\_cad\Projects\WithoutPIN\Wood Duck\Wood Duck.aprx Revised: 2025-07-24 By: KCLEVE



Legend

**Stream Type**

- Ephemeral
- Intermittent
- Perennial

**Wetland Type**

- Palustrine emergent wetland
- Palustrine forested wetland
- Palustrine shrub-scrub wetland
- Palustrine unconsolidated bottom (pond)
- Parcels\_v2



0 2,000 4,000 Feet  
(At original document size of 8.5x11)  
1:45,810

**Notes**

1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet
2. Data Sources: Wood Duck Solar Layout, USGS National Structures Dataset
3. Background: KyFromAbove Orthoimagery (2021)

Project Location  
Smiths Grove/Glasgow  
Barren Counties, Kentucky

Prepared by CRH on 2025-07-18

Client/Project Number	237801898
Client	Geenex
Project	Wood Duck Solar Project
Report	RFI

Exhibit:  
**Q27/28/30.**

Title  
**Vegetation Clearing**



Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 31:

Explain how Wood Duck Solar plans to mitigate flood risks within the site after vegetative clearing.

Response:

Wood Duck Solar will implement rules and procedures under the Kentucky KYR10 Construction Stormwater Permit and utilize BMPs to effectively manage stormwater runoff. Additionally, Wood Duck Solar will complete a hydrologic and drainage study, and construct stormwater detention basins where necessary to manage additional stormwater runoff during construction. Post-construction restoration would manage ground cover of the site back to pre-construction conditions and the site would experience runoff similar to pre-construction levels.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 32:

Refer to Application, Exhibit A, C203: Public Resources within 2 Miles of the Study Area. Provide an updated map which includes proposed solar array and associated equipment locations.

Response:

See attached.

Responding Witness: Chad Martin





Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 33:

Provide copies of documents submitted to other agencies, other than what is provided in the application.

Response:

Attached separately due to file size limits are documents submitted to the Joint City-County Planning Commission of Barren County ("Planning Commission") in connection with the Project's local variance and development plan applications, which are as follows:

- Table of Contents
- Cover Letter
- Pre-Construction Variance Application Form (North Structure)
- Participating Landowner and Parcel Summaries (North Structure)
- Explanation of Variance Request (North Structure)
- Pre-Construction Variance Application Form (South Structure)
- Participating Landowner and Parcel Summaries (South Structure)
- Explanation of Variance Request (South Structure)
- Variance Application Form Signature Pages
- Development Plan Application Form
- Solar Lease Memoranda
- Site Plan
- Parcel Map
- Redacted Solar Ground Lease Agreement
- Sound Study
- Traffic Impact Study
- Property Valuation Assessment
- Economic Impact analysis
- Visual Resources Assessment
- Landscape Plan
- Glare Hazard Analysis
- FAA Notice Criteria Results
- Critical Issues Analysis
- Karst Survey and Assessment Report
- Phase I Environmental Site Assessment
- Wetland Delineation report
- Table of Community Engagement History with Selected Materials

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

No other documents have been submitted to other agencies.

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Responding Witness: Kelley Pope

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 34:

Confirm whether all fencing, installed according to National Electric Safety Code standards, will be installed prior to the commencement of any electrical work. If not confirmed, provide a timeline for the fencing installation.

Response:

Refer to Application paragraph 9. The NESC does not specify fencing requirements for solar projects; however, fencing will be installed according to industry best practices. The fence enclosing the substation will adhere to North American Electric Reliability Corporation (NERC) safety standards and will be appropriately spaced, bonded, and grounded in compliance with NESC requirements prior to installation of any electrical equipment.

Responding Witness: Steve Hazel



Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 35:

Provide a parcel map for the proposed site. Include the parcel owner, acreage, whether they are participating or non-participating, parcel use, and all proposed project components presented in the site plan.

Response:

Please refer to SAR Attachments A and C for the Project's site plan and parcel map, respectively.

Parcels are generally used for agricultural and residential purposes.

Responding Witness: Kelley Pope

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 36:

Describe the proposed 'six-foot game style fence' referenced in Exhibit H, the Site Assessment Report (SAR), page 3.

Response:

This fence is similar in construction to managed game fences; constructed with wood or steel poles and square hatching wire, rather than the typical chain link fence. See attached for examples of game-style fencing.

Responding Witness: Chad Martin







Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 37:

Refer to the Application, page 9. Confirm whether proximity to residential neighborhoods and individual residences was a factor in the site selection process. If confirmed, explain how the proximity to residential neighborhoods and individual residences were considered.

Response:

Refer to Application paragraph 22. The Project site was selected, in part, due to proximity to electric transmission lines, favorable geography, and landowner participation. To ensure minimal impacts to the surrounding community and environment, the Project implemented setbacks and developed screening plans into its site design. The Project's extensive presence in the community was done in part to help inform the site's design to incorporate natural features and buffers to the extent practicable to responsibly site the generation facility away from existing residences, while preserving natural features to buffer and screen the site from the surrounding community. A decision whether to move forward with a specific site is not based on an objective formula, but is determined based on the totality of the circumstances and factors unique to each solar site.

Responding Witness: Steve Hazel

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 38:

Explain why this site was selected given its proximity to multiple residential neighborhoods.

Response:

See the Response to Request No. 37 above. The location of the existing electrical infrastructure and proximity to existing transmission lines and the Bon Ayr substation were the critical factors in selecting the Project site, while specific parcels used for the Project were based on willing landowner participation in the Project.

Responding Witness: Steve Hazel

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 39:

Provide details of the three historic structures and three historic cemeteries within 2000 ft of the project referenced in Exhibit H, SAR, page 18.

Response:

Please refer to Cultural Resources report taken from the Critical Issues Analysis (CIA) attached to the Response to Request No. 33 above. Three potentially historic features composed of multiple structures are shown highlighted on Table 5-4 of the CIA. The three cemeteries are shown and labeled on Figure 5-2 of the CIA.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 40:

Refer to Application, Exhibit B, 2025 PIM and Public Notice Report, part 2, page 25 titled "Status of Wood Duck Project Studies". Provide copies of all completed studies, if not already included in the application.

Response:

Please find the Project's cumulative environmental assessment attached. All other completed studies for the Project are included in the Attachment to Request No. 33 above.

Responding Witness: Kelley Pope



**Cumulative Environmental  
Assessment**

**Wood Duck Solar LLC**

**Wood Duck Solar Project**



Prepared for:

Wood Duck Solar, LLC  
1000 NC Music Factory Blvd., Ste C3  
Charlotte, NC 28206

Prepared by:

Stantec  
8401 Shoal Creek Blvd.  
Austin, Texas 78757

Project No: 237801898

July 11, 2023

Table of Contents

**ABBREVIATIONS .....II**

**1.0 INTRODUCTION..... 1**

**2.0 AIR POLLUTANTS ..... 1**

**3.0 WATER QUALITY .....2**

3.1 SURFACE WATER .....2

3.2 GROUNDWATER .....3

**4.0 WASTE .....4**

**5.0 WATER WITHDRAWAL.....5**

**6.0 REFERENCES.....6**

## Abbreviations

BMPs	Best Management Practices
CEA	Cumulative Environmental Assessment
CFC	Chlorofluorocarbons
CO	Carbon monoxide
KAR	Kentucky Administrative Regulations
KDOW	Kentucky Division of Water
KRS	Kentucky Revised Statutes
NAAQS	National Ambient Air Quality Standards
NO <sub>x</sub>	Nitrous oxides
PM	Particulate Matter
PPE	Personal Protective Equipment
Project	Wood Duck Solar Project
SO <sub>2</sub>	Sulfur dioxide
SWPPP	Stormwater Pollution Prevention Plan
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VOC	Volatile Organic Compound
Wood Duck	Wood Duck Solar LLC

## 1.0 INTRODUCTION

The purpose of this report is to satisfy the requirements of the Kentucky Revised Statutes (KRS) 224.10-280 which states no person shall commence to construct a facility to be used for the generation of electricity unless that person submits a cumulative environmental assessment (CEA) to the Kentucky Energy and Environment Cabinet with the permit application. Wood Duck Solar LLC (Wood Duck) has prepared this report to satisfy the requirements of KRS 224.10-280 as part of their application for the Wood Duck Solar Project (Project). The Project is a proposed 100 MW solar facility that is situated on a Project area of 1,245 (fenced) acres and will generate electricity with photovoltaic solar panels. The Project is located northwest of Glasgow, in Barren County, Kentucky (GPS Centroid 37.038896 °, -86.070675°). The proposed Project Site and surrounding parcels are primarily rural and agricultural in use with scattered residential development. The Project is bisected by Cumberland Parkway.

Upon researching the statute and accompanying regulations, Hummingbird is unaware of any regulations that have been promulgated regarding CEAs. To comply with KRS 224.10-280, this cumulative environmental assessment will evaluate potential project impacts to four areas: Air Pollutants, Water Pollutants, Wastes and Water Withdrawal.

## 2.0 AIR POLLUTANTS

The emission of air pollutants is regulated through the Clean Air Act, which through its regulations has established baseline National Ambient Air Quality Standards (NAAQS) for multiple pollutants in order to protect public health and welfare. The pollutants covered are ozone, particulate matter (PM), carbon monoxide (CO), nitrous oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), and lead.

Geographic areas with ambient concentrations of these pollutants that exceed the NAAQS are designated as areas of nonattainment, and new emissions sources in or near these areas are often subjected to more stringent permitting requirements.

Barren counties and all surrounding counties (Hart, Edmonson, Warren, Allen, Monroe, Metcalf) are all in attainment for all pollutants (USEPA, 2022). Additionally, Barren County is protected by the Air Quality Regulations found in the Kentucky Administrative Regulations (KAR), Title 401 Chapters 50-68.

Increases in air pollutant emissions would occur during development and construction of the facility; however, these increases would be temporary in nature. Air pollutant emissions would result from operation and staging of supplies and construction equipment, worker personnel vehicles, and equipment and supply deliveries. The amount of increase in air pollutant emissions would vary by the construction activity, work force size, and weather conditions occurring on the site. It is estimated that up to 300 workers would be onsite at any one time during the up to 12-month construction period. When possible, work will be conducted during daylight hours, but at times it may be necessary to continue work after dark to complete critical construction activities. Construction and operation equipment would include, but not be limited to, bulldozers, backhoes, flatbed semi-trucks, cranes, forklifts, bobcats and/or specialized tractors with extender or drill with auger or pile driver for installation of solar panel array posts, and concrete trucks.



Local emissions of PM, NO<sub>x</sub>, CO, volatile organic compounds (VOCs), and SO<sub>2</sub> would be generated by both gasoline and diesel combustion engines. These emissions are anticipated to result in minor air quality impacts due to the limited durations, numbers of vehicles, and hours of operation. Tree clearing and associated actions are expected to be limited due to the site being primarily sited within agricultural land. No burning of woody debris will occur on site, and trees that are felled will be managed at an offsite facility or will be chipped or mulched on site.

Activities related to construction at the site will result in temporary increases in air pollutant emissions (e.g., dust and other suspended particles). Any grading and vehicle travel on unpaved roads will result in an increased dust emission. To reduce impacts to air quality, the Project will require contractors to implement best management practices (BMPs) such as wetting areas to reduce dust and covering loads to minimize dust emissions. Overall, impacts on air quality will be minor due to being localized and temporary in nature.

Solar facilities do not produce any emissions during operation, as such, the Project is not anticipated to emit any of the criteria pollutants (PM, CO, SO<sub>2</sub>, NO<sub>x</sub>, VOCs, or lead). In addition, no hazardous air pollutants are expected to be emitted from the facility during operation.

During operation the only anticipated emissions associated with the facility are those from maintenance vehicles, such as trucks used by technicians and equipment used during mowing and other vegetation control. Hummingbird anticipates limited visits by personnel to the site to conduct inspections, perform equipment maintenance, and vegetation management.

## **3.0 WATER QUALITY**

### **3.1 SURFACE WATER**

The Project is located primarily within the Little Sinking Creek watershed, with a small portion falling in the Sinking Creek watershed. Stantec scientists identified 72 streams and 83 wetlands within the Project. Of these, 71 streams and 67 wetlands potentially possess a significant nexus to Gardner and Little Sinking Creeks, which drain north to Mammoth Cave National Park (USGS, 2022). The Project is predominantly comprised of agricultural lands interspersed with residential development and forested areas. The majority of vegetation consists of planted agricultural species and natural hydrology has been significantly altered in many areas by agriculture and road construction. None of the waterways in or immediately adjacent to the Project have any special designation (e.g., Outstanding State Resource Waters, Coldwater Aquatic Habitats, or other Special Use Waters); however, the entirety of the Project is located within a greater area of designation. This area is designated as Threatened and Endangered Listed Species, Outstanding State Resource Water, and Cold-Water Aquatic Habitat Waterbody area for Turnhole Spring and the Green River ground water basin according to the Kentucky Division of Water (KDOW, 2022).

Construction activities may increase erosion and sedimentation impacting onsite streams and wetlands. To minimize impacts, the Project will utilize the existing landscape where possible to eliminate grading. Where grading is unavoidable, it will be completed with earthmoving machinery and will make every effort to match existing slopes. Wood Duck expects the Project to have storm water discharge during construction and intends to comply with KDOW's Construction Storm Water Discharge General Permit for any construction



activities that disturb an acre or more. A Notice of Intent will be submitted before any work begins on the site; Wood Duck will submit a Notice of Termination once work is complete.

Contractors will be required to use silt fences, temporary sediment basins and traps, buffers around streams, wetlands, and open waters, and other BMPs in order to minimize the impacts of stormwater runoff. Hummingbird or its contractor will prepare and implement a stormwater pollution prevention plan (SWPPP) to comply with KDOW requirements. These BMPs will be used during the construction phase through final vegetative stabilization to minimize sediment runoff into Waters of the U.S. and Commonwealth.

After construction, all disturbed areas not occupied by Project infrastructure will be returned to approximate pre-construction use and capability via reclamation and revegetation. Disturbed soils inside of the Project's fence line will be re-seeded using a mixture of fescue and/or pollinators to stabilize exposed soil and control sedimentation. All plantings and other erosion control measures will be inspected and maintained until the Project site is stable.

If necessary, selective spraying of invasive and nuisance species would be utilized for vegetation control on the site. Any herbicides used will be applied by state licensed commercial pesticide applicators, in accordance with label directions to limit any applications near waters of the U.S. or Commonwealth. This will reduce the risk of unacceptable aquatic impacts.

A small portion of the Project site will be used as temporary construction mobilization and laydown area, which will contain the office trailer, worker parking, equipment and material staging or storage, above ground water and fuel tanks, and assembly areas for the duration of construction activities. Where possible, these will be placed in areas where the proposed solar array will be located. Once construction is complete, all office trailers, equipment, unused materials, and any debris will be removed from the Project site.

Once construction is complete, operation of the Project will have little to no impacts on surface water. BMPs will be utilized during any maintenance activities that may cause runoff of any sediments or pollutants.

## **3.2 GROUNDWATER**

Groundwater is any water found under the earth's surface, including geologic formations which contain sufficient saturated permeable material to produce large quantities of water to wells and springs known as aquifers (USGS 1995). Aquifers are often used as sources of drinking water and irrigation. Any adverse impacts to groundwater could have significant social and economic impacts. The Little Sinking Creek and Gardner Creek to which the Project drain to are both losing streams, meaning they drain below ground, and there is potential for sinkholes and seeps to be present within the Project. Karst surveys have been completed and the project layout was designed to avoid and buffer identified karst features.

Development of the Project is not anticipated to have any negative impacts to groundwater. Rainwater would run off the panels and either be absorbed into the ground and enter the aquifer or be collected by nearby surface water features.

Hazardous materials in the form of fuels, lubricants and other fluids will be stored on site during construction and leaks and spills could potentially contaminate groundwater. However, contractors will utilize BMPs to





minimize the risk of leaks and spills and implement plans and procedures to immediately address spills and leaks that do occur. These efforts will limit the risk of potential impacts to groundwater. Due to the use of BMPs, there are no anticipated direct adverse impacts due to construction of the Project on groundwater.

During construction and operation, it is possible that limited use of fertilizer and herbicides will be used at the Project site. Any chemical use will be conducted in accordance with manufacturer's recommendations to reduce the risk of groundwater contamination.

## 4.0 WASTE

All waste generated during the construction and operation of the Project will be disposed of following all local, state, and federal regulations.

Waste generated during construction activities will include wooden crates, pallets, cardboard boxes and other packaging material. Additionally, excess wiring and other random debris could be intermittently produced. No waste will be disposed of on the Project site. Where practical, construction waste material will be recycled, and any material that cannot be recycled will be disposed of offsite at a permitted facility. Construction contractors and subcontractors will be responsible for proper cleanup, disposal, and storage activities.

Primary construction materials stored on site will be liquids such as, used oil, diesel fuel, gasoline, hydraulic fluid, and other lubricants. Proper disposal containers, obtained by a waste disposal contractor, will be located at onsite staging areas. Waste materials generated during the construction process will be stored in appropriate containers specific to the waste material. The storage containers will have secondary containment in case of tank or vessel failure. Safety data sheets will be available to on-site personnel for all applicable materials.

Fueling of some petroleum fueled construction related machinery, such as tractors, trucks, and semi-trucks will take place on the Project site. Other vehicles will be refueled at on-site layaway areas. Proper storage and handling procedures for preventing spills related to machinery re-fueling will be implemented by the construction contractor. Additionally, spill control kits will be carried on refueling vehicles.

Paint, degreasers, pesticides, herbicides, air conditioning fluids (chlorofluorocarbons [CFC]), gasoline, propane, hydraulic fluid, welding rods, and janitorial supplies may be stored on site in small quantities. Significant environmental impacts caused by a potential spill are not anticipated due to the small quantity of materials and the implementation of proper clean up procedures.

Wood Duck will develop and implement a Hazardous Material Business Plan to ensure the safe handling, storage, and disposal of hazardous materials. Proper personal protective equipment (PPE) will be provided to facility staff and they will be trained in proper use of PPE and the handling, use, and cleanup procedures of hazardous materials used on site. Adequate supplies of applicable clean up materials will be stored on-site.

Designated waste management companies will manage any waste generated on site. Waste produced on site is expected to be minimal and will be mainly related to maintenance or repair of construction equipment.



Additionally, portable chemical toilets will be placed on site for construction workers. Licensed contractors will be responsible for pumping sewage from the portable toilets. The sewage waste will be disposed of at a permitted location selected by the chemical toilet contractor.

Once construction is complete and the Project is in the operation phase, no waste is expected to be generated from the site. Any waste generated during maintenance activities will be removed from the site and disposed of in accordance with state and federal regulations.

Based on review of the potential waste generation activities, adverse effects are not anticipated from general waste or wastewater treatment and disposal.

## **5.0 WATER WITHDRAWAL**

Water for construction-related dust control and operations will be obtained from several potential sources, including an on or off-site groundwater well, or trucked from an offsite water purveyor.

Water use related to construction activities will include site preparation such as dust control and grading activities. The primary use of water would be for the grading of access roads, foundations, and equipment pads. Proper BMPs outlined in the SWPPP will be followed during any equipment washing and potential dust control discharges. Groundwater resources are not anticipated to be adversely affected by the volume of water required during the construction process.

Solar electricity operation is not a water-intensive process. Manual washing of solar panels is not anticipated. Rainfall in the region will suffice to remove dust and other debris from the PV panels. However, water will be used for vegetation management needs, including screening vegetation installation and during prolonged periods of drought.



## 6.0 REFERENCES

Kentucky Division of Water (KDOW) 2022. Special Waters Viewer. Available at: [KY Water Maps Portal 2.0](#) Accessed May 2022.

US Environmental Protection Agency (USEPA) 2022. Counties Designated “Nonattainment” for Clean Air Act’s National Ambient Air Quality Standards (NAAQS). Available at: <https://www3.epa.gov/airquality/greenbook/ancl.html>. Accessed July 2023.

US Geological Survey (USGS) 1995. Groundwater: What is Groundwater? (n.d.). Available at: [https://www.usgs.gov/special-topic/water-science-school/science/groundwater-what-groundwater?qt-science\\_center\\_objects=0#qt-science\\_center\\_objects](https://www.usgs.gov/special-topic/water-science-school/science/groundwater-what-groundwater?qt-science_center_objects=0#qt-science_center_objects) Accessed July 2022.



Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

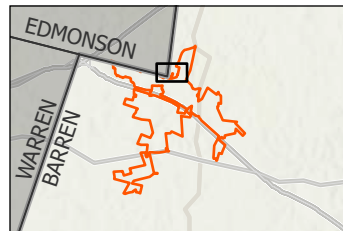
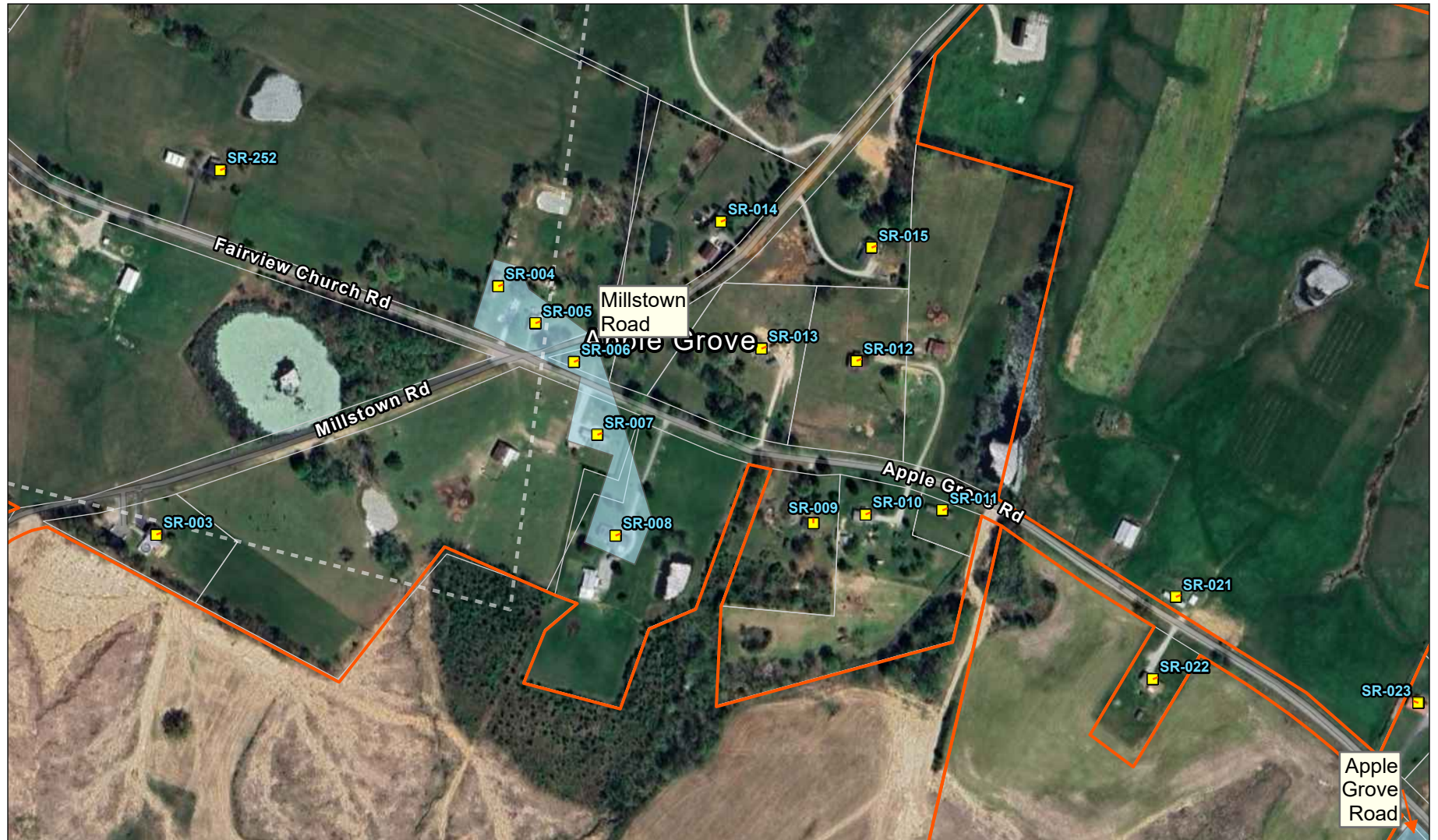
Request No. 41:

Provide a parcel map for each residential neighborhood. Include each residence, the owner, and the distance to the nearest solar panel and fence. Use satellite imagery as the basemap.

Response:

Please see attached maps for each residential neighborhood and numbering of each residence. The residence numbers correlate with the Appendix Table Noise Study (SAR Attachment D) where distance to fence and nearest panel are listed.

Responding Witness: Chad Martin



#### Legend

- Project Boundary
- WD\_ParcelsIn2000ft
- Wood Duck\_Sound Receptors
- 2000ft\_buffer
- Wood Duck\_Neighborhoods



0 150 300 Feet  
(At original document size of 8.5x11)  
1:5,000

#### Notes

1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet
2. Data Sources: Wood Duck Solar Layout, USGS National Structures Dataset
3. Background: KyFromAbove Orthoimagery (2021)



Project Location  
Smiths Grove/Glasgow  
Barren Counties, Kentucky

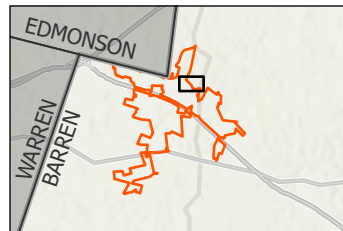
Prepared by CRH on 2025-07-18

Client/Project Number	237801898
Client	Geenex
Project	Wood Duck Solar Project
Report	RFI

Exhibit:  
**Q41.**

Title  
**Neighborhood Sound Receptors  
(close-up)**





#### Legend

- Project Boundary
- WD\_ParcelsIn2000ft
- Wood Duck\_Sound Receptors
- 2000ft\_buffer
- Wood Duck\_Neighborhoods



#### Notes

1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet  
(At original document size of 8.5x11)  
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2. Data Sources: Wood Duck Solar Layout, USGS National Structures Dataset
3. Background: KyFromAbove Orthoimagery (2021)



Project Location: Smiths Grove/Glasgow  
Barren Counties, Kentucky

Prepared by CRH on 2025-07-18

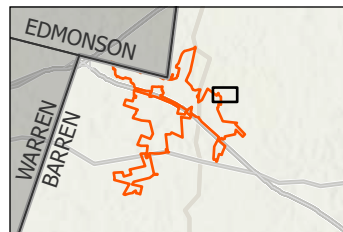
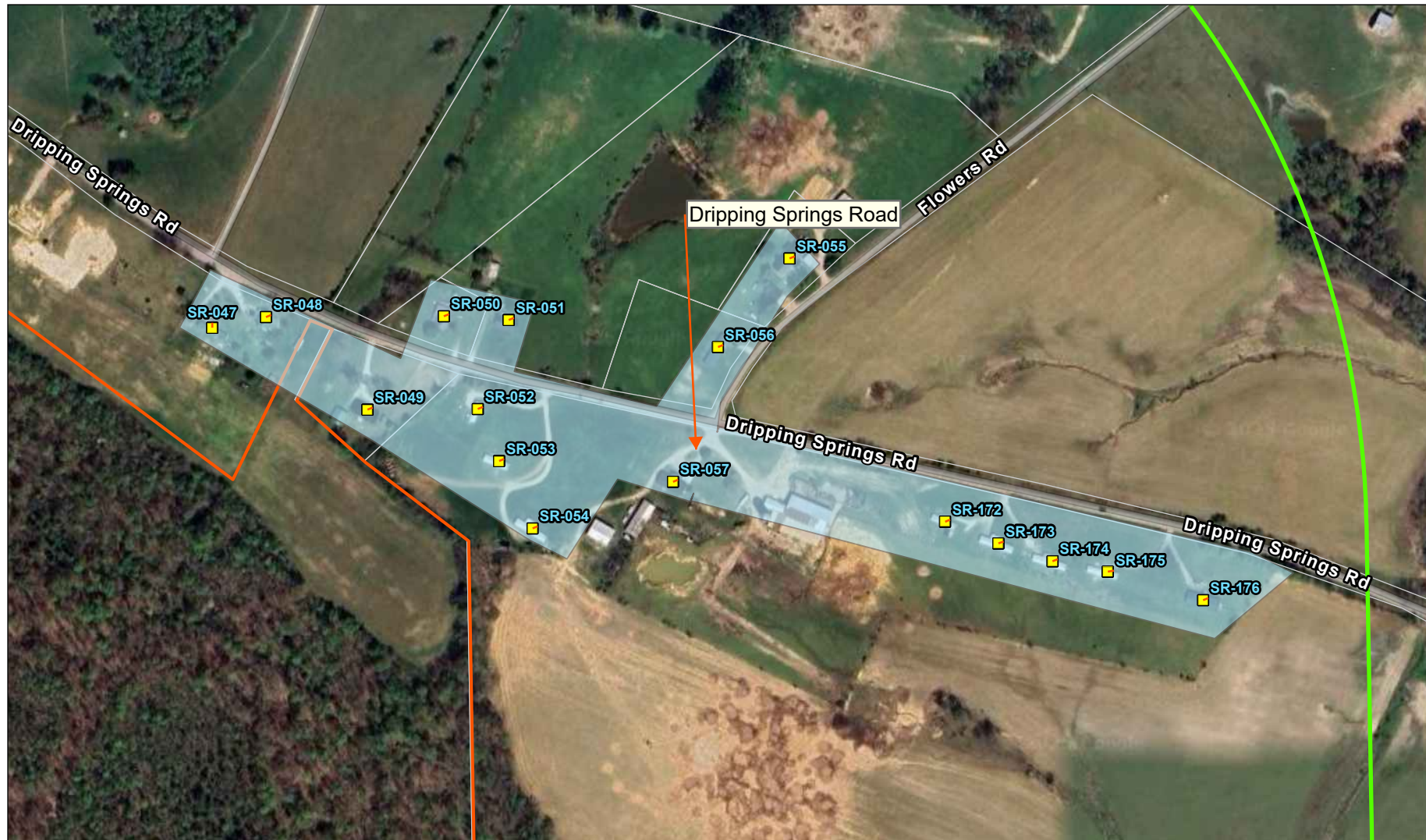
Client/Project Number: 237801898  
Client: Geenex  
Project: Wood Duck Solar Project  
Report: RFI

Exhibit: Q41.

Title: **Neighborhood Sound Receptors  
(close-up)**



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#### Legend

- Project Boundary
- WD\_ParcelsIn2000ft
- Wood Duck\_Sound Receptors
- 2000ft\_buffer
- Wood Duck\_Neighborhoods



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1:4,000

#### Notes

1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet
2. Data Sources: Wood Duck Solar Layout, USGS National Structures Dataset
3. Background: KyFromAbove Orthoimagery (2021)



Project Location  
Smiths Grove/Glasgow  
Barren Counties, Kentucky

Prepared by CRH on 2025-07-18

Client/Project Number  
Client  
Project  
Report

237801898  
Geenex  
Wood Duck Solar Project  
RFI

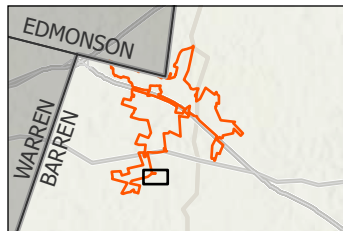
Exhibit:  
**Q41.**

Title  
**Neighborhood Sound Receptors  
(close-up)**

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#### Legend

- Project Boundary
- WD\_ParcelsIn2000ft
- Wood Duck\_Sound Receptors
- 2000ft\_buffer
- Wood Duck\_Neighborhoods



0 150 300 Feet  
(At original document size of 8.5x11)  
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#### Notes

1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet
2. Data Sources: Wood Duck Solar Layout, USGS National Structures Dataset
3. Background: KyFromAbove Orthoimagery (2021)



Project Location Smiths Grove/Glasgow  
Barren Counties, Kentucky

Prepared by CRH on 2025-07-18

Client/Project Number 237801898  
Client Geenex  
Project Wood Duck Solar Project  
Report RFI

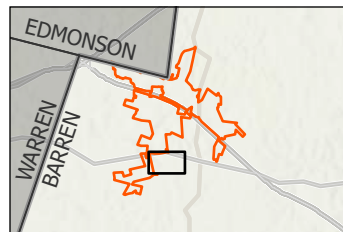
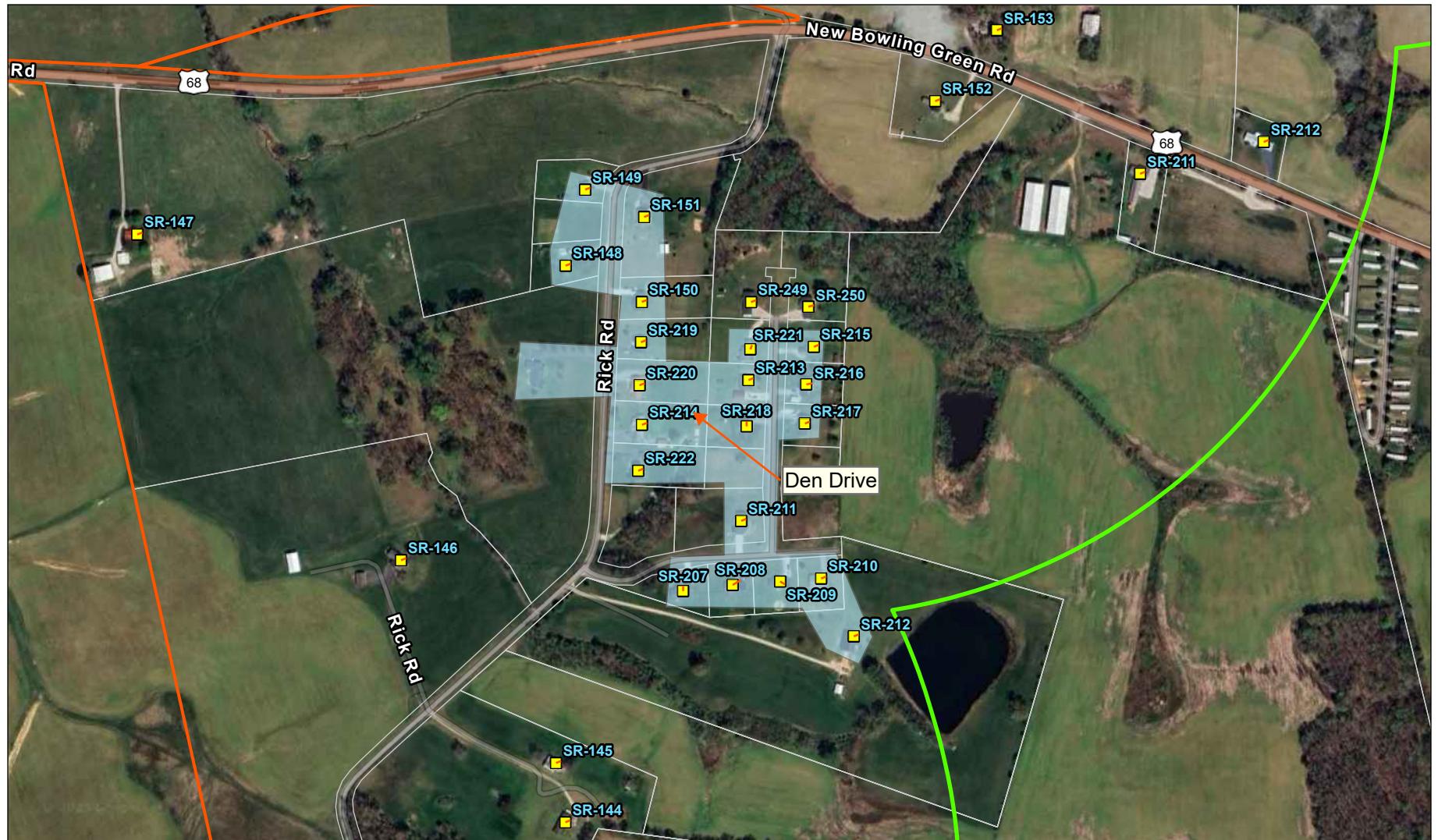
Exhibit:  
**Q41.**

Title  
**Neighborhood Sound Receptors  
(close-up)**

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#### Legend

- Project Boundary
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- Wood Duck\_Sound Receptors
- 2000ft\_buffer
- Wood Duck\_Neighborhoods



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#### Notes

1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet
2. Data Sources: Wood Duck Solar Layout, USGS National Structures Dataset
3. Background: KyFromAbove Orthoimagery (2021)



Project Location  
Smiths Grove/Glasgow  
Barren Counties, Kentucky

Prepared by CRH on 2025-07-18

Client/Project Number  
Client  
Project  
Report

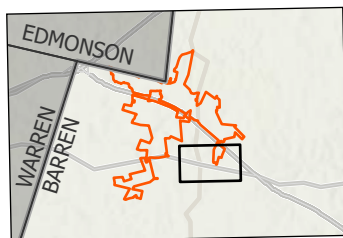
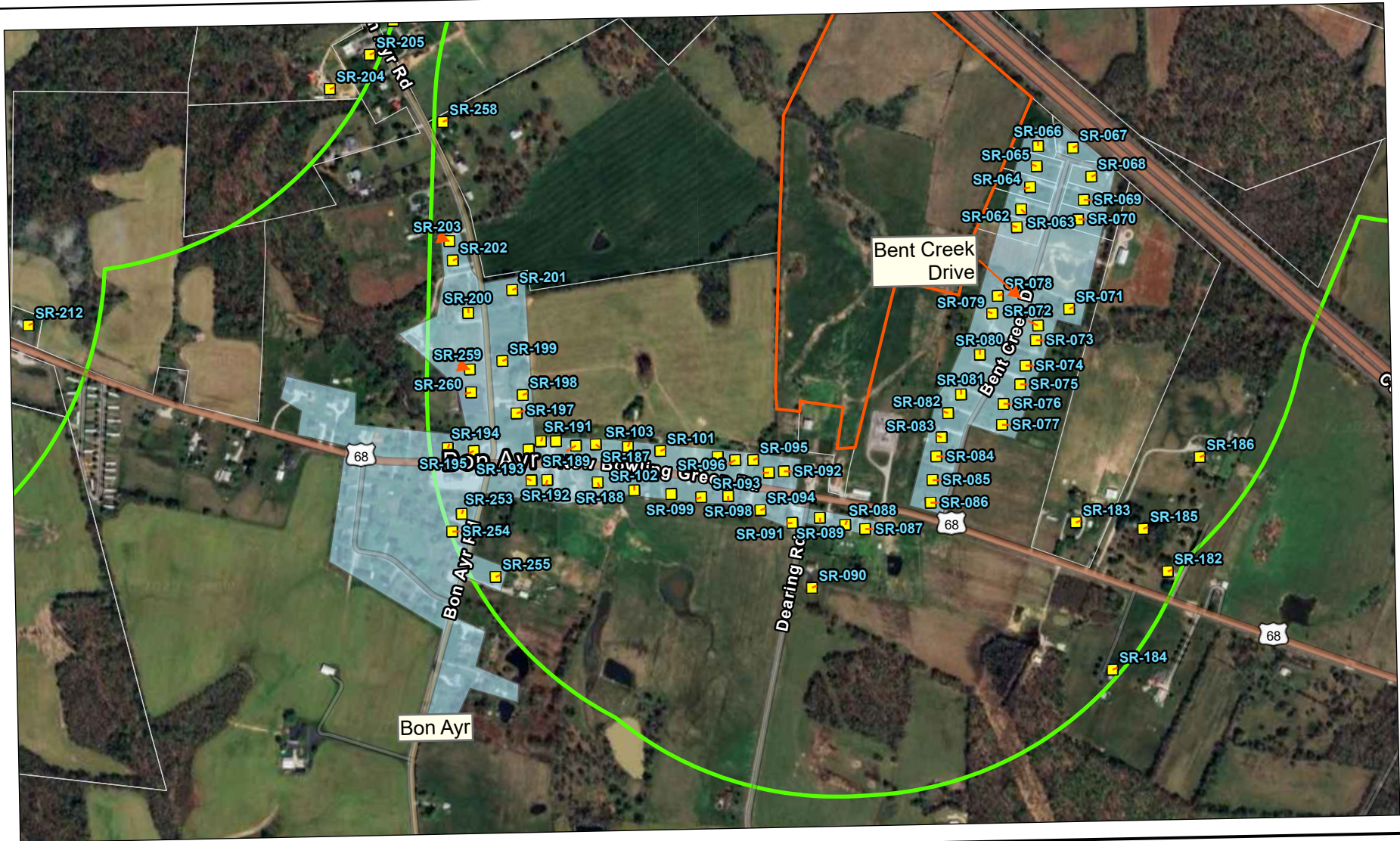
237801898  
Geenex  
Wood Duck Solar Project  
RFI

Exhibit:  
**Q41.**

Title  
**Neighborhood Sound Receptors  
(close-up)**

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#### Legend

- Project Boundary
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- Wood Duck\_Sound Receptors
- 2000ft\_buffer
- Wood Duck\_Neighborhoods



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(At original document size of 8.5x11)  
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#### Notes

1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet
2. Data Sources: Wood Duck Solar Layout, USGS National Structures Dataset
3. Background: KyFromAbove Orthoimagery (2021)



Project Location  
Smiths Grove/Glasgow  
Barren Counties, Kentucky

Prepared by CRH on 2025-07-18

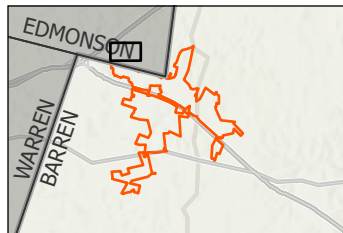
Client/Project Number 237801898  
Client Geenex  
Project Wood Duck Solar Project  
Report RFI

Exhibit:  
**Q41.**

Title  
**Neighborhood Sound Receptors  
(close-up)**



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#### Legend

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Project Location  
Smiths Grove/Glasgow  
Barren Counties, Kentucky

Prepared by CRH on 2025-07-18

Client/Project Number	237801898
Client	Geenex
Project	Wood Duck Solar Project
Report	RFI

Exhibit:  
**Q41.**

Title  
**Neighborhood Sound Receptors  
(close-up)**

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Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 42:

Provide any communication that has occurred with Mammoth Cave National Park regarding the project. Include in the response all questions that were asked and all concerns that were raised.

Response:

See attached.

Responding Witness: Kelley Pope



**Gregory T. Dutton**  
Partner  
502.779.8557 (t)  
502.581.1087 (f)  
gdutton@fbtlaw.com

July 17, 2025

Marcus H. Key  
Program Lead for Science and Resources Management  
Division of Science and Resources Management  
Mammoth Cave National Park  
P.O. Box 7  
Mammoth Cave, KY 42259

Re: Wood Duck Solar Project

Gentlemen,

Thank you for meeting me and my client last month at your offices regarding the Wood Duck Solar Project (“Wood Duck” or “Project”) and its potential impact on Mammoth Cave and the Kentucky Cave Shrimp. We were very pleased to hear your opinion that our development plan will not negatively impact the Mammoth Cave watershed or the Kentucky Cave Shrimp. Per your request, I am writing you to detail the measures discussed that will minimize and otherwise mitigate any environmental impacts to Mammoth Cave. Please see below for each topic we discussed.

For convenience, I’ve attached a copy of Wood Duck’s [application](#) and [site assessment report](#) (SAR) narratives, which can also be viewed in the Siting Board case docket at the embedded links. Here are also links to the related exhibits:

- Application [Exhibit J](#) (beginning on p. 357)
- SAR [Attachment A](#) (beginning on p. 21)
- SAR [Attachment G](#) (beginning on p. 551)

**Battery Storage.** Wood Duck will not include a battery energy storage system. All electricity generated will be transmitted to the Bon Ayr substation owned and operated by East Kentucky Power Cooperative and subsequently conveyed to the regional grid. *See* Application ¶¶ 6, 12, and 22; *see also* SAR ¶¶ 6 and 12.

**Stormwater Runoff.** The Project will submit a stormwater pollution prevention plan (SWPPP) and a notice of intent for use of the Kentucky stormwater construction general permit (KYR10) to the Energy and Environment Cabinet, Division of Water for review and approval prior to commencing construction to ensure that construction will comply with all applicable requirements to manage erosion, sedimentation, and stormwater runoff. The SWPPP will be designed to reduce potential

impacts to surface and ground water quality during construction. It is anticipated that the SWPPP will include the standard BMPs, including silt fencing. Additionally, the Project is designed to avoid sensitive water resources such as wetlands. *See* SAR Attachment A. If the Project were to potentially impact jurisdictional streams and wetlands, Wood Duck will obtain a jurisdictional determination from the U.S. Army Corps of Engineers and a Clean Water Act 404/401 permit if necessary. *See* SAR ¶¶ 33, 35, and 41-45.

**Vegetation Management.** The interior of the Project will be reseeded with a native grass seed mixture and interior vegetation will be maintained at a height of approximately 12 inches. The planting of native grasses across the site will prevent or decrease sheet flow and sediment runoff from agricultural uses, which is the current use for most of the site. Where possible, the Project has been designed to focus on preserving existing vegetation. *See* SAR ¶¶ 38-39; *see also* SAR Attachment G. There are no plans to use harmful chemicals to clean panels during operation, instead relying on the area's rainfall and trucked in water, when necessary.

**Setbacks.** The Project is designed to avoid sensitive resources including known Karst features. SAR Attachment A. The Project's approach to mitigating Karst is to avoid areas where Karst is discovered and implement a 25-foot setback from all Karst features encountered. Exhibit J, pp. 6-7.

**Herbicides.** The Project plans to control weeds and invasive species via mechanical means (frequent mowing) in the first 5 years. Pre-emergent herbicides may be used in the first few years to control weeds to ensure adequate ground coverage. After that, spot spraying problem areas with bio-friendly herbicide options would be used. Control after year 5 would be mechanical only with 1-2 annual mowing events and some spot spraying anticipated. *See* SAR ¶ 39; *see also* SAR Attachment G, pp. 13-14. Riparian native filter buffers would remain in place for all streams and identified Karst features.

Again, it was a pleasure meeting you last month and please do not hesitate to reach out to me if you have any follow up questions related to the Wood Duck Solar Project.

Sincerely,



Gregory T. Dutton  
Partner

GTD:RPD

# **ATTACHMENT 1:**

**WOOD DUCK SOLAR**

**APPLICATION NARRATIVE**

COMMONWEALTH OF KENTUCKY  
BEFORE THE KENTUCKY STATE BOARD ON  
ELECTRIC GENERATION AND TRANSMISSION SITING

In the Matter of:

ELECTRONIC APPLICATION OF WOOD	)	
DUCK SOLAR LLC FOR A CERTIFICATE OF	)	
OF CONSTRUCTION FOR AN APPROXIMATELY	)	
100 MEGAWATT MERCHANT ELECTRIC	)	
SOLAR GENERATING FACILITY AND	)	Case No. 2024-00337
NONREGULATED ELECTRIC TRANSMISSION	)	
LINE IN BARREN COUNTY, KENTUCKY	)	
PURSUANT TO KRS 278.700 AND 807 KAR	)	
5:110.	)	

**Application for Certificate of Construction**

Wood Duck Solar LLC (the “Applicant” or “Wood Duck”) files this application seeking from the Kentucky State Board on Electric Generation and Transmission Siting (the “Siting Board” or “Board”) a certificate of construction for an approximately 100-megawatt (MW) merchant electric solar generating facility and nonregulated electric transmission line pursuant to KRS 287.704 and 278.714 (the “Application”). The generating facility and nonregulated transmission line for which the certificates are sought will be located in Barren County, Kentucky.

In support of the Application, the Applicant submits herewith Exhibits A-J. To assist the Board and interested persons in locating information required by various statutes and regulations, the Applicant also submits herewith the Table of Contents required by 807 KAR 5:110 § 3(2)(b) and attaches hereto Indexes of Regulation Requirements, listing the requirements for a generation application and nonregulated transmission lines application and the principal place(s) each requirement is addressed in these Application materials. The facts on which the Application is based are contained in the concurrently filed exhibits, reports, and the statements further made by the Applicant as follows:

## **I. Applicant Information**

1. Pursuant to KRS 278.706(2)(a) and 278.714(2)(a), the name, address, and telephone number of the person proposing to construct and own the merchant electric generating facility and nonregulated transmission line is as follows: Wood Duck Solar LLC; 1000 NC Music Factory Blvd., Suite C3, Charlotte, NC 28206. The Applicant's phone number is (980) 237-7926; and its email address is: [woodduck@geenexsolar.com](mailto:woodduck@geenexsolar.com).

2. Wood Duck is a wholly-owned subsidiary of Geenex Solar LLC ("Geenex"), a leading national developer of utility-scale solar projects in the United States. Geenex's pipeline of more than 10 gigawatts (GW) of PJM-interconnected solar and storage projects range in size from 20 MW to 700 MW.

3. Pursuant to 807 KAR 5:100, Section 1, the necessary filing fee of \$110,000.00 was transmitted via USPS Certified Mail to the Siting Board on May 13, 2025, with an anticipated delivery date of May 17, 2025. This consists of \$100,000.00 for the generation application and \$10,000.00 for the nonregulated transmission line application.

## **II. Description of Proposed Site**

4. The proposed Wood Duck Solar Project (the "Project") is a 100 MW solar facility capable of providing enough clean, renewable electricity to power approximately 20,000 Kentucky homes. Photovoltaic (PV) solar modules are used to convert sunlight into direct current (DC) electricity which is then converted to alternating current (AC) electricity through inverters. Transformers step up AC electricity to a higher voltage so that it can connect to the regional transmission grid.

5. Pursuant to KRS 278.706(2)(b), the Project is located on approximately 2,259 acres near Glasgow, Kentucky, in Barren County. The Project footprint, generally the area within the fence line where the Project infrastructure will be located, includes approximately 1,245 acres within the

larger Project site after site constraints and proposed setbacks. The site consists of 28 parcels secured from 15 landowners pursuant to real estate agreements with each landowner. Exhibit A contains the Project site plan, parcel map, and a map showing the distance of the proposed site from residential neighborhoods, the nearest residential structures, schools, and public and private parks that are located within a two (2) mile radius of the proposed facility. The current uses for the Project parcels are mostly agricultural and residential including row crop, harvested hay, and pastureland.

6. Pursuant to KRS 278.714(2)(b) and KRS 278.714(2)(c), the Project includes a single nonregulated electric transmission line. The proposed transmission line will start at approximate coordinates 37.024679°, -86.052131° and run east from the Project substation then south and east into the Bon Ayr substation owned and operated by East Kentucky Power Cooperative (EKPC) at approximate coordinates 37.023522°, -86.051393°. The total length of the transmission line is approximately 500 feet. The design voltage of the electric transmission line is 69 kilovolt (kV) and maintained within a proposed 50-foot right of way. The Project's substation parcel adjoins EKPC's Bon Ayr substation parcel, enabling the short length of this new transmission line. The proposed right of way will be within two parcels, Parcel 33-7A, owned by Savers Storage, and the adjacent EKPC substation parcel. The transmission line will be approximately 315 feet from the nearest participating residential structure and approximately 350 feet from the nearest nonparticipating residential structure. No schools or private parks exist within one mile of the proposed facility as shown in Exhibit A. Exhibit A shows the distance of the proposed transmission line from residential neighborhoods, schools, and public and private parks within one (1) mile of the proposed facilities. Exhibit A also shows the existing property lines and the names of persons who own the property where the proposed facilities will be built.



7. Pursuant to KRS 278.714(2)(d), the transmission line and appurtenances will be constructed and maintained in accordance with accepted engineering practices and the National Electrical Safety Code.

8. Approximately 99,714 linear feet of private access roads will be utilized within the facility and will be constructed of compacted aggregate (gravel). Roads will not exceed 16 feet (4.9 meters) in width, except for turning radii, which will not exceed 50 feet (15.2 meters) in radius. All entrances and driveways will comply with applicable design requirements for safe access and egress. The Project solar arrays will be secured with approximately 159,740 linear feet of perimeter fence, which will consist of a six-foot game style fence. Fixed lighting at the perimeter will be limited to gates and the substation area and will be motion-activated to minimize light spillage. The Project will utilize construction methods that minimize large-scale grading and removal of native soil. Clearing and grubbing will occur where necessary. Minimal grading may be required to level rough or undulating areas of the site and to prepare soils for concrete foundations for substation equipment and inverters. Access roads will also be grubbed, graded, and compacted. The site cut and fill will be appropriately balanced, with no anticipation of import/export necessary.

9. Project components will include a PV solar field consisting of PV solar panel modules mounted on metal structures and anchored to the ground with pilings. Panels will move to track the sun over the course of the day. Other components of the PV system include: an onsite substation, a DC collection system of underground and overhead cabling and combiner boxes, and power conversion stations with inverters, transformers, and emergency backup power to convert DC to AC. An underground and/or overhead collection system will be used to convey electricity from the solar array field to the substation. The Project will include an onsite transmission line,

fiber optic cable for communications underground or on overhead lines, and access ways. In addition, the Project will include, as necessary: an operation and maintenance (“O&M”) building, parking area, and other associated facilities such as above-ground water storage tanks, security gate, and signage. During construction, the Project will include a temporary construction mobilization and laydown area for construction trailers, construction workforce parking, above-ground water and fuel tanks, materials receiving and materials storage.

10. The PV solar modules will be supported by steel piles driven into the soil. Piles are spaced approximately 10 to 20 feet apart, and the maximum height of the PV modules will be 15 feet. Modules will be oriented in rows running from north to south utilizing a single-axis tracking system. The modules will be connected using DC cables that can either be buried in a trench or attached to the racking system. The DC cables gather at the end of racking systems to combiner boxes which are connected to cables routing to an inverter. The racking system will be supported by approximately 28,512 steel posts installed with a combination of pile-driving machines and augers. The center height of the racking structures will be approximately 4 feet (1.2 meters) to 6.8 feet (2.1 meters) above the ground. The spacing between array rows is estimated to be approximately 10 to 18 feet.

11. Approximately 35 inverters will be installed throughout the Project to convert the DC power from the 1,500 volt DC collection system to AC power, which will be stepped up to 34.5 kV by transformers and then transmitted to the Project substation via the 34.5 kV AC collection system. The AC collection system will include underground and overhead segments. Underground segments of the AC collection system will be buried a minimum of 3 feet (0.9 meters) below grade; and overhead portions will not exceed a maximum height of 45 feet (13.7 meters) above grade. The AC collection system will be comprised of medium voltage (MV) cable that will transfer

electricity to the Project substation. Approximately 59,141 linear feet of collection system cables would be installed throughout the Project. Collection cables are congregated into common trenches and run adjacent to one another. All electrical inverters and the transformer will be placed on concrete foundations or steel skids.

12. The Project will require one substation that will include one 110-mega volt ampere (MVA) transformer and control building foundation. Concrete pads will be constructed as foundations for substation equipment, and the remaining area will be graveled. Concrete for foundations will be brought on-site from an external batching plant. The substation area will serve as the general parking area for permanent employees and contain all necessary equipment to step up incoming MV electricity to the high voltage electricity necessary to interconnect into the existing Bon Ayr substation owned and operated by EKPC transmission system. The proposed transmission line will be located entirely within the Project and existing substation properties, and will be constructed by the Applicant. EKPC will be responsible for any additional transmission equipment located within the EKPC substation for the Project. It is anticipated that the gen-tie poles and substation components will not exceed 85 feet (25.9 meters) above grade.

### **III. Public Notice Evidence**

13. Pursuant to KRS 278.706(2)(c) and KRS 278.714(2)(e), notices were transmitted to adjoining landowners via U.S. certified mail on April 24, 2025, to provide notice of the pending application. A copy of the adjacent landowner form letter and a list of addresses and names of those landowners who were provided notice are contained in Exhibit B. Notice of the pending application was also published in the Barren County Progress on April 23, 2025. Scanned copies of the notice of application that were published in the Barren County Progress are contained in Exhibit B.

#### **IV. Compliance with Local Ordinance and Regulations**

14. Pursuant to KRS 278.706(2)(d), the Project is in Barren County, Kentucky. Section 503.1.5 of the Subdivision Regulations of Barren County, Kentucky, requires that Solar Production Farm structures adhere to 50 foot front yard, 10 foot side yard, and 20 foot rear yard setback requirements. The Applicant certifies that the Project will comply with all local ordinances and regulations concerning noise control and with any applicable local planning and zoning ordinances. A statement certifying these facts is enclosed as Exhibit C.

#### **V. Setback Requirements**

15. Pursuant to KRS 278.706(2)(e), the Project is not located on the site of a former coal processing plant, will not use any onsite waste coal as a fuel source, and will not include any exhaust stacks or wind turbines as part of the facility. Barren County has established setback requirements for this location, per the information provided above in Section IV. The proposed site is designed to be compatible with locally-established setback requirements.

16. There are eight residential neighborhoods (as defined by KRS 278.700(6)) within two thousand (2,000) feet of the Project's facilities.

#### **VI. Public Notice Report**

17. Pursuant to KRS 278.706(2)(f), the Applicant has made a substantial effort to engage the public in numerous ways regarding the Project. The Applicant created a Project website to publish information about the Project, answer common questions, and to provide an email (<https://www.woodducksolar.com>) and telephone number for feedback. In all communications, Wood Duck has endeavored to be transparent regarding the specifics of the proposed Project.

18. As part of the Applicant's proactive preapplication process, an open house meeting on the Project was held on August 22, 2024, at the Cave City Convention Center. The open house

invitation flyer and attendance sheet are enclosed as Exhibit B. On August 7, 2024, packets containing information about the Project were mailed to adjacent property owners (Exhibit B).

19. On January 15, 2025, the Applicant mailed packets containing information about the Project and upcoming public information meeting to adjacent property owners and published a public notice in the Barren County Progress (Exhibit B). The Applicant held its public information meeting for the Project on February 4, 2025, at the Cave City Convention Center.

20. During the public information meeting, attendees were shown enlarged satellite images showing the exact location of the proposed solar array and the proposed Project layout. Information boards with technical experts were also available for viewing and discussion on other topics including environmental health and safety of PV, landscape and screening plans, and the impact of solar projects on property values and community economics. Presentation materials are enclosed as Exhibit B. Experts who were present at the public meeting and available to answer questions from attendees included: Kelley Pope, Director of Development, Geenex; Aron Caudill, Land Development & Regenerative Agriculture Director, Geenex; and Chad Martin, Senior Principal - Environmental Permitting and Planning, Stantec.

21. Table 1 below provides a brief description of other public involvement activities, in addition to the public meeting and various outreach activities/meetings with local stakeholders, undertaken prior to the submission of this Application. Wood Duck Solar will continue these efforts and will participate in any public notice, comment, and hearings which may be initiated as part of ongoing permitting activities.

**Table 1. Public Involvement Activities**

DATE	ORGANIZATION	ACTIVITY/INVOLVEMENT
June 2019	Center for Energy Education	Sponsorship, “Train the Trainer for Teachers”
Sept. 2020	Center for Energy Education	Sponsorship, “Landowner meeting held at the Rescue Squad
Summer 2020	Center for Energy Education	Sponsorship, “Renewable Energy Summer Camp”



Summer 2021	Center for Energy Education	Sponsorship, “Train the Trainer for Teachers”
Summer 2021	Center for Energy Education	Sponsorship, “Renewable Energy Summer Camp”
Nov. 2021	Center for Energy Education	Sponsorship, “Solar 101 Education Workshop”
May 2022	Barren County Chamber of Commerce	Joined Chamber and have renewed annually.
June 2022	Boys & Girls Club	Sponsorship, Charity Golf Scramble
June 2022	Center for Energy Education	Sponsorship, “Solar 101 Education Workshop”
Sept. 2022	Center for Energy Education	Sponsorship and host, “Public Officials Workshop”
Sept. 2022	Land & Liberty Coalition	Sponsorship, Community Dinner
Dec. 2022	Barren County	Sponsorship, Christmas Parade
Jan. 2023	Barren County Chamber of Commerce	Attendee, Coffee and Commerce event
Feb. 2023	Barren County Chamber of Commerce	Annual dinner, Silver Package Donor
June 2023	Geenex	Quarter Mile - Door Knocking Campaign to adjacent property owners
June 2023	Geenex	Wood Duck Solar Project website launched.
Oct. 2023	Beautify Barren County	Donor
Oct. 2023	BC Engineering	Donation to BC Engineering for Leah’s Alarm system for Barren County High School
Summer 2024	Barren County Chamber of Commerce	Sponsorship, “Biz Bash” event
Aug. 2024	Geenex	Public meeting
Nov. 2024	Helping the Hardworking	Donor
Feb. 2025	Geenex	Public Information Meeting

## **VII. Efforts to Locate Near Existing Electric Generation**

22. Consistent with KRS 278.706(2)(g), Wood Duck has made efforts to locate the Project on adjoining, or in proximity to the location of existing electric generating facilities. For solar projects like Wood Duck Solar, key factors for site selection are favorable geography, willing landowner participation, and access to transmission lines. The land needed to site Wood Duck Solar was not available on or adjoining to an existing electric generation facility. However, Wood Duck selected a location in proximity to an existing transmission line. The Project's point of interconnection at the proposed Bon Ayr substation, located within the Project boundary, allows the Project to interconnect at the preferred voltage of 69 kV and utilize an existing transmission line owned and operated by the EKPC. Information on EKPC’s studies of the interconnection cost and

infrastructure are included in the Feasibility Study and System Impact Study, enclosed as Exhibit E.

### **VIII. Proof of Service to County and Municipality Officials**

23. Pursuant to KRS 278.706(2)(h) and KRS 278.714(2)(f), a copy of the Siting Board application for Wood Duck Solar was hand delivered, and electronically transmitted, to the Judge-Executive of Barren County, Jamie Bewley Byrd, and Kevin Myatt, Planning Director of the Joint City-County Planning Commission of Barren County (“Planning Commission”) on May 19, 2025. Proof of service is enclosed as Exhibit D.

### **IX. Effect on Kentucky Electricity Generation System**

24. Pursuant to KRS 278.706(2)(i), an analysis of the proposed solar generating facility's projected effect on the electricity transmission system is provided in Exhibit E.

### **X. Effect on Local and Regional Economies**

25. Pursuant to KRS 278.706(2)(j), an Economic Impact Study was completed for the Project by Paul A. Coomes, Ph.D., and is included in Exhibit F. As the report demonstrates, utility-scale solar energy projects have numerous economic benefits. Solar installations create job opportunities in the local area during both the short-term construction phase and the long-term operational phase. In addition to the workers directly involved in the construction and maintenance of the solar energy project, numerous other jobs are supported through indirect supply chain purchases and the higher spending that is induced by these workers. Solar projects strengthen the local tax base and help improve county services and local infrastructure such as public roads.

26. Operation of the Project would provide a net economic contribution to Barren County of \$2.4 million over the Project’s 40-year lifespan. During the construction period, the Project is

estimated to support (direct and spinoff) 323 jobs and \$20.2 million in new labor compensation. During the operational phase of the Project, 3.2 direct jobs are anticipated to be created.

27. The Applicant retained Kirkland Appraisals, LLC, to prepare a Property Value Impact Study to assess potential effects of the Project on nearby property values, and it is enclosed as Exhibit G. The matched pair analysis shows no impact on home values due to abutting or adjoining a solar farm as well as no impact to abutting or adjacent vacant residential or agricultural land where the solar farm is properly screened and buffered.

#### **XI. Record of Environmental Violations**

28. Pursuant to KRS 278.706(2)(k), neither the Applicant, nor any entity with ownership interest in the Project, has violated any state or federal environmental laws or regulations. There are no pending actions, judicial or administrative, against the Applicant nor any entity with ownership interest in the Project.

#### **XII. Site Assessment Report**

29. Pursuant to KRS 278.706(2)(l), the site assessment report is being contemporaneously filed herewith; please see the separate document titled “Wood Duck Solar, Kentucky State Board on Electric Generation and Transmission Siting Application, Site Assessment Report, Case No. 2024-00337”, and enclosed as Exhibit H.

#### **XIII. Decommissioning Plan**

30. Pursuant to KRS 278.706(2)(m), the decommissioning plan is being contemporaneously filed herewith; please see the separate document titled “Decommissioning Plan Wood Duck Solar Project, Barren County, Kentucky”, and enclosed as Exhibit I.

31. Per KRS 278.704(3), decommissioning requirements established by a planning and zoning commission for a facility in an area over which it has jurisdiction shall have primacy over statutory

decommissioning requirements, and such requirements are not subject to modification by the Board.

32. Article 511 of the Subdivision Regulations of Barren County, Kentucky (“Regulations”), contains decommissioning requirements for a solar energy system (SES) to include a declaration of the party (or parties) responsible for decommissioning to remove of all components and accessories, not to exceed 12 months in length for removal, and restoration of all cleared areas within the proposed SES to a condition reasonably similar to its condition prior to SES development, including replacement of top soil removed or eroded.

33. As noted in the Planning Commission’s December 18, 2023, meeting minutes, attached here as Exhibit J, the Applicant’s decommissioning plan submittal meets the requirements of Article 511 of the Regulations.

Dated this 19th day of May 2025.

Respectfully submitted,



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**Statutory/Regulation Requirements**  
**Merchant Electric Generation Facility Certificate**

<b>KRS 278.</b>	<b>Description</b>	<b>Filing</b>
<b><u>278.706(2)(a)</u></b>	The name, address, and telephone number of the person proposing to construct and own the merchant generating facility.	Application ¶ 1-3
<b><u>(2)(b)</u></b>	A full description of the proposed site, including a map showing the distance of the proposed site from residential neighborhoods, the nearest residential structures, schools, and public and private parks that are located within a two (2) mile radius of the proposed facility	Application ¶¶ 4-12, Exh. A
<b><u>(2)(c)</u></b>	Evidence of public notice that shall include the location of the proposed site and a general description of the project, state that the proposed line is subject to approval by the board, and provide the telephone number and address of the Public Service Commission. Public notice shall be given within thirty (30) days immediately preceding the application filing to:  Landowners whose property borders the proposed site; and The general public in a newspaper of general circulation in the county or municipality in which the facility is proposed to be located.	Application ¶ 13, Exh. B
<b><u>(2)(d)</u></b>	A statement certifying that the proposed plant will be in compliance with all local ordinances and regulations concerning noise control and with any local planning and zoning ordinances. The statement shall also disclose setback requirements established by the planning and zoning Commission as provided under KRS 278.704(3).	Application ¶ 14, Exh. C
<b><u>(2)(e) [1st]</u></b>	If the facility is not proposed to be located on a site ... in an area where a planning and zoning commission has established a setback requirement pursuant to KRS 278.704(3), a statement that...all proposed structures or facilities used for generation of electricity are two thousand (2,000) feet from any residential neighborhood, school, hospital, or nursing home facility...	Application ¶¶ 15-16
<b><u>(2)(e) [2nd]</u></b>	If the facility is proposed to be located on a site of a former coal processing plant and the facility will use on-site waste coal as a fuel source, a statement that the proposed site is compatible with the setback requirements provided under KRS 278.704(5).	Application ¶¶ 15-16

<b><u>(2)(e) [3rd]</u></b>	If the facility is proposed to be located in a jurisdiction that has established setback requirements pursuant to KRS 278.704(3), a statement that the proposed site is in compliance with those established setback requirements.	Application ¶¶ 15-16, Exh. J
<b><u>(2)(f)(1)</u></b>	<p>A complete report of the applicant's public involvement program activities undertaken prior to the filing of the application, including:</p> <p>The scheduling and conducting of a public meeting in the county or counties in which the proposed facility will be constructed at least ninety (90) days prior to the filing of an application, for the purpose of informing the public of the project being considered and receiving comment on it.</p>	Application ¶¶ 17-21, Exh. B
<b><u>(2)(f)(2)</u></b>	Evidence that notice of the time, subject, and location of the meeting was published in the newspaper of general circulation in the county, and that individual notice was mailed to all owners of property adjoining the proposed project at least two (2) weeks prior to the meeting.	Application ¶¶ 18-19, Exh. B
<b><u>(2)(f)(3)</u></b>	Any use of media coverage, direct mailing, fliers, newsletters, additional public meetings, establishment of a community advisory group, and any other efforts to obtain local involvement in the siting process.	Application ¶¶ 20-21, Exh. B
<b><u>(2)(g)</u></b>	A summary of the efforts made by the applicant to locate the proposed facility on a site where existing electric generating facilities are located.	Application ¶ 22
<b><u>(2)(h)</u></b>	Proof of service of a copy of the application upon the chief executive officer of each county and municipal corporation in which the proposed line is to be located, and upon the chief officer of each public agency charged with the duty of planning land use in the general area in which the line is proposed to be located.	Application ¶ 23, Exh. D
<b><u>(2)(i)</u></b>	An analysis of the proposed facility's projected effect on the electricity transmission system in Kentucky.	Application ¶ 24, Exh. E
<b><u>(2)(j)</u></b>	An analysis of the proposed facility's economic impact on the affected region and the state.	Application ¶¶ 25-27, Exh. F
<b><u>(2)(k)</u></b>	A detailed listing of all violations by it, or any person with an ownership interest, of federal or state environmental laws, rules, or administrative regulations, whether judicial or administrative, where violations have resulted in criminal convictions or civil or administrative fines exceeding five thousand dollars (\$5,000). The status of any pending action, whether judicial or administrative, shall also be submitted.	Application ¶ 28



<b><u>(2)(l)</u></b>	A site assessment report as specified in KRS 278.708.	Application ¶ 29, Exh. H
<b><u>278.706(2)(m)</u></b>	A decommissioning plan as specified in KRS 278.706(2)(m)(1) – (7).	Application ¶¶ 30-33; Exh. I, J
<b><u>(2)(m)(1)</u></b>	Unless otherwise requested by the landowner, remove all above-ground facilities;	Application ¶¶ 30-33; Exh. I, J
<b><u>(2)(m)(2)</u></b>	Unless otherwise requested by the landowner, remove any underground components and foundations of above-ground facilities. Facilities removed under this subparagraph shall be removed to a depth of three (3) feet below the surface grade of the land in or on which the component was installed, unless the landowner and the applicant otherwise agree to a different depth;	Application ¶¶ 30-33; Exh. I, J
<b><u>(2)(m)(3)</u></b>	Return the land to a substantially similar state as it was prior to the commencement of construction;	Application ¶¶ 30-33; Exh. I, J
<b><u>(2)(m)(4)</u></b>	Unless otherwise requested by the landowner, leave any interconnection or other facilities in place for future use at the completion of the decommissioning process;	Application ¶¶ 30-33; Exh. I, J
<b><u>(2)(m)(5)</u></b>	Secure a bond or other similar security for the project to assure financial performance of the decommissioning obligation, provided that:	Application ¶¶ 30-33; Exh. I, J
<b><u>(2)(m)(5)(a)</u></b>	<p>The amount of the proposed bond or similar security shall be determined by an independent, licensed engineer who is experienced in the decommissioning of solar electric generating facilities and has no financial interest in either the merchant electric generating facility or any parcel of land upon which the merchant electric generating facility is located. The proposed amount of the bond or similar security shall be either:</p> <p>The net present value of the total estimated cost of completing the decommissioning plan, less the current net salvage value of the merchant electric generating facility's components; or</p> <p>The bond amount required by a county or municipal government that has established a decommissioning bond requirement or similar security obligation in the county or municipality where the merchant electric generating facility will be located. If the facility will be located in more than one (1) county or municipality that has established a decommissioning bond or similar security</p>	Application ¶¶ 30-33; Exh. I, J

	obligation, then the higher amount shall be required for the facility;	
<b><u>(2)(m)(5)(b)</u></b>	<p>The bond or other similar security names:</p> <p>For property that is leased by the applicant, each landowner from whom the applicant leases land and the Energy and Environment Cabinet as the primary co-beneficiaries; or</p> <p>For property that is owned by the applicant, the Energy and Environment Cabinet as the primary beneficiary;</p>	Application ¶¶ 30-33; Exh. I, J
<b><u>(2)(m)(5)(c)</u></b>	If the merchant electric generating facility is to be located in a county or municipality that has not established a decommissioning bond or other similar security obligation, the bond or other similar security shall name the county or municipality as a secondary beneficiary with the county's or municipality's consent;	Application ¶¶ 30-33; Exh. I, J
<b><u>(2)(m)(5)(d)</u></b>	The bond or other similar security shall be provided by an insurance company or surety that shall at all times maintain at least an "Excellent" rating as measured by the AM Best rating agency or an investment grade credit rating by any national credit rating agency and, if available, shall be noncancelable by the provider or the customer until completion of the decommissioning plan or until a replacement bond is secured; and	Application ¶¶ 30-33; Exh. I, J
<b><u>(2)(m)(5)(e)</u></b>	The bond or other similar security shall provide that at least thirty (30) days prior to its cancellation or lapse, the surety shall notify the applicant, its successor or assign, each landowner, the Energy and Environment Cabinet, and the county or city in which the facility is located of the impending cancellation or lapse. The notice shall specify the reason for the cancellation or lapse and provide any of the parties, either jointly or separately, the opportunity to cure the cancellation or lapse prior to it becoming effective. The applicant, its successor, or its assign, shall be responsible for all costs incurred by all parties to cure the cancellation or lapse of the bond. Each landowner, or the Energy and Environment Cabinet with the prior approval of each landowner, may make a demand on the bond and initiate and complete the decommissioning plan.	Application ¶¶ 30-33; Exh. I, J
<b><u>(2)(m)(6)</u></b>	Communicate with each affected landowner at the end of the merchant electric generating facility's useful life so that any requests of the landowner that are in addition to the minimum requirements set forth in this paragraph and in addition to any other requirements specified in the lease with the landowner may, in the sole discretion of the	Application ¶¶ 30-33; Exh. I, J

	applicant or its successor or assign, be accommodated; and	
<b><u>(2)(m)(7)</u></b>	Incorporate the requirements of paragraphs (m)1. to 6. of this subsection into the applicant's leases with landowners	Application ¶¶ 30-33; Exh. I, J
<b><u>278.704(2)</u></b>	Except as provided [by locally-established setback requirements or through a deviation granted pursuant to KRS 278.704(4)] ... all proposed structures or facilities used for generation of electricity are two thousand (2,000) feet from any residential neighborhood, school, hospital, or nursing home facility.	Application ¶¶ 30-33; Exh. C, J
<b><u>.704(3)</u></b>	If the merchant electric generating facility is proposed to be located in a county or a municipality with planning and zoning, then setback requirements from a property boundary, residential neighborhood, school, hospital, or nursing home facility may be established by the planning and zoning commission.	Application ¶ 15-16, Exh. J
<b><u>278.708(1)</u></b>	A site assessment report ... as required under KRS 278.706(2)(1)	Exh. H
<b><u>(2)</u></b>	A site assessment report ... prepared by the applicant or its designee.	Exh. H
<b><u>.708(3)(a)</u></b>	A description of the proposed facility that shall include a proposed site development plan that describes:	SAR ¶¶ 1-15; Att. A, B, C
<b><u>(3)(a)(1)</u></b>	Surrounding land uses for residential, commercial, agricultural, and recreational purposes;	SAR ¶ 7, Att. B
<b><u>(3)(a)(2)</u></b>	The legal boundaries of the proposed site;	SAR ¶ 8, Att. C
<b><u>(3)(a)(3)</u></b>	Proposed access control to the site;	SAR ¶¶ 9-11, Att. A
<b><u>(3)(a)(4)</u></b>	The location of facility buildings, transmission lines, and other structures;	SAR ¶¶ 9-10, Att. A
<b><u>(3)(a)(5)</u></b>	Location and use of access ways, internal roads, and railways;	SAR ¶¶ 10-11, Att. A
<b><u>(3)(a)(6)</u></b>	Existing or proposed utilities to service the facility;	SAR ¶ 12, Att. A
<b><u>(3)(a)(7)</u></b>	Compliance with applicable setback requirements as provided under KRS 278.704(2), (3), (4), or (5); and	SAR ¶ 13
<b><u>(3)(a)(8)</u></b>	Evaluation of the noise levels expected to be produced by the facility.	SAR ¶¶ 14-15, Att. D
<b><u>(3)(b)</u></b>	An evaluation of the compatibility of the facility with scenic surroundings;	SAR ¶¶ 16-17; Att. B, E, F, G

<b><u>(3)(c)</u></b>	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;	SAR ¶ 18, Att. B
<b><u>(3)(d)</u></b>	Evaluation of anticipated peak and average noise levels associated with the facility's construction and operation at the property boundary; and	SAR ¶¶ 19-30, Att. D
<b><u>(3)(e)</u></b>	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.	SAR ¶¶ 31-33, Att. H
<b><u>(4)</u></b>	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.	SAR ¶¶ 34-45; Att. A, E, F, G

**Statutory/Regulation Requirements**  
**Nonregulated Electric Transmission Line Certificate**

<b>KRS 278.714</b>	<b>Description</b>	<b>Filing</b>
<b><u>(2)(a)</u></b>	The name, address, and telephone number of the person proposing construction of the nonregulated electric transmission line or the carbon dioxide transmission pipeline.	Application ¶ 1-3
<b><u>(2)(b)</u></b>	A full description of the proposed route of the electric transmission line or the carbon dioxide transmission pipeline and its appurtenances. The description shall include a map or maps showing: <ol style="list-style-type: none"> <li>1. The location of the proposed line or pipeline and all proposed structures that will support it;</li> <li>2. The proposed right-of-way limits;</li> <li>3. Existing property lines and the names of persons who own the property over which the line or pipeline will cross; and</li> <li>4. The distance of the proposed electric transmission line from residential neighborhoods, schools, and public and private parks within one (1) mile of the proposed facilities.</li> </ol>	Application ¶ 6, Exh. A
<b><u>(2)(c)</u></b>	With respect to electric transmission lines, a full description of the proposed line and appurtenances, including the following: <ol style="list-style-type: none"> <li>1. Initial and design voltages and capacities;</li> <li>2. Length of line;</li> <li>3. Terminal points; and</li> <li>4. Substation connections.</li> </ol>	Application ¶ 6, Exh. A
<b><u>(2)(d)</u></b>	A statement that the proposed electric transmission line and appurtenances will be constructed and maintained in accordance with accepted engineering practices and the National Electric Safety Code.	Application ¶ 7
<b><u>(2)(e)</u></b>	Evidence that public notice has been given by publication in a newspaper of general circulation in the general area concerned. Public notice shall include the location of the proposed electric transmission line or carbon dioxide pipeline, shall state that the proposed line or pipeline is subject to approval by the board, and shall provide the telephone number and address of the Public Service Commission.	Application ¶ 13, Exh. B
<b><u>(2)(f)</u></b>	Proof of service of a copy of the application upon the chief executive officer of each county and municipal corporation in which the proposed electric transmission line or carbon dioxide transmission pipeline is to be located, and upon the chief officer of each public agency charged with the duty of planning land use in the general area in which the line or pipeline is proposed to be located.	Application ¶ 23, Exh. D

# **ATTACHMENT 2:**

## **WOOD DUCK SOLAR**

### **SITE ASSESSMENT REPORT NARRATIVE**



COMMONWEALTH OF KENTUCKY  
BEFORE THE KENTUCKY STATE BOARD ON  
ELECTRIC GENERATION AND TRANSMISSION SITING

In the Matter of:

ELECTRONIC APPLICATION OF WOOD	)	
DUCK SOLAR LLC FOR A CERTIFICATE OF	)	
OF CONSTRUCTION FOR AN APPROXIMATELY	)	
100 MEGAWATT MERCHANT ELECTRIC	)	
SOLAR GENERATING FACILITY AND	)	Case No. 2024-00337
NONREGULATED ELECTRIC TRANSMISSION	)	
LINE IN BARREN COUNTY, KENTUCKY	)	
PURSUANT TO KRS 278.700 AND 807 KAR	)	
5:110.	)	

**Site Assessment Report (SAR)**

Wood Duck Solar LLC (the “Applicant” or “Wood Duck”), files this Site Assessment Report (SAR) as specified in KRS 278.708 contemporaneously with its application requesting from the Kentucky State Board on Electric Generation and Transmission Siting (the “Siting Board” or “Board”) Certificates of Construction for an approximately 100 megawatt (MW) photovoltaic (PV) merchant electric generating facility and nonregulated electric transmission line pursuant to KRS 278.700 *et seq.*

As part of the SAR, the Applicant submits herewith SAR Attachments A-H. The facts on which the SAR are based are contained in the concurrently filed SAR Attachments and other information and the statements further made by the Applicant as follows:

**I. Description of Proposed Project Site**

1. Pursuant to KRS 278.708(3)(a), the proposed Wood Duck solar electrical generation facility and nonregulated transmission line (the “Project”) is situated on approximately 2,259 acres located near Glasgow, Kentucky, in Barren County (Attachment A). The site consists mainly of 28 parcels secured from 15 landowners pursuant to real estate agreements with each landowner.

The primary land use for these parcels and the surrounding area is generally row crop agriculture, pastureland, and residential uses. The proposed Project is a 100 MW solar facility capable of providing enough clean, renewable electricity to power approximately 20,000 Kentucky homes. Photovoltaic (PV) solar modules are used to convert sunlight into direct current (DC) electricity which is then converted to alternating current (AC) electricity through inverters. Transformers step up the AC electricity to a higher voltage so that it can connect to the regional transmission grid via the Project's nonregulated electric transmission line.

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

3. Approximately 99,714 linear feet of private access roads will be utilized within the facility and will be constructed of all-weather gravel. Roads will not exceed 16 feet (4.9 meters) in width, except for turning radii, which will not exceed 50 feet (15.2 meters) in radius. All entrances and

driveways will comply with applicable design requirements for safe access and egress. The Project solar arrays will be secured with approximately 159,740 linear feet of perimeter fence and will consist of six-foot game style fence. Fixed lighting at the perimeter will be limited to gates and the substation area and will be motion-activated to minimize light spillage. The Project will utilize construction methods that minimize large-scale grading and removal of native soil. Clearing and grubbing will occur only where necessary. Minimal grading may be required to level rough or undulating areas of the site and to prepare soils for concrete foundations for substation equipment and inverters. Access roads will also be grubbed, graded, and compacted. The site cut and fill will be appropriately balanced, with no anticipation of import/export necessary.

4. The PV solar arrays, consisting of modules in individual rows placed on a racking structure, will be supported by steel piles driven into the soil. Piles typically are spaced approximately 10 to 15 feet apart, and the maximum height of the PV arrays will not exceed 15 feet. The spacing between array rows is estimated to be approximately 10 to 18 feet. Modules will be oriented in rows running from north to south utilizing a single axis tracking system. The racking system will be supported by steel posts installed with a combination of pile-driving machines and augers. The center height of the racking structures will be approximately four feet (1.2 meters) to 6.8 feet (2.1 meters) above the ground. The modules will be connected using DC cables that can either be buried in a trench or attached to the racking system. The DC cables gather at the end of racking systems to combiner boxes which are connected to cables routing to an inverter.

5. Approximately 35 inverters will be installed throughout the Project to convert the DC power from the 1,500-volt DC collection system to AC power, which will then be transmitted to a Project substation via the 34.5-kilovolt (kV) collection system. The AC collection system will include underground and overhead segments. Underground segments of the AC collection system

will be buried a minimum of three feet (0.9 meters) below grade; and overhead portions will not exceed a maximum height of 45 feet (13.7 meters) above grade. The AC collection system will be comprised of medium voltage (MV) cable that will transfer electricity to the Project substation. Approximately 59,141 linear feet of collection system cables would be installed throughout the Project. Collection cables are congregated into common trenches and run adjacent to one another. All electrical inverters and the transformer will be placed on concrete foundations or steel skids.

6. The Project will require one substation that will include one 110-mega volt ampere (MVA) transformer and control building foundation. Concrete pads will be constructed as foundations for substation equipment, and the remaining area will be graveled. Concrete for foundations will be brought on-site from an external batching plant. The substation area will serve as the general parking area for permanent employees and contain all necessary equipment to step up incoming MV electricity to the high voltage electricity necessary to interconnect into the existing 69 kV Bon Ayr substation owned and operated by East Kentucky Power Cooperative (EKPC), located adjoining the Project substation area. The substation gen-tie line will be approximately 500 feet (152.4 meters) in length, will be located entirely within the Project footprint and EKPC substation parcel, and will be constructed by the Applicant. EKPC will be responsible for any additional transmission equipment located within the switchyard for the Project. It is anticipated that the gen-tie poles and substation components will not exceed 85 feet (25.9 meters) above grade.

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

	<b>Acreage</b>	<b>Parcels</b>
Residential	5.64%	54.21%
Agricultural	35.37%	17.76%
Agri/Res	58.64%	25.23%
Utility	0.33%	1.87%
Commercial	0.02%	0.93%
Recreational	0.00%	0.00%

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

9. Pursuant to KRS 278.708(3)(a)(3), the proposed facility layout is included in SAR Attachment A. The layout shows the proposed access to the site. Project arrays and inverters will be secured with six-foot game style fencing. A security fence meeting National Electric Safety Code (NESC) requirements will secure the substation and consist of a six-foot chain link fence with three strings of barbed wire at the top.

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

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

12. Pursuant to KRS 278.708(3)(a)(6), two existing 69 kV transmission lines owned and operated by EKPC bisect the central-west portion and eastern edge of the Project, with the latter connecting to the proposed Project substation to be constructed and located in the southeast portion of the Project site. Both 69 kV lines run predominately southwest to northeast through the central and eastern portion of the Project, respectively. The locations of the substation and transmission

lines are shown in Attachment A. Currently, it is not anticipated that the Project will need to receive external utility services during typical plant operation.

13. Pursuant to KRS 278.708(3)(a)(7), Barren County enacted setbacks applicable to solar energy systems in Article 503.1.5 of the Subdivision Regulations of Barren County, Kentucky (“Subdivision Regulations”). Under the Subdivision Regulations, the following setbacks apply to the Project: 50-foot front yard; 10-foot side yard; and 20-foot rear yard.

14. Pursuant to KRS 278.708(3)(a)(8), a noise assessment was completed for the Project in April 2023 (Attachment D). The noise assessment evaluated existing noise as well as proposed noise from construction and operation of the facility. Minimal intermittent noise related to the panel tracking system and the noise of the inverters is expected. Existing noise on the Project site consists of noises typically produced by agricultural activities. These noises include tractors, trucks, and all-terrain vehicles. Existing rural wildlife noises contribute to the existing noise conditions including birds, frogs, and insects. Construction of the facility will result in increased traffic noise temporarily, mainly between sunrise and sunset and will be of limited duration at any given location within the Project. The noisiest portion of construction will be from the use of pile drivers, which would intermittently and temporarily produce approximately 96 dBA at the nearest receptor. Construction levels without pile driving onsite are approximately 76 dBA at the sound level of a pickup truck. Construction noise and activities would travel intermittently throughout the site and are not anticipated to be performed near any sensitive receptor for more than a few weeks.

15. All site visits, outside of emergency maintenance, will occur during daylight hours. Operational noise is expected to be intermittent from panel tracking, and constant from inverters during daylight hours. The increase in noise is negligible due to the distance between the



panels/inverters and the nearest noise-sensitive receptors. Maximum sound levels from the tracking system can be expected to be the levels of a refrigerator hum at the nearest receptor. During average daytime operation, the inverters will be similar in noise level (46 dBA max) to a quiet library at the nearest receptor. At the remaining nearest receptors, no elevated and prolonged noise levels above background levels are expected either during operation of the Project. At night, all inverters are inactive, and noise is restricted to the substation.

## **II. Compatibility with Scenic Surroundings**

16. Pursuant to KRS 278.708(3)(b), a Property Value Impact Study was completed for the Project by Kirkland Appraisals, LLC, in May 2023 (SAR Attachment B). Please refer to Sections IX-XIII from Attachment B which address appropriate setbacks, topography, impacts during construction, scope of research, and compatibility in detail.

17. An excerpt from Section XIII, page 145 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. 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 20 feet high. 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 significantly taller than the proposed panels. Whenever you consider the impact of a proposed project on viewshed or what the adjoining owners may see from their property it is important to distinguish whether or not they have a protected viewshed or not. Enhancements for scenic vistas are often measured when considering properties that adjoin preserved open space and parks. However, adjoining land with a preferred view today conveys no guarantee that the property will continue in the current use. Any consideration of the impact of the appearance requires a consideration of the wide variety of other uses a property already has the right to be put to, which for solar farms often includes subdivision development, agricultural business buildings such as poultry, or large greenhouses and the like.”

## **III. Property Value Impacts**

18. Pursuant to KRS 278.708(3)(c), Attachment B provides the Property Value Impact Study,

which was prepared by Kirkland Appraisals, LLC to assess the potential property value impacts to owners adjacent to the proposed facility. The conclusion of the report, Section XIV on page 147, reads as follows:

“The matched pair analysis shows no negative impact in home values due to abutting or adjoining a solar farm as well as no impact to abutting or adjacent vacant residential or agricultural land. The proposed setbacks are further than those measured showing no impact for similar price ranges of homes and for areas with similar demographics to the subject area. The criteria that typically correlates with downward adjustments on property values such as noise, odor, and traffic all support a finding of no impact on property value. Similar paired sales showed no impact from adjoining battery storage facilities...

...Based on the data and analysis in this report, it is my professional opinion that the solar farm proposed at the subject property will have no negative impact on the value of adjoining or abutting property. I note that some of the positive implications of a solar farm that have been expressed by people living next to solar farms include protection from future development of residential developments or other more intrusive uses, reduced dust, odor and chemicals from former farming operations, protection from light pollution at night, it's quiet, and there is no traffic.”

#### **IV. Anticipated Noise Levels at Property Boundary**

19. Pursuant to KRS 278.708(3)(d), a Sound Study was prepared by Stantec Consulting and is included in Attachment D. Noise will occur temporarily and intermittently during the construction phase of the project due to increases in vehicular traffic, construction equipment and assembly of the solar facility components. This construction noise is expected to be of short duration at any given location within the Project site. The majority of the Project area is currently used for crop production or cattle grazing, so the need for extensive tree removal and earthmoving to prepare the site is anticipated to be minor. Project construction will utilize medium and heavy equipment including dozers, graders, loaders, pile drivers, and trucks. The U.S. Department of Transportation, Federal Highway Administration (FHWA), publishes sound levels for typical construction equipment, which are shown in Table 2 below. Construction for the Project will consist of building roads, fencing, solar arrays, a substation, and associated electrical infrastructure (buried lines, etc.).

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

Equipment	Typical Noise Level (dBA) 50 Feet from Sources
Air Compressor	78
Backhoe	78
Dozer	82
Generator	81
Pickup Truck	75
Pile Driver (Impact)	101
Pneumatic Tool	85
Pump	81
Spike Driver	77
Tie Cutter	84
Tie Handler	80
Tie Inserter	85
Tractor	84
Welder/Torch	74

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

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

21. The noise model was also evaluated without the inputs of the pile driver since that is more typical of ongoing construction sound levels. The average sound levels for typical construction (without pile driving) at the nearest receptor is approximately 76 dBA, which is comparable to a city street or a pickup truck. The peak and average noise levels at the nearest receptor nearest receptor (SR-154) due to construction is detailed in Table 3 below:

**Table 3.** Estimated Sound Levels at Nearest Receptor Due to Construction (Sunrise to Sunset)

Condition	Distance to Solar Array (ft)	Estimated $L_{max}$ Sound Level (dBA)	Estimated $L_{eq}$ Sound Level (dBA)
With pile driver	83	96	94
Without pile driver		76	74

22. Construction traffic will use the existing county roadway system to access the Project site and deliver construction materials and personnel. There is no specific noise ordinance for unincorporated areas of Barren County. Based upon the sound levels published by FHWA, the sounds contributed by construction vehicles such as semi-trucks, light passenger cars, and trucks fall within acceptable ranges if the sounds do not occur between 7:00 p.m. and 7:00 a.m. Construction traffic sounds will be similar to common farm equipment and typical vehicles on

local roadways. Sound generated during construction is expected to only occur during daylight hours and will be generated by heavy equipment, passenger cars and trucks, and tool use during assembly of the Project. Sound will be present in the Project area during construction; however, because of the size of the Project and the distance to the nearest receptors, construction will not contribute to a significant sound increase when compared to sound currently occurring onsite (i.e., the operation of farming equipment, crop harvesting, and roadway traffic) and baseline ambient sound levels. See Attachment D for the full report studying noise levels associated with the facility's construction at the Project boundary.

23. Potential noise-sensitive receptors were evaluated within a 2,000-foot buffer from the Project Boundary. Two hundred sixty-six (266) residential receptors were identified within this buffer and were assessed within the Sound Study. The nearest receptor (SR-154) to a solar panel is approximately 83 feet; the nearest receptor to an inverter (SR-137) is approximately 430 feet away; and the nearest receptor to the Project substation (SR-082) is approximately 597 feet. Noise receptors and their distance to Project elements are discussed in Attachment D.

24. One hundred thirty (130) of the 266 residential receptors are located within eight areas that meet the definition of “residential neighborhood” under KRS 278.700(6). The residential neighborhoods (and correlating noise sensitive receptors (“SR”)) include Millstown Road (SR-004-008), Bon Ayr (SR-087-089; SR-091-103), Den Drive (SR-148-151), Bent Creek Drive (SR-062-086), Dripping Springs Road (SR-047-055), Apple Grove Road (SR-024-034), Rick Road (SR-139-143), and Fairview Church Road (SR-234-239; SR-259-262).

**Table 4.** Nearest Receptors to the Project

Land use	Nearest Receptor to	Section of Study Area	Distance from Nearest Solar Panel	Distance from Nearest Inverter or Transformer
Residence (SR-137)	Inverter	South	243 ft	430 ft (inverter)
Residence (SR-082)	Substation transformer	East-Central	3,876 ft	597 ft (transformer)
Residence (SR-154)	Panel tracking system	North-Central	83 ft	1,578 ft (inverter)
Residences – Millstown Road Neighborhood (SR-004 – 008)	N/A	North	544 ft	3,106 ft (inverter)
Residences – Bon Ayr Neighborhood (SR-087 – 089, 091 – 103; SR-180-196; SR-246-248; SR-252-253)	N/A	South-East	1,229 ft	648 ft (transformer)
Residences – Den Drive Neighborhood (SR-148 – 151; SR-207-222)	N/A	Central	634 ft	1,722 ft (inverter)
Residences – Bent Creek Drive Neighborhood (SR-062 – 086)	N/A	South-East	1,558 ft	597 ft (transformer)
Residences – Dripping Springs Road Neighborhood (SR-047 – 057; SR-165-169)	N/A	North-East	587 ft	2,290 ft (inverter)
Residences – Apple Grove Road Neighborhood (SR-024 – 034)	N/A	North-Central	343 ft	835 ft (inverter)
Residences – Rick Road Neighborhood (SR-139 – 143)	N/A	South-West	649 ft	1,241 ft (inverter)
Residences – Fairview Church Road Neighborhood (SR-234-239; SR-259- 262)	N/A	North-West	1,229 ft	2,005 ft (inverter)

25. There are three principal sound sources associated with normal daytime operation of the Project: solar panel array motors; the substation step-up transformer; and inverters, which are



distributed through the panel arrays. Tracking systems involve the panels being driven by small, 24-volt brushless DC motors to track the arc of the sun to maximize each panel's potential for solar absorption. Panels would turn no more than five degrees every 15 minutes and would operate no more than one minute out of every 15-minute interval during daylight hours. These tracking motors are a potential source of mechanical noise and are included in this assessment. The sound typically produced by panel tracking motors (NexTracker or equivalent) is approximately 70 dBA at one meter. The nearest receptor (SR-154) from the tracking system will be approximately 38 dBA at 83 feet which is similar to the sound of rustling leaves.

26. The proposed Project substation area covers approximately 5.5 acres and will be located on the southeast portion of the Project site. One main power transformer will be installed in the Project substation. The analysis assumed the sound power level of the substation transformer is 105 dBA. The nearest sensitive receptor (SR-082) is approximately 597 feet away, which equates to a sound level of 45 dBA, comparable to quiet urban nighttime.

27. Solar facilities generate minimal sound while in operation during daylight hours. Inverters are the main source of sound within a solar facility with typical noise levels averaging 75 dBA at the point source, comparable to a vacuum cleaner, and sound dissipates quickly from the point source. Due to proposed landscaping, setbacks, fence lines, and perimeter roads, noise-generating equipment will not be located in proximity to sensitive receptors or near the Project boundary. Approximately 35 inverters are expected to be installed across the Project site. The noise produced by the inverters can be characterized as a hum and during average operation is similar in noise level at the unit to a household air conditioner.

28. During site operation, intermittent noise related to the panel tracking system and the constant noise of the inverters is expected. The increase in noise is negligible due to the distance

between the panels/inverters and the nearest noise sensitive receptors. The nearest receptor to solar panels (SR-154) is approximately 83 feet from the panels, and the nearest receptor to an inverter (SR-137) is approximately 430 feet from an inverter. Maximum sound levels from the tracking system are anticipated to be 70 dBA, equivalent to the levels of a vacuum hum. Maximum sound level from the inverters is anticipated to be 99 dBA, though actual sound levels will be much quieter at most receptors. Panel trackers and inverters will not operate at night when residential receptors are most sensitive.

29. According to manufacturer specifications the loudest the substation transformer is expected to be is just over 105 dBA. Since the nearest receptor (SR-082) is approximately 597 feet from the substation, transformers are not expected to add additional noise above background noise as the noise levels are barely audible (41 dBA). Site visits and maintenance activities including single vehicular traffic and mowing will be negligible as they are similar to the background agricultural noise characteristics. All site visits, outside of emergency maintenance, will occur during daylight hours.

30. Construction is not expected to remain in that area beyond a few weeks. At the nearest receptors, besides intermittent and infrequent pile driver activity, no elevated and prolonged noise levels above background levels are expected either during construction or operation of the Project site. Ultimately, noise from construction and operation will not cause disturbance or interfere with the enjoyment of dwellings in the vicinity of the Project.

## **V. Effect on Road, Railways and Fugitive Dust**

31. Pursuant to KRS 278.708(3)(e), a Traffic Impact Study was completed for the Project by Stantec Consulting in March 2023 and is enclosed as Attachment H. The study evaluates the Project's impact on road traffic and transportation.

32. Any transportation impacts will be temporary in nature as they will occur only during the construction phase of the Project. The closest railroad to the Project is located approximately 1.5 miles to the north and will not be utilized in connection with Project construction or operation. For purposes of conducting a conservative analysis, AM and PM peak hour traffic volumes on roadways were increased 25 percent, which is far greater than is anticipated for the Project's construction. All study segments are projected to operate at acceptable level of service (LOS) during construction for both peak hours; therefore, the Project is not expected to cause a significant impact with respect to traffic. Any other roadway segments used for Project-related travel will have acceptable operations. The Project would not substantially increase hazards nor alter any roadways or create any traffic conditions, thus, the Project would not result in significant impacts to transportation and emergency access.

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

approval.

## **VI. Mitigation Measures**

34. Pursuant to KRS 278.708(4), the Applicant has implemented or intends to implement the following mitigation measures for the Project:

35. The Project will be compatible with the existing land uses in the area. Construction methods will be implemented to minimize potential impacts on noise, dust, and traffic. Project design also incorporates avoidance and mitigation measures for sensitive resources such as wetlands, listed plant and animal species, and sensitive cultural resources. Vegetative screening will be implemented to mitigate any visual impacts of the facility. Once the Project enters the operational phase, there will be no hazardous materials, pollutant emissions, or discernible sound outside of the facility.

36. *Viewscape*: The Project will utilize construction methods that minimize large-scale grading and removal of native soil. Clearing and grubbing will occur where necessary. The Applicant prepared a Visual Resource Assessment and Mitigation Plan (VRA) and a Glare Study to study the Project's potential impacts on the surrounding viewshed. The Project's VRA and Glare Study are enclosed as Attachments E and F, respectively. Per the Glare Study, green glare is predicted for 4 of the 147 structures, primarily residences, that were analyzed within proximity to the Project area. Green glare is predicted for up to 18 minutes per day (October-February) for two of the structures and for 2-5 minutes per day (October and February) for the other two structures. The glare is predicted to occur in the late morning to early afternoon, and should be considered negligible both due to severity (green category) and length of time predicted. The analyses were also conducted for drivers of vehicles at five feet above ground level (AGL) for cars and small trucks and nine feet for semi-truck viewing heights on 17 road segments adjacent to the PV panels.

The results of the ForgeSolar analysis determined that green glare from the Project is predicted to occur for drivers of vehicles on one of 17 road segments included in the analysis, Oak Grove Church Road. The analysis was completed at two viewing heights for roadways: five feet for cars and small trucks and nine feet for semi-trucks. Wood Duck will provide landscape buffers of double row evergreen trees spaced on 15-foot centers, between panel arrays and residential areas and along the public roadways where the arrays could be visible.

37. The Glasgow Municipal Airport and helipad at the TJ Samson Community Hospital is predicted to not have glare from the Project for pilots approaching either runway or helicopters hovering over the helipad. No air traffic control towers are associated with the Glasgow Municipal Airport.

38. *Vegetation.* The Project has been designed to minimize the amount of tree clearing required. The Project's Landscaping Plan, included as Attachment G, focuses on preservation of existing vegetation, augmented by supplemental vegetation to provide an effective screen, and enhancing the area's biological habitat. Pre-existing vegetation will remain preserved to the extent practical to retain visual consistency for adjacent properties and to achieve screening for adjacent properties and rights of way. Where existing vegetation was removed or considered insufficient, supplemental landscaping will be installed as depicted in the Landscape Plan and Project layout (Attachment A). Supplemental screening will consist of two rows of a combination of locally adapted evergreen species on 15-foot centers to mitigate the Project's visual impact. Supplemental plantings, where necessary, will be a minimum of six feet at the time of planting, no more than 15 feet apart, and consisting of double rows. Proposed vegetation will be 10 to 15 feet high at maturity.

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

from safety hazards.

40. *Impacts to cultural resources.* The Project has been designed to avoid impacts to historic homes, cemeteries, and archaeological sites. A search for sensitive site receptors (adjacent historic residences, churches, schools, cemeteries, hospitals, etc.) within 2,000 feet of the Project boundary was performed. One archaeological site deemed not eligible for listing on the NHRP, three historic structures, and three historic cemeteries were identified within this search area and would not be affected due to vegetation screening as implemented in the Landscape Plan.

41. *Stormwater.* The Project will comply with all applicable requirements to manage erosion, sedimentation, and stormwater runoff. This will include submitting a stormwater pollution prevention plan (SWPPP) and a notice of intent (NOI) for use of the Kentucky stormwater construction general permit KYR10 to Kentucky DOW for review and approval. The SWPPP prepared by a qualified engineer or erosion control specialist and will be implemented before and during construction. The SWPPP will be designed to reduce potential impacts related to erosion and surface water quality during construction activities and will include Project information and BMPs. BMPs will include dewatering procedures, stormwater runoff quality control measures, concrete waste management, stormwater detention, watering for dust control, and construction of perimeter silt fences, as needed.

42. *WOTUS.* The Project has been designed to avoid impacts to Waters of the United States (WOTUS) delineated on site. If impact to such features becomes necessary, then the impact will be minimized to the extent practicable, and the appropriate Clean Water Act (CWA) Section 404/401 permit will be obtained from the U.S. Army Corps of Engineers (USACE) and Kentucky DOW.

43. The regulation and permitting of utility-scale solar impacts to stormwater and WOTUS

will be addressed separately to this Siting Board application. Stormwater discharge is addressed in paragraph 40.

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

45. *Regulatory Agency.* USACE — Louisville District: The Project has been designed to avoid impacts to WOTUS. However, if impact becomes necessary then Wood Duck will coordinate with the USACE — Louisville District and the appropriate CWA Section 404 permit will be obtained. If necessary, a CWA Section 401 Water Quality Certification will be obtained from the Kentucky DOW. As required, the applicant will obtain permit coverage for crossings from the USACE-Louisville District.

Dated this 19th day of May 2025.

Respectfully submitted,



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*Counsel for Wood Duck Solar LLC*



**Stevenson, Pierce T.**

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**From:** Dutton, Gregory T.  
**Sent:** Wednesday, July 23, 2025 2:57 PM  
**To:** Key, Marcus H  
**Cc:** Kelley Pope  
**Subject:** Wood Duck Solar  
**Attachments:** Letter to Marcus H. Key.pdf

Marcus,

It was really great meeting with you and the rest of the team last month at your offices. Kelley and I appreciated the discussion and the staff's concern for the Mammoth Cave's natural resources, including the Kentucky Cave Shrimp. Attached please find our formal documentation of the information we shared during the meeting. This confirms what we said during the meeting, namely that the project does not include a battery energy storage system, that stormwater will be managed per USEPA and KDEP requirements, that karst setbacks will be in place, and vegetation will be managed primarily via mechanical means. If you or the rest of the park staff have any questions, please don't hesitate to contact me.

The Deputy Superintendent mentioned during the meeting that a follow up letter from the NPS might be appropriate given the assurances that we are able to provide in terms of protecting the Kentucky Cave Shrimp and other natural resources. If you would be willing to provide something to us or the Siting Board confirming what we discussed – that you and the other staff believe Wood Duck's efforts will protect the park's natural resources – we would be very appreciative. There have been a number of sources purporting to speak on behalf of the park, so it would be good to have something on your letterhead.

Again, we really appreciate the meeting and your offices and your concerns. I'm happy to discuss further if anything should come up.

Thank you,  
Greg

**Gregory Dutton**  
Attorney at Law



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**Stevenson, Pierce T.**

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**From:** Key, Marcus H <Marcus\_Key@nps.gov>  
**Sent:** Tuesday, June 10, 2025 3:23 PM  
**To:** Dutton, Gregory T.  
**Cc:** Trimble, Barclay BCT; Grass, Jay; Toomey, Rickard  
**Subject:** Re: [EXTERNAL] Wood Duck Solar

Greg,

I am looking forward to our meeting tomorrow as well. We have a small board room reserved in the Superintendent's office which is in a historic 2 story house located at 133 Headquarters Rd, Mammoth Cave, KY 42259. Follow signs to "Park Headquarters". I have included a photo to put you at ease that you have arrived at the correct location. Feel free to enter the front door, our meeting will be in the room to your left as you enter. There are some parking spaces adjacent to the sidewalk of the house, but if those are full there is a larger lot across the street, just past the front of the house.

From the park joining us will be Rick Toomey, our cave specialist, Deputy Superintendent Jay Grass, and or Park Superintendent Barclay Trimble.

Have a safe trip in, feel free to give me a call if I can help as you travel.  
Marcus



*1. Superintendent's House (028)  
Mammoth Cave National Park, Kentucky*

---

**From:** Dutton, Gregory T. <gdutton@fbtlaw.com>  
**Sent:** Tuesday, June 10, 2025 10:53 AM  
**To:** Key, Marcus H <Marcus\_Key@nps.gov>  
**Cc:** Trimble, Barclay BCT <Barclay\_Trimble@nps.gov>; Grass, Jay <Jay\_Grass@nps.gov>  
**Subject:** RE: [EXTERNAL] Wood Duck Solar

Marcus,  
We look forward to meeting you tomorrow. Is there a specific building or office we should meet you at tomorrow?

**Gregory Dutton**

Attorney at Law | **Frost Brown Todd LLP**

Louisville, KY

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---

**From:** Key, Marcus H <Marcus\_Key@nps.gov>  
**Sent:** Tuesday, June 3, 2025 5:22 PM  
**To:** Dutton, Gregory T. <gdutton@fbtlaw.com>  
**Cc:** Trimble, Barclay BCT <Barclay\_Trimble@nps.gov>; Grass, Jay <Jay\_Grass@nps.gov>  
**Subject:** Re: [EXTERNAL] Wood Duck Solar

Greg,

Thanks for the grace, yes Wednesday the 11th at 1:00 central.

Marcus

Marcus H. Key

Program Lead for Science and Resources Management

Division of Science and Resources Management  
Mammoth Cave National Park  
PO Box 7  
Mammoth Cave, KY 42259

[marcus\\_key@nps.gov](mailto:marcus_key@nps.gov)  
270-758-2136

**FIND YOUR  
PARK**



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**From:** Dutton, Gregory T. <[gdutton@fbtlaw.com](mailto:gdutton@fbtlaw.com)>  
**Sent:** Tuesday, June 3, 2025 9:22 AM  
**To:** Key, Marcus H <[Marcus\\_Key@nps.gov](mailto:Marcus_Key@nps.gov)>  
**Cc:** Trimble, Barclay BCT <[Barclay\\_Trimble@nps.gov](mailto:Barclay_Trimble@nps.gov)>; Grass, Jay <[Jay\\_Grass@nps.gov](mailto:Jay_Grass@nps.gov)>  
**Subject:** RE: [EXTERNAL] Wood Duck Solar

Marcus,  
I assume you meant Wednesday the 11<sup>th</sup>, but please let me let me know if you meant Thursday the 12<sup>th</sup>? As for the 11<sup>th</sup>, we are available and happy to come meet with you at the park. How about 1 pm Central? It will be me and Kelley Pope in attendance on behalf of the project. Kelley is the lead developer for the Wood Duck project. We look forward to meeting with you and your team.

Thanks,  
Greg

**Gregory Dutton**  
Attorney at Law | **Frost Brown Todd LLP**  
Louisville, KY  
[502.779.8557](tel:502.779.8557) Direct  
[502.445.6510](tel:502.445.6510) Mobile  
[gdutton@fbtlaw.com](mailto:gdutton@fbtlaw.com)

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**From:** Key, Marcus H <[Marcus\\_Key@nps.gov](mailto:Marcus_Key@nps.gov)>  
**Sent:** Monday, June 2, 2025 5:18 PM  
**To:** Dutton, Gregory T. <[gdutton@fbtlaw.com](mailto:gdutton@fbtlaw.com)>  
**Cc:** Trimble, Barclay BCT <[Barclay\\_Trimble@nps.gov](mailto:Barclay_Trimble@nps.gov)>; Grass, Jay <[Jay\\_Grass@nps.gov](mailto:Jay_Grass@nps.gov)>  
**Subject:** Re: [EXTERNAL] Wood Duck Solar

Greg,

Thursday afternoon the 11<sup>th</sup> works best for us. We will reserve a meeting space here in the park, what time are you anticipating being here? (Just a reminder the park is in the central time zone.

Marcus H. Key

Program Lead for Science and Resources Management

Division of Science and Resources Management  
Mammoth Cave National Park  
PO Box 7  
Mammoth Cave, KY 42259

[marcus\\_key@nps.gov](mailto:marcus_key@nps.gov)  
270-758-2136



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**From:** Dutton, Gregory T. <[gdutton@fbtlaw.com](mailto:gdutton@fbtlaw.com)>  
**Sent:** Wednesday, May 28, 2025 10:35 AM  
**To:** Key, Marcus H <[Marcus\\_Key@nps.gov](mailto:Marcus_Key@nps.gov)>  
**Cc:** Trimble, Barclay BCT <[Barclay\\_Trimble@nps.gov](mailto:Barclay_Trimble@nps.gov)>; Grass, Jay <[Jay\\_Grass@nps.gov](mailto:Jay_Grass@nps.gov)>  
**Subject:** RE: [EXTERNAL] Wood Duck Solar

Marcus,  
Thanks for the additional options. Either June 11 or 12 would work for us. How about either afternoon of the 11<sup>th</sup> or mid-morning on the 12<sup>th</sup>? We're generally flexible on those days, so let us know what works for you.

Thanks,  
Greg

**Gregory Dutton**  
Attorney at Law | **Frost Brown Todd LLP**  
Louisville, KY  
[502.779.8557](tel:502.779.8557) Direct  
[502.445.6510](tel:502.445.6510) Mobile  
[gdutton@fbtlaw.com](mailto:gdutton@fbtlaw.com)

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**From:** Key, Marcus H <[Marcus\\_Key@nps.gov](mailto:Marcus_Key@nps.gov)>  
**Sent:** Wednesday, May 21, 2025 5:33 PM  
**To:** Dutton, Gregory T. <[gdutton@fbtlaw.com](mailto:gdutton@fbtlaw.com)>  
**Cc:** Trimble, Barclay BCT <[Barclay\\_Trimble@nps.gov](mailto:Barclay_Trimble@nps.gov)>; Grass, Jay <[Jay\\_Grass@nps.gov](mailto:Jay_Grass@nps.gov)>  
**Subject:** Re: [EXTERNAL] Wood Duck Solar  
**Importance:** Low

Mr Dutton,

Sorry the dates proposed for May didn't fit schedules, how about these options in June?

Monday, June 2  
Wednesday, June 11  
Thursday June 12

Marcus H. Key

Program Lead for Science and Resources Management

Division of Science and Resources Management  
Mammoth Cave National Park  
PO Box 7  
Mammoth Cave, KY 42259

[marcus\\_key@nps.gov](mailto:marcus_key@nps.gov)



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**From:** Dutton, Gregory T. <[gdutton@fbtlaw.com](mailto:gdutton@fbtlaw.com)>  
**Sent:** Friday, May 9, 2025 12:50 PM  
**To:** Key, Marcus H <[Marcus\\_Key@nps.gov](mailto:Marcus_Key@nps.gov)>  
**Cc:** Trimble, Barclay BCT <[Barclay\\_Trimble@nps.gov](mailto:Barclay_Trimble@nps.gov)>; Grass, Jay <[Jay\\_Grass@nps.gov](mailto:Jay_Grass@nps.gov)>  
**Subject:** RE: [EXTERNAL] Wood Duck Solar

Marcus,  
Unfortunately, I haven't been able to confirm availability on any of the dates/times you have proposed. Travel plans have conflicted with all three dates. Are there other dates/times you and your team would be available to meet with us?

Thank you,  
Greg

**Gregory Dutton**  
Attorney at Law | **Frost Brown Todd LLP**  
Louisville, KY  
[502.779.8557](tel:502.779.8557) Direct  
[502.445.6510](tel:502.445.6510) Mobile  
[gdutton@fbtlaw.com](mailto:gdutton@fbtlaw.com)

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**From:** Key, Marcus H <[Marcus\\_Key@nps.gov](mailto:Marcus_Key@nps.gov)>  
**Sent:** Monday, May 5, 2025 5:49 PM  
**To:** Dutton, Gregory T. <[gdutton@fbtlaw.com](mailto:gdutton@fbtlaw.com)>  
**Cc:** Trimble, Barclay BCT <[Barclay\\_Trimble@nps.gov](mailto:Barclay_Trimble@nps.gov)>; Grass, Jay <[Jay\\_Grass@nps.gov](mailto:Jay_Grass@nps.gov)>  
**Subject:** Re: [EXTERNAL] Wood Duck Solar

Thank you, Mr. Dutton, for reaching out.

A few options for meeting at Mammoth Cave:  
Friday May 9<sup>th</sup> 1- 2:30, May 23<sup>rd</sup> 1-2:30. and Thursday May 29<sup>th</sup> 1- 2:30.

I am including Superintendent Barclay Trimble and Deputy Superintendent Jay Grass, to have them confirm openings on their calendars.

Looking forward to meeting,

Marcus H. Key

Program Lead for Science and Resources Management

Division of Science and Resources Management

Mammoth Cave National Park  
PO Box 7  
Mammoth Cave, KY 42259

[marcus\\_key@nps.gov](mailto:marcus_key@nps.gov)  
270-758-2136

FIND YOUR  
PARK



---

**From:** Dutton, Gregory T. <[gdutton@fbtlaw.com](mailto:gdutton@fbtlaw.com)>  
**Sent:** Thursday, May 1, 2025 9:40 AM  
**To:** Key, Marcus H <[Marcus\\_Key@nps.gov](mailto:Marcus_Key@nps.gov)>  
**Subject:** [EXTERNAL] Wood Duck Solar

**This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.**

Mr. Key,

I am counsel for Wood Duck Solar and in receipt of the letter you submitted to the siting board regarding this project. I would like to set up a time to meet and discuss the items you raised in your letter. There seems to be a disconnect regarding some of the information about the project and we're happy to meet with you to share information and discuss your concerns. Can you please share with me a couple of dates/times for me and a representative from the developer to meet with you at your office?

We look forward to the discussion.

Thank you,

**Gregory Dutton**  
Attorney at Law



Mansfield Rule™ Certified Plus 2023-2024

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Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 43:

Given the proposed project lies within the watershed basin of Mammoth Cave National Park, provide how the project will be designed to:

- a. Abide by the Endangered Species Act which requires Mammoth Cave National Park to protect the endangered species in the park, on the surface, streams, and in subterranean waterways.
- b. Avoid impacts to groundwater and cave systems.
- c. Ensure the protection of the federally endangered Kentucky Cave Shrimp.

Response:

- a. See generally the Response to Request No. 42. Listed species of concern relevant to the Mammoth Cave National Park ("Park") and the Project include the Indiana bat, Northern Long-eared Bat; the Kentucky Cave Shrimp is listed for the Park only. Wood Duck Solar intends to work with the USFWS to comply with seasonal forested clearing and mitigate loss of forested habitat via the Imperiled Bat Conservation Fund (IBCF) to minimize impacts to these species. All streams onsite flow subterranean before leaving the Project site; therefore, surface water impacts are not anticipated.
- b. Wood Duck Solar will comply with all stormwater regulations and implement BMPs prior to construction and monitor all features throughout the construction period, as required by permit. Wood Duck will minimize any site grading where not required and restore all bare earth with grass and native pollinator seed mix to minimize surface water turbidity during heavy rain events.
- c. Application of BMPs on site throughout construction and implementing a restoration plan will ensure the protection of federally endangered Kentucky Cave Shrimp;

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

further, no pesticides or fertilizers are planned for use during the operation of the facility and thus minimal groundwater impacts and contamination to the cave system are anticipated, if any.

\*\*\*\*\*

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 44:

Explain how hydrological drainage into possible nearby cave systems will be prevented.

Response:

See the Response to Request No. 43. The Mammoth Cave system requires hydrology from surrounding areas to survive; thus, water quality will be protected but not prevented in order to ensure maintaining the necessary hydrological connection between surface water features and the cave system.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 45:

Explain whether an Engineering, Procurement, and Construction (EPC) firm has been selected for the project. Provide the request for proposal (RFP) for the EPC contractor.

Response:

An EPC firm has not been selected at this time and no RFP has been prepared.

Responding Witness: Steve Hazel

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 46:

Confirm whether Wood Duck Solar still intends to pursue an Industrial Revenue Bond and Payment In Lieu of Taxes agreement with Barren County. If confirmed, provide a timeline for the execution of the agreements.

Response:

At this time, Wood Duck Solar does not intend to pursue an Industrial Revenue Bond and Payment In Lieu of Taxes agreement with Barren County.

Responding Witness: Kelley Pope

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 47:

Explain whether Wood Duck Solar intends to hire as many local workers for the construction and operations phases of the project as possible, all other qualifications for the positions being equal. If Wood Duck Solar intends to hire local workers, explain how it will ensure local hiring occurs, including any draft contract language and potential communications to the EPC contractor.

Response:

Yes, all other qualifications for the positions being equal, Wood Duck Solar intends to hire as many local workers for these phases of the project as possible. Wood Duck Solar plans to partner with Kentucky Laborers District Council and local affiliates of LIUNA, Local Union 181 of the International Union of Operating Engineers, and the 4<sup>th</sup> District of the International Brotherhood of Electric Workers to construct the facility under the National Tri-Trade Solar Agreement.

Responding Witness: Kelley Pope



Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 48:

Provide the type of pile driving equipment that will be utilized at the time of construction.

Response:

The specific type of piledriving equipment will be selected by the Project's EPC contractor.

However, the Project anticipates use of a pile driver model similar to the Vermeer PD10.

Responding Witness: Kelley Pope

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 49:

Provide the method of pile driving that will be utilized at time of construction.

Response:

See the Response to Request No. 48 above.

Responding Witness: Kelley Pope

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 50:

Provide a list of noise mitigation measures considered during the construction phase.

Response:

Wood Duck Solar proposes the limitation of noise-producing construction activity, such as pile driving, to between the hours of 8:00 a.m. through 5:00 p.m. Monday through Friday, with Saturdays available as necessary as make-up days due to supply chain or weather impacts. Wood Duck Solar also intends to leave existing vegetation buffers in place where practicable to assist in muffling construction noise.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 51:

Refer to Application, Exhibit A, C203: Public Resources within 2 Miles of the Study Area. KRS 278.700(6) defines a "Residential neighborhood" as a "populated area of five (5) or more acres containing at least one (1) residential structure per acre." Explain how residential neighborhoods were identified in C203 and how that process complies with the statutory definition of residential neighborhood.

Response:

Residential neighborhoods were determined by utilizing a GIS platform to map high density housing areas for compliance with size and density requirements set forth in KRS 278.700(6). 5-acre polygons, using county parcel data were drawn around closely situated homesites based on parcel boundaries; those polygons that encompassed at least 5 homes within 5 contiguous acres were then denoted as either being a residential neighborhood or located within a residential neighborhood. County appraisal data was also cross referenced for a 'subdivision' title within the county's tax records.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 52:

Explain whether any portion of the project site is located in Edmonson County.

Response:

No Project components (fence, panels, etc.) are located within Edmonson County and all Project components are located within Barren County.

Responding Witness: Steve Hazel

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 53:

Refer to Application, Exhibit H, SAR Narrative, page 1, which states that the “site consists mainly of 28 parcels secured from 15 landowners . . . .” Explain what is meant by the term “mainly” and identify any and all portions of the project site which are comprised of other types of property.

Response:

The use of "mainly" is not intended to suggest that there are excluded Project lands that will ultimately make up the Project site which were excluded from the application. Rather, "mainly" means that the "Project" will be composed of the land secured for solar purposes along with the components that will be installed thereon, including the gen-tie line.

Responding Witness: Steve Hazel

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 54:

Refer to Application, Exhibit H, SAR Narrative, page 1, which states that the “site consists mainly of 28 parcels secured from 15 landowners . . .” and to Attachment C (Parcel Map) which lists 27 parcels and 15 landowners. Identify the parcel number, owner, and acreage for the triangular parcel between parcels 19-6E and 32-20B, north of Cumberland Blvd. This parcel contains Project components in SAR Attachment A (Project Site Maps), Overall Site Plan map, and is not identified on the Parcel Map.

Response:

Refer to SAR Attachment C. The triangular parcel located between parcels 19-6E and 32-30B is a portion of parcel 32-21 belonging to participating landowner Mikel D. Bellamy.

Responding Witness: Chad Martin



Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 55:

Describe the various utilities that will serve the project, as applicable (i.e. water, gas, sanitary sewer, electrical).

Response:

Electricity utility service is anticipated to be obtained from Farmers RECC and water utility service from Glasgow Water Company. At this time, sanitary sewer and gas utility services are not anticipated for the Project.

Responding Witness: Kelley Pope

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 56:

Refer to the SAR Attachment A, Project Site Maps, Overall Site Plan map. State the total number of site access entrances in use during the construction phase and provide a narrative description of each entrance location.

Response:

See the Response to Request No. 6 above.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 57:

Refer to the SAR Attachment A, Project Site Maps, Overall Site Plan map. State the total number of site access entrances in use during the operations phase and provide a narrative description of each entrance location.

Response:

See the Response to Request No. 6 above.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

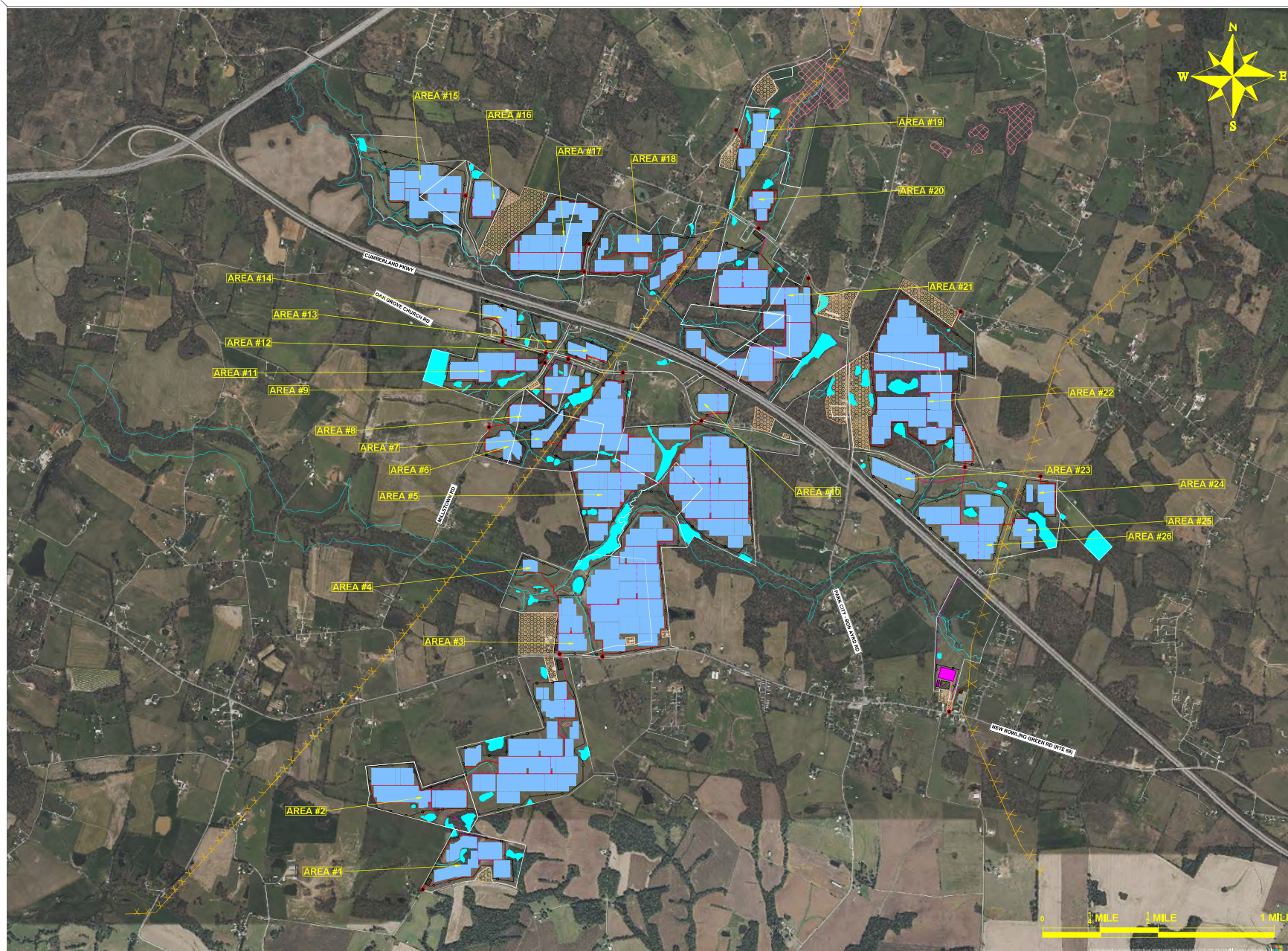
Request No. 58:

Refer to the SAR Attachment A, Project Site Maps, Overall Site Plan map. Confirm or correct our understanding that the project solar modules are located within 26 individually fenced clusters across the Project Site; 12 clusters located north of Cumberland Parkway; and 14 clusters located south of the Parkway (not including the two substation parcels). Please: (1) Label each fenced cluster of solar modules on the map with a number; (2) Identify the locations of all gates along the fencing surrounding these clusters on the map; (3) State the total number of gates.

Response:

See attached for an updated site plan for the Project. Refer to Response to Request No. 6 for narrative descriptions of the Project's 27 total site access points, including the entrance to the Project's substation.

Responding Witness: Steve Hazel



**LEGEND**

PARCEL BOUNDARY

FENCE

EASEMENT PARCEL

TRANSMISSION LINE

ACCESS POINT & ACCESS ROAD

STREAMS

WETLANDS

FLOOD ZONE

EXCLUSION AREA

KARST AREA

POINT OF INTERCONNECTION

SOLAR PANEL ROWS

ELECTRICAL EQUIPMENT

UTILITY SUBSTATION

PROJECT COLLECTION STATION

LAYDOWN / PARKING

INVERTER MV CABLE

PROJECT DATA	
PARCEL AREA	2259.4 ACRES
BUILDABLE AREA	1126.7 ACRES
FENCED AREA	1244.7 ACRES
MAX AC SYSTEM SIZE	100 MW-AC
MAX DC SYSTEM SIZE	135 MWp
PROPOSED MODULE	CS7N-MB-AG
MODULE POWER	660Wp
MODULE QUANTITY	204,552
PROPOSED INVERTER	FS4200M
INVERTER POWER	4MW-AC
INVERTER QUANTITY	25
DC/AC RATIO	1.35
RACKING SYSTEM	SINGLE AXIS TRACKING
ESTIMATED GCR	34%
DC SYSTEM VOLTAGE	1500V
RACKING SYSTEM	1P SAT

- NOTES:
- 1)

PROJECT AREAS ARE SUBJECT TO CHANGE PENDING FUTURE DESIGN CONTRAINTS AND LOCAL PERMITTING CONSIDERATIONS.
- 2)

STREAM SETBACK = 25'
- 3)

WETLAND SETBACK = 25'
- 4)

FEMA 100-YEAR FLOOD ZONE SETBACK = 25'
- 5)

KARST AREA SETBACK = 50'
- 6)

NON PARTICIPATING PARCEL SETBACK = 50'
- 7)

NON-PARTICIPATING OCCUPIED STRUCTURE SETBACK= 300'
- 8)

TRANSMISSION LINE SETBACK = 75'
- 9)

COUNTY AND STATE ROAD SETBACK = 100'
- 10)

OIL & GAS PIPELINE SETBACK = 100'

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 59:

Refer to the SAR Attachment A, Project Site Maps, Overall Site Plan map. The two clusters of solar modules furthest northwest and the large cluster south of Cumberland Parkway, bordered to the west by the transmission line, have access roads but no marked access entrances. Explain how these clusters will be accessed during project construction and operations. If these are mapping errors, provide a revised Overall Site Plan map.

Response:

See the attachment to the Response to Request No. 58 above. The Project will access these array clusters via the site access points included on the updated site plan.

Responding Witness: Steve Hazel



Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 60:

Refer to SAR Attachment A, Project Site Maps, Overall Site Plan map. Twelve module clusters do not have either access roads or access entrances indicated. Explain how these clusters will be accessed during project construction and operations. If these are mapping errors, provide a revised Overall Site Plan map.

Response:

See the attachment to the Response to Request No. 58 above. The Project will access these array clusters via the site access point included on the updated site plan.

Responding Witness: Steve Hazel

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 61:

Refer to the SAR Attachment A, Project Site Maps, Overall Site Plan map. Confirm or explain if the red rectangles on the map labeled as "Electrical Equipment" in the legend refer to the project inverters.

Response:

Confirmed.

Responding Witness: Kelley Pope



Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 62:

Explain whether each access entrance available during the construction period and during the operational period will have its own security gate.

Response:

Each Project access entrance will have its own security gate during both construction and operations.

Responding Witness: Steve Hazel

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 63:

Provide a detailed description of construction activities, including a construction timeline and schedule by activity, accounting for construction of all project components. Explain any potential deviations to that schedule.

Response:

Refer to Response Nos. 1, 10, and 11 above. A detailed schedule of activities will be provided upon final design and deviations from the Project's final construction schedule are not anticipated. The PV industry in the United States is valued at over \$70 billion and employs approximately 280,000 persons across more than 10,000 companies. The PV supply chain is robust with the capability of delivering more than 50 GW of solar modules per year. Wood Duck will partner with high quality, Tier 1 manufacturers and contractors with track records of delivering and completing construction projects on schedule. As an industry founded on working outdoors, all procurement and construction strategies are geared towards successful completion regardless of typical weather events. Although weather can be limiting for certain construction activities, others, such as module mounting, can continue rain or shine.

Responding Witness: Steve Hazel

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 64:

Provide the average number of construction workers on-site each day over the course of the construction period, accounting for construction of all project components.

Response:

It is estimated that the average number of construction workers onsite each day will be 160-200 over the course of the construction period.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 65:

Provide the number of construction workers on-site during the peak construction period and the number of days covering peak activity, accounting for construction of all project components.

Response:

240 construction workers are estimated to be onsite during the peak construction period. Although peak activity is variable, the Project estimates peak construction will last approximately 9 months of the proposed construction timeline.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 66:

Explain whether construction activities will take place seven days a week.

Response:

Construction activities are planned primarily five days per week, Monday through Friday, with construction activities occurring on Saturdays only if necessary to accommodate component deliveries or comply with scheduling deadlines.

Responding Witness: Kelley Pope

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 67:

Refer to Application, Exhibit G, Property Value Impact Analysis, pages 33-40, which focus on solar projects located in Kentucky. The Glover Creek and Turkey Creek projects (noted on page 34) are both large projects (50 MW to 55 MW) that have recently completed construction. Explain whether there have been any sales of homes or properties adjacent to either of those constructed projects that could be included in the analysis.

Response:

Additional research based on supplemental materials is attached hereto and includes data for homes in proximity to Glover Creek and Turkey Creek solar projects.

Responding Witness: Richard C. Kirkland, Jr.

## ***Executive Summary***

### **University Studies:**

---

Studies Cited:	8
Range of Impacts:	-7.90 to +19.40%
Average Range of Impacts:	-3.21% to -0.17%

### **Assessor Surveys:**

---

Assessors:	188
No Impact Responses:	170
Yes Impact Responses:	0
No Response:	18

### **Sale/Re-Sale Analysis (Kentucky and Adjoining States)**

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Sales Analyzed:	16
Range of Impacts:	-5% to +15%
Median:	+2%

### **Matched Pair/Paired Sale Analysis (Kentucky and Adjoining States)**

---

Sales Analyzed:	47
Range of Impacts:	-7% to +12%
Median:	0%

### **Broker Comments (Kentucky and Adjoining States)**

---

Brokers Interviewed:	14
No Impact Responses:	14
Yes Impact Responses:	0

### **Conclusion:**

---

Data Points Considered:	255
Range of Impacts:	-7% to +19%

Conclusion: 0%

**Comments:**

---

The data researched consistently shows impacts that hover in the +/-5% impact range, which is consistent with typical market imperfection.

The responses from all of the assessors and all of the brokers interviewed in this analysis shows no impact on property value. The assessors interviewed confirmed in all cases that they do in fact have utility scale solar in their jurisdiction and that they have valued the cites of the solar projects as well. The brokers interviewed all sold specific homes adjoining solar projects and their comments are specific to that one sale.

## **I. University Studies**

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

### ***F. Loyola University Chicago by Simeng Hao and Gilbert Michaud, 2024***

#### **Assessing Property Value Impacts Near Utility-Scale Solar in the Midwest**

This was originally part of the Master's Thesis by Simeng Hao in 2023 but updated for publication.

This study considered 70 utility-scale facilities built in the Midwest from 2009 to 2022 using data from the Lawrence Berkley National Laboratory. Using the difference-in-differences, method he found that proximity to solar project increased property values by 0.5% to 2.0%.

Furthermore, the research in this project shows that solar farms tend to be located in places with lower average home values by 2 to 3% compared to other random adjoining zip codes. This is not to say those areas are depressed, but those rural areas on average have lower prices than more suburban or urban areas nearby. This highlights the problem with a number of the studies on this issue in that they compare home values near the solar project to homes further from the solar project, but they are largely identifying the difference between rural and less-rural areas. The impact range identified by the Berkeley Study for example is exactly in line with that random difference identified by Simeng Hao.

The original Master's Thesis included a summary of seven other studies including many of those noted above that considered a total of 3,296 projects with results ranging from 1.7% decline in value to no impact. Only 2 of the studies identified found negative results that ranged from 0.82% to 1.7% impact on property value, while the other five studies found no consistent negative impact.

Given that 5 of the 7 studies identified show no negative impact and the analysis by Mr. Hao shows a positive relationship up to 2%, I consider this analysis to support my conclusions on no impact on property value. While statistical studies note impacts of +/- 2%, as noted earlier in this report, market imperfection is generally greater than that rate and supports a conclusion of no impact. Essentially, while the statistical studies are showing minor variation, applying that to any one particular property whether plus or minus, would be unsupportable given that market imperfection is greater than that purported adjustment.



### **G. *Purdue University by Binayak Kunwar, 2024***

#### **Impact of Commercial and Utility-Scale Solar Energy on Farmland Price**

This was completed as part of the Master of Science Thesis by the author to the Department of Agricultural Economics at Purdue University. This study focuses on farmland prices between 2015 and 2020 in Indiana. This study identified a premium up to 2.1% for higher priced farmland in proximity to solar projects. The study further identified adjustments for size, crop productivity and proximity to urban areas. The study interestingly notes that the higher priced farmland is both with high productivity and closer to urban areas, while the enhancement from adjoining or nearby solar is greatest on those types of farmland.

### **H. *Virginia Polytechnic Institute and Sates University by Chenyang Hu et al, 2025***

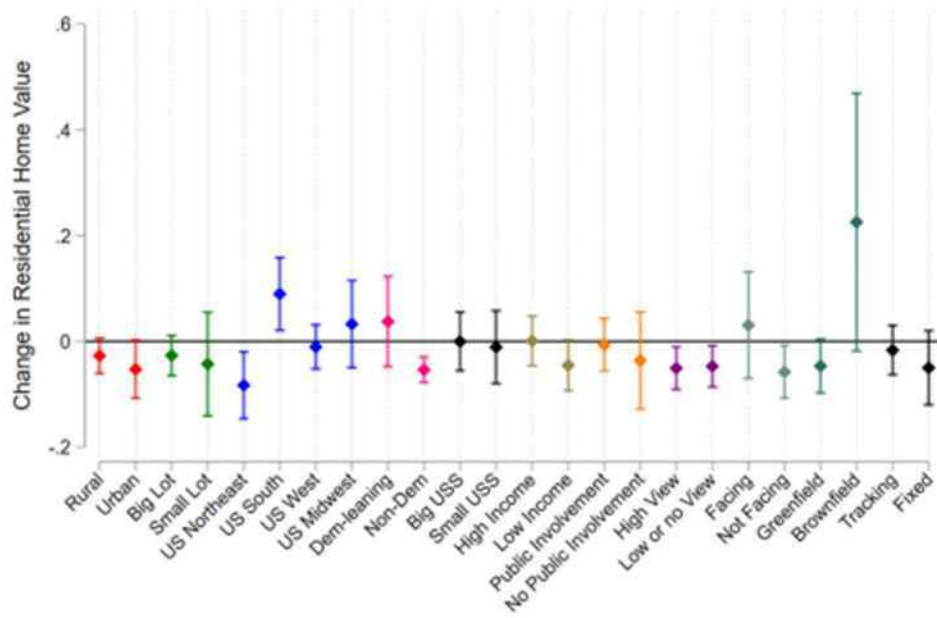
#### **Impact of large-scale solar on property values in the United States: Diverse effects and causal mechanisms**

This study follows a similar pattern of the Lawrence Berkeley study using analysis looking at properties within 3 miles of existing solar farms and comparing that data to property data 3 to 6 miles away. The findings of this study indicate a reduction in value for homes within 0.5-miles of 7.2% if it has no view of the project or 7.9% if it has a view of the project. It also concluded on a 4.8% impact up to 3 miles away. The same study concluded on an increase in value for undeveloped or farm land by an average of 19.4% within 2 miles of a solar project.

Of note, this analysis did not consider the size of the homes to be a relevant statistic and made no efforts to compare similar sized homes or adjustments for dissimilar sized homes which is a significant limitation of relying on this data.

Furthermore, this study, like the other studies that use this methodology, assumes that it is reasonable to compare home sales data within the 3-mile radius to activity in the outer ring area. However, this assumption fails to show that this is a reasonable assumption. In countless examples of solar projects we have identified across the country, the 3 to 5 mile radius includes towns and higher development areas closer to town and necessarily is showing a difference between rural values and town values. The Loyola University study illustrates this effect as outlined above.

This study also concluded that there are different factors that can influence these impacts. As shown in the chart below the lines above the line show positive impacts with the biggest positive impact being solar projects in Brownfield areas, but also includes positive impacts in the South, Midwest, Democrat leaning area, and facing of the panels.



### ***Summary of University Studies***

I have shown in the chart below a breakdown of the conclusions from these studies. The Low end of the range is showing the greatest negative or lowest positive while the High end is the lowest negative and highest positive. Where the impacts are positive they are showing an increase in value from proximity to a solar project.

The overall range is -7.9% to a +19.04% with an average between -2.81% and +2.88%. These ranges are clearly hovering in a nominal range that correspond with Market Imperfection as identified earlier in this report. With a range that tight, it is not a significant impact shown by these studies and is suggesting a positive potential that is almost as great as the negative potential.

These generalized studies do not address landscaping screens, differences in school districts, physical conditions of the homes, considerations for higher priced subdivisions near lower priced subdivisions, ages of homes, renovations or updates, whether the homes were on gravel or paved roads, lot size differences, amenity differences, lot premiums for river or conservation adjacency, and there was no data verification to identify atypical motivations of buyers and sellers. These generalized studies suggest a level of precision that should be considered with caution by appraisers for adjustments as they do not account for those other factors and they fall within typical market imperfection.

Table 2 Breakdown of University Study Findings

	Source	Type	Year	Low	High	Conclusion Note on Proximity
A	UTA	Published Study	2018	-5.00%	1.00%	1000 feet
B	URI	Published Study	2020	-1.70%	0.00%	-1.70% 1 mile 0.00% 1mile rural
C	URI	Published Study	2023	-3.60%	-1.50%	1/2 mile
D	GATech	Published Study	2020	0.00%	0.00%	Farmland
E	Lawrence	Published Study	2023	-5.60%	0.00%	-2.30% 1/4 mile -1.50% 1/2 mile -0.80% 1/2 to 1 mile
F	Loyola	Published Study	2024	0.50%	2.00%	Proximity
G	Purdue	Masters Thesis	2024	0.80%	2.10%	Proximity
H	VATech	Published Study	2025	-7.90%	19.40%	-7.20% 1/2 mile -4.80% 3 mile 19.40% Farmland - 2 mi

**Average** -2.81% 2.88%  
**Median** -2.65% 0.50%  
**High** 0.80% 19.40%  
**Low** -7.90% -1.50%

#### Residential

**Average** -3.21% -0.17%  
**Median** -3.60% 0.00%  
**High** 0.80% 2.10%  
**Low** -7.90% -4.80%

#### Farmland

**Average** 9.70% 9.70%  
**Median** 9.70% 9.70%  
**High** 19.40% 19.40%  
**Low** 0.00% 0.00%

## II. Assessor Surveys

I have completed a survey of assessors in Kentucky, I have excluded responses from assessors with no existing and no pending solar farms in those counties. The breakdown is shown below.

Kentucky Property Valuation Administrator				
		Existing	Proposed	
County	Assessor	Solar	Solar	Impact on Adjacent?
Breckinridge	Dana Bland	0	2	No
Caldwell	Ronald Wood	0	2	No
Christian	Angie Strader	4	n/a	No
Clark	Jada Brady	1	n/a	No response
Green	Sean Curry	0	2	No
Martin	Bobby Hale, Jr.	0	1	No response/hasn't come up yet
Mercer	Jessica Elliott	1	0	No
Russell	Tim Popplewell	0	1	No response/depends on sales after built
Webster	Jeffrey Kelley	0	1	No response/depends on sales after built
Whitley	Ronnie Moses	0	1	No
	Total Responses	10		
	No Impact Responses	6		
	No Response on Impact	4		

I have not had any assessor indicate a negative adjustment due to adjacency to a solar farm in any state. These responses total 189 with 172 definitively indicating no negative adjustments are made to adjoining property values, 17 providing no response to the question, and 0 indicating that they do address a negative impact on adjoining property value.

### Summary of Assessor Surveys

		No	Yes	No	
State	Responses	Impact	Impact	Comment	
North Carolina	39	39			
Virginia	17	17			
Indiana	31	31			
Colorado	15	8			7
Georgia	33	33			
Kentucky	10	6			4
Mississippi	4	2			2
New Mexico	5	5			
Ohio	24	20			4
South Carolina	11	11			
Totals	189	172	0		17

### **III. Market Analysis of the Impact on Value from Solar Farms**

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

The data collection on the following pages will be used in the Sale/Resale Analysis, Paired Sales Analysis, and the Broker Comment Summary in the following sections of this report.

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

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

I have previously been asked by the Kentucky Siting Board about how the solar farms and the matched pair sets were chosen. This is the total of all the usable home sales adjoining the 900+ solar farms that I have looked at over the last 15 years. Most of the solar farms that I have looked at are only a few years old and have not been in place long enough for home or land sales to occur next to them for me to analyze. There is nothing unusual about this given the relatively rural locations of most of the solar farms where home and land sales occur much less frequently than they do in urban and suburban areas and the number of adjoining homes is relatively small.

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

After my review of all sales and elimination of the family transactions and those sales with multiple differentials, I am left with the matched pairs shown in this report to analyze. I do have additional matched pair data in other areas of the United States that were not included in this report due to being states less comparable to Kentucky than those shown. The only other sales that I have eliminated from the analysis are home sales under \$100,000, which there haven’t been many such examples, but at that price range it is difficult to identify any impacts through matched pair analysis. I have not cherry picked the data to include just the sales that support

one direction in value, but I have included all of them both positive and negative with a preponderance of the evidence supporting no impact to mild positive impacts.

## ***Kentucky and Adjoining States Data***

### **1. Crittenden Solar, Crittenden, Grant County, 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 a number of home sales to the north of this solar farm on Clairborne Drive and a couple of home sales to the south on Eagle Ridge Drive since the completion of this solar farm. The home sales on Eagle Drive are challenging to consider given that local broker Steve Glacken with Cutler Real Estate indicated that these are the lowest price range/style home in the market. I have not analyzed those sale as it would unlikely provide significant data to other homes in the area.

Mr. Glacken has been selling lots at the west end of Clairborne for new home construction. He indicated in 2020 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 \$335,000 price range. The vacant residential lots are being marketed for \$28,000 to \$30,000. The landscaping buffer is considered light, but the rolling terrain allows for distant views of the panels from the adjoining homes along Clairborne Drive.

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



**Adjoining Residential Sales After Solar Farm Approved**

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

**Adjustments**

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

I also looked at 350 Claiborne 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	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/FBsm	Brick
	Not	215 Lexington	1.00	7/27/2018	\$231,200	2000	1,590	\$145.41	5/4	2-Car	Ranch	Brick

**Adjustments**

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

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





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



**Adjoining Residential Sales After Solar Farm Approved**

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

**Adjustments**

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

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

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



**Adjoining Residential Sales After Solar Farm Approved**

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

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

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

I also looked at four sales that were during a rapid increase in home values around 2021, which required significant time adjustments based on the FHFA Housing Price Index. Sales in this time frame are less reliable for impact considerations as the peak buyer demand allowed for homes to sell with less worry over typical issues such as repairs.

The home at 250 Claiborne Drive sold with no impact from the solar farm according to the buyer's broker Lisa Ann Lay with Keller Williams Realty Service. As noted earlier, this is the only manufactured home in the community and is a bit of an anomaly. There was an impact on this sale due to an appraisal that came in low likely related to the manufactured nature of the home. Ms. Lay indicated that there was significant back and forth between both brokers and the appraiser to address the low appraisal, but ultimately, the buyers had to pay \$20,000 out of pocket to cover the difference in appraised value and the purchase price. The low appraisal was not attributed to the solar farm, but the difficulty in finding comparable sales and likely the manufactured housing.

**Adjoining Residential Sales After Solar Farm Built**

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
Adjoins	250 Claiborne	1.05	1/5/2022	\$210,000	2002	1,592	\$131.91	4/2	Drive	Ranch	Manuf
Not	255 Spillman	0.64	3/4/2022	\$166,000	1991	1,196	\$138.80	3/1	Drive	Ranch	Remodel
Not	546 Waterworks	0.28	4/29/2021	\$179,500	2007	1,046	\$171.61	4/2	Drive	Ranch	3/4 Fin B
Not	240 Shawnee	1.18	6/7/2021	\$180,000	1977	1,352	\$133.14	3/2	Gar	Ranch	N/A

Solar	Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	250 Claiborne							\$210,000			365
Not	255 Spillman	-\$379	\$9,130	\$43,971	\$10,000		-\$20,000	\$208,722	1%		
Not	546 Waterworks	\$1,772	-\$4,488	\$74,958			-\$67,313	\$184,429	12%		
Not	240 Shawnee	\$1,501	\$22,500	\$25,562		-\$10,000		\$219,563	-5%		
											3%

The photograph of the rear view from the listing is shown below.



The home at 260 Claiborne Drive sold with no impact from the solar farm according to the buyer's broker Jim Dalton with Ashcraft Real Estate Services. He noted that there was significant wood rot and a heavy smoker smell about the house, but even that had no impact on the price due to high demand in the market.

**Adjoining Residential Sales After Solar Farm Built**

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
Adjoins	260 Claiborne	1.00	10/13/2021	\$175,000	2001	1,456	\$120.19	3/2	Drive	Ranch	N/A
Not	355 Oakwood	0.58	10/27/2020	\$186,000	2002	1,088	\$170.96	3/2	Gar	Ranch	3/4 Fin B
Not	30 Ellen Kay	0.50	1/30/2020	\$183,000	1988	1,950	\$93.85	3/2	Gar	2-Story	N/A
Not	546 Waterworks	0.28	4/29/2021	\$179,500	2007	1,046	\$171.61	4/2	Drive	Ranch	3/4 Fin B

Solar	Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	260 Claiborne							\$175,000			390
Not	355 Oakwood	\$18,339	-\$930	\$50,329		-\$10,000	-\$69,750	\$173,988	1%		
Not	30 Ellen Kay	\$31,974	\$11,895	-\$37,088		-\$10,000		\$179,781	-3%		
Not	546 Waterworks	\$8,420	-\$5,385	\$56,287			-\$67,313	\$171,510	2%		
										0%	

The photograph of the rear view from the listing is shown below.

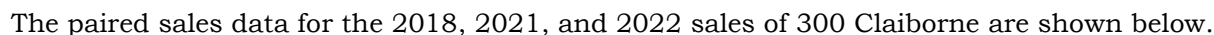




These next two were brick and with unfinished basements which made them easier to compare and therefore more reliable.

For 300 Claiborne I found a sale in 2022, a sale in 2021, and a sale in 2018. All three were after the solar project was completed. I also considered the 2014 sale of the home prior to the announcement of the solar project for a Sale/Resale analysis.

The July 2014 sales price was \$173,000 and then it sold after the solar project in 2018 for \$212,720. The FHFA HPI shows an expected increase over that time period for an expected home value of \$208,183. This is very similar to the actual sales price in 2018 and supports a finding of no impact due to the solar project.



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

[illegible]

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
Adjoins	300 Claiborne	0.89	12/18/2021	\$290,000	2002	1,568	\$184.95	3/3	2-Car	Br Rnch	Bsmt
Not	405 Claiborne	0.41	2/1/2022	\$267,750	2004	1,787	\$149.83	3/2	2-Car	Br Rnch	Bsmt
Not	39 Pinhook	0.68	3/31/2022	\$299,000	1992	1,680	\$177.98	3/2	2-Car	Br Rnch	Bsmt
Not	5 Pinhook	0.70	4/7/2022	\$309,900	1992	1,680	\$184.46	3/2	2-Car	Br Rnch	Bsmt

[illegible]



The photograph of the rear view from the 2021 listing is shown below.



This same home, 300 Claiborne sold again on October 14, 2022 for \$332,000, or \$42,000 higher or 15% higher than it had just 10 months earlier. The FHFA Home Price Index indicates an 8.3% increase over that time for the overall market, suggesting that this home is actually increasing in value faster than other properties in the area.

**Adjoining Residential Sales After Solar Farm Built**

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
Adjoins	300 Claiborne	0.89	10/14/2022	\$332,000	2002	1,568	\$211.73	3/3	2-Car	Br Rnch	Bsmt
Not	202 Shady	0.94	4/20/2023	\$300,000	1980	1,620	\$185.19	4/2.5	2-Det	Br Rnch	Bsmt
Not	145 Liza	0.31	8/5/2022	\$325,000	2015	1,650	\$196.97	3/2	2-Car	Br Rnch	
Not	120 Sheffield	0.21	7/26/2023	\$344,900	2023	1,570	\$219.68	3/2	2-Car	Rnch	Bsmt

Solar	Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	300 Claiborne							\$332,000			570
Not	202 Shady	-\$14,258	\$33,000	-\$3,852	-\$5,000	\$5,000		\$314,890	5%		
Not	145 Liza	\$5,751	-\$21,125	-\$6,461			\$10,000	\$313,166	6%		
Not	120 Sheffield	-\$24,850	-\$36,215	-\$176			\$17,245	\$300,905	9%		
										7%	

An updated photo from the 2022 listing is shown below.



The home at 410 Claiborne included an inground pool with significant landscaping around it that was a challenge. Furthermore, two of the comparables had finished basements. I made no adjustment for the pool on those two comparables and considered the two factors to cancel out

**Adjoining Residential Sales After Solar Farm Built**

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
Adjoins	410 Claiborne	0.31	2/10/2021	\$275,000	2006	1,595	\$172.41	3/2	2-Car	Br Rnch	Bsmt/Pool
Not	114 Austin	1.40	12/23/2020	\$248,000	1994	1,650	\$150.30	3/2	2-Car	Br Rnch	Bsmt
Not	125 Liza	0.29	6/25/2021	\$315,000	2005	1,913	\$164.66	4/3	2-Car	Br Rnch	Ktchn Bsmt
Not	130 Hannahs	0.42	2/9/2021	\$295,000	2007	1,918	\$153.81	3/3	2-Car	Br Rnch	Fin Bsmt

Solar	Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	410 Claiborne							\$275,000			1080
Not	114 Austin	\$3,413	\$14,880	-\$6,613			\$20,000	\$279,680	-2%		
Not	125 Liza	-\$11,945	\$1,575	-\$41,890	-\$10,000			\$252,740	8%		
Not	130 Hannahs	\$83	-\$1,475	-\$39,743	-\$10,000			\$243,864	11%		
										6%	

Another home sale was identified at 280 Claiborne which sold on March 27, 2024 for \$295,500 for this 2,100 s.f. 1.5-story home built in 1998 with 3 BR, 2.5 BA, on 1.05 acres. In the listing photographs you can see the solar panels in the background as shown below. The closest panel is 500 feet from the home.





This home last sold on April 28, 2006 for \$119,200 before the solar farm was built. Using the FHFA HPI over that time period, that home was expected to appreciate between those two sales to \$234,745, whereas it actually appreciated to \$295,500. This home was noted as having “neat additions” such as a storm shelter, fenced gardens, and tasteful décor. Some of this may explain the higher sales price, but this Sale/Resale strongly supports a finding of no impact on property value. A typical new roof adds \$6,000 to \$7,000 in resale value based on some online estimates. A new kitchen typically adds around \$26,000 on average as of 2022. Adding an additional \$5,000 for the granite counter tops the total kitchen remodel estimate is \$31,000. Add in the new roof and you get an estimated value of the upfit at \$38,000. Even if I increase this estimate by 25% to \$47,500, the indicated adjusted value including the time adjustment is \$282,245, which supports a finding of no impact on property value.

The home was sold by Carol Jackson with The Realty Place (859-393-6282). Ms Jackson replied via text on 1/18/25 that this was an arm’s length transaction and that the solar project had no impact on the property value due to the distance involved. She indicated that they had multiple offers on this home.





## **2. Walton 2, Walton, Kenton County, KY**



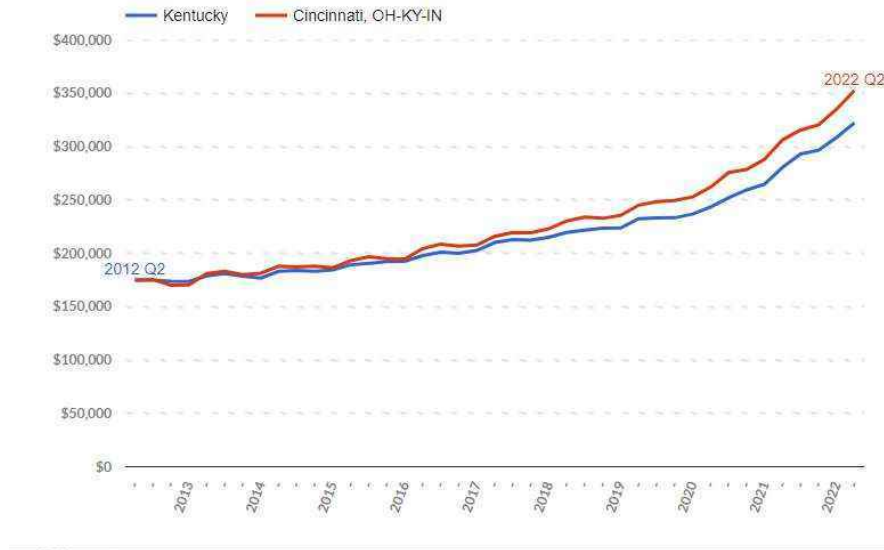
This project was built in 2017 on 58.03 acres for a 2 MW project with the closest home 120 feet from the closest panel.

The home located on Parcel 1 (783 Jones Road, Walton, KY) in the map above sold on May 4, 2022 for \$346,000. This home is 410 feet from the nearest solar panel. I have considered a Sale/Resale analysis of this home as it previously sold on May 7, 2012 for \$174,900. This analysis compares that 2012 purchase price and uses the FHFA House Price Index Calculator to identify what real estate values in the area have been appreciating at to determine where it was expected to appreciate to. I have then compared that to the actual sales price to determine if there is any impact attributable to the addition of the solar farm.

As can be seen on the calculator form, the expected value for \$174,900 home sold in 2<sup>nd</sup> quarter 2012 would be \$353,000 for 2<sup>nd</sup> quarter 2022. This is within 2% of the actual sales price and supports a finding of no impact on property value.

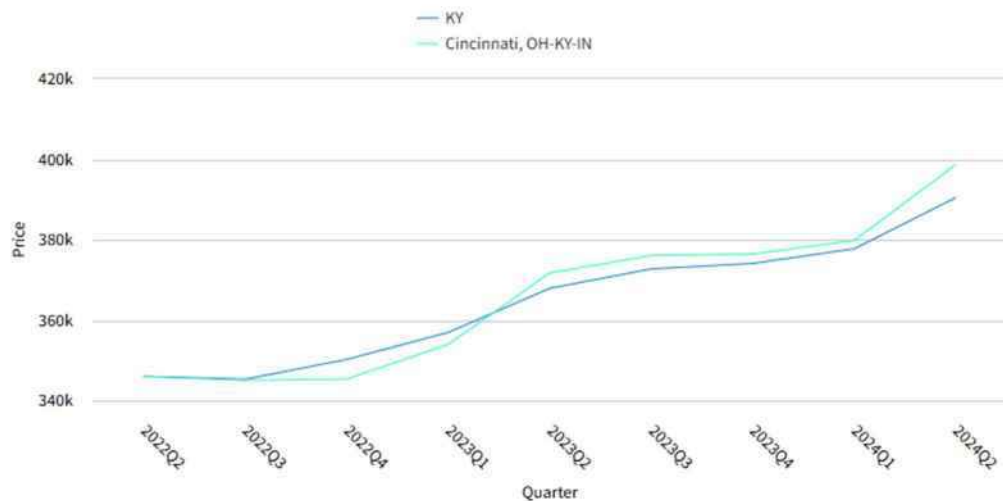
I have not attempted a paired sales analysis with other sales, as this property also has the nearby recycling and car lot that would be a potential factor in comparing to other sales. But based on aerial imagery, these same car lots were present in 2012 and therefore has no additional impact when comparing this home sale to itself.

Purchase Quarter	Valuation Quarter	
<b>2012 Quarter 2</b>	<b>2022 Quarter 2</b>	
Purchase Value	Estimated Value for MSA	Percentage Change
<b>\$174,900</b>	<b>\$353,000</b>	<b>101.8%</b>



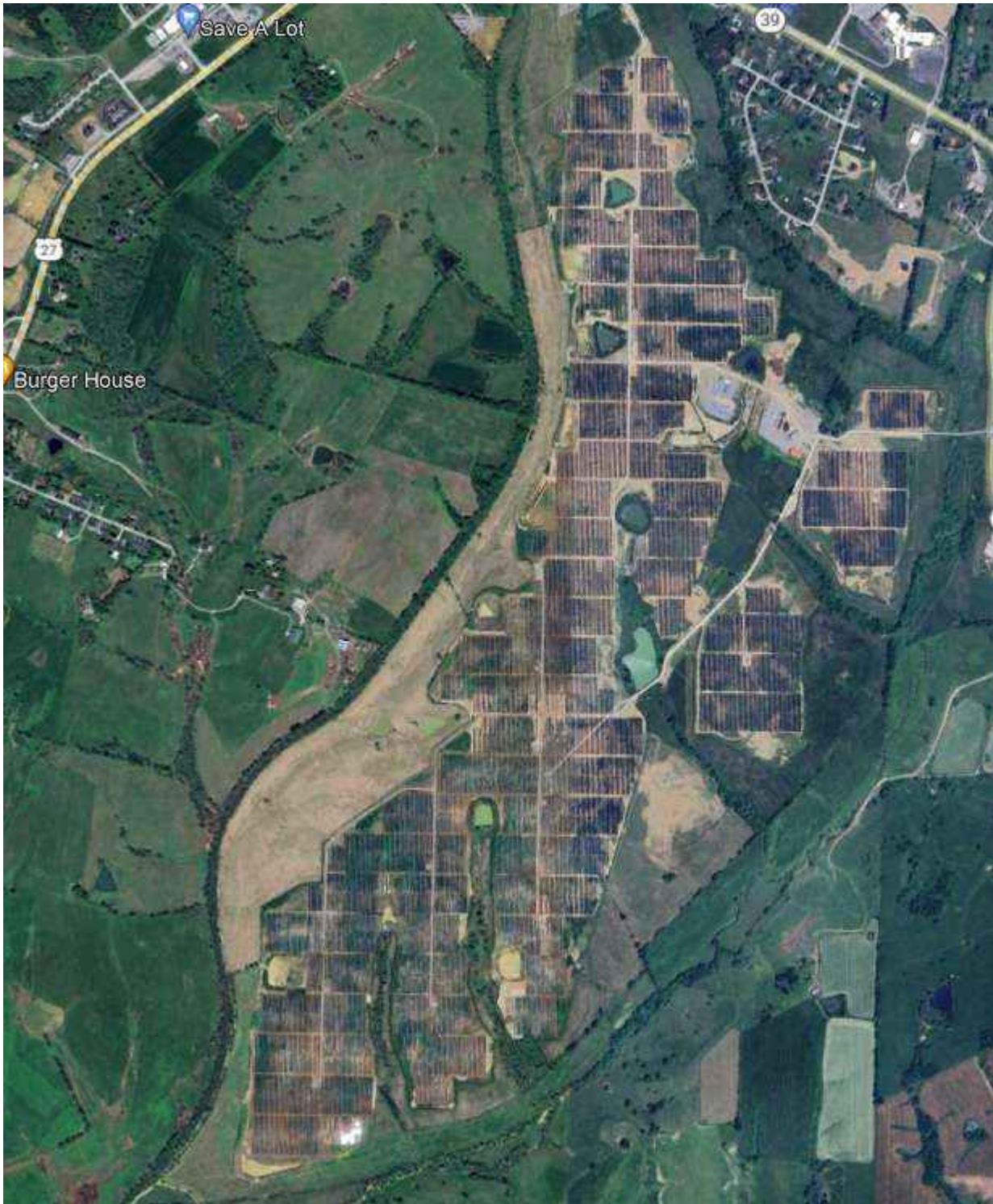
This same home was then renovated with a new roof, updated kitchen with granite counters and listed again on January 4, 2025 and went under contract for the asking price of \$428,500 on January 5, 2025. The property increased in value since 2022 by \$82,500, whereas the FHFA HPI indicates an increase in value to \$398,698. The additional increase over that is attributable to the recent updates, which makes it difficult to use this as a Sale/Resale analysis, but is suggestive.

Estimated Value for MSA:	Estimated Value for State:	MSA Percentage Change:
<b>\$398,698</b>	<b>\$390,471</b>	<b>15.23%</b>





### **3. Turkey Creek, Lancaster, Garrard County, KY**



This project was built in 2022 on 297.05 acres out of a 752.80-acre parent tract assemblage for a 50 MW project where the closest home is 240 feet from the closest panel. This project was announced in 2019 with approvals in 2020.

I identified a sale at 166 Long Branch Drive, Lancaster that sold on November 25, 2020 after the solar farm was announced for \$180,000. The prior sale of the property on February 28, 2019 was for \$160,000. Adjusting the earlier sale by the FHFA Home Price Index, the anticipated increase in value was \$181,000. This is a difference of 1% which is within typical market deviation and supports a finding of no impact on property value due to the announcement of the solar farm. This home is approximately 250 feet from the nearest solar panel.

I also identified 209 Ashlock Drive that sold on June 14, 2022 near the time construction was to be begin at this solar project. This home sold for \$500,000 for a 3,968 s.f. home with 4 BR, 4.5 BA built in 1985 on 3.06 acres. This is a unique home and it is over 1,000 feet to the nearest solar panel. It was purchased out of a larger tract that now includes 5 additional lots and this home adjoins an industrial use to the northwest. All of these factors make it difficult to analyze this sale. I have therefore not attempted to do so as any result would be non-credible given these other factors.

I also identified 1439 Stanford Road that sold on June 27, 2023 for \$1,300,000 for this 3,400 s.f. historic home on 206 acres. The home is over 1,500 feet from the panels and the site includes acreage zoned for commercial use according to the listing. There are too many unique features to this for a valid paired sales analysis. I have not attempted one for this sale.

I identified 239 Ashlock Drive that sold on June 20, 2024 for \$329,900 for this 1,600 s.f. brick ranch with 3 BR, 2.5 BA, with 2-car garage built in 2024 on 1 acre. This home is approximately 700 feet from the nearest panel. It is located on the north side of Elmwood Court and therefore one lot away from adjoining the solar project. This home was sold by Hannah Hulett with Danny Ayres Realty & Auction. The home was listed on April 19, 2024 for \$339,900 and then reduced to \$329,900 on May 1, 2024. The home went under contract on May 16, 2024 and sold on June 20, 2024 for \$329,900. The purchase price works out to be \$206.19 per square foot.

There were not many new homes in that size range in the area for comparison. I considered 126 Bethany Trace that sold on April 14, 2023 for \$300,000 for a 1,385 s.f. home with 2 car garage, 3 BR and 2 BA built in 2023 on 0.26 acres. The purchase price works out to \$216.61 per s.f. This is a little higher than the subject property, but it is also 215 s.f. smaller, which would suggest a slightly higher price per s.f. This home is on a smaller lot but also sold for \$10,000 less than asking price and was on the market for 3 months before closing. I will not rely heavily on this comparison as I only found this one comparable sale of a new home in a similar time frame.

Merriwood Development, LLC purchased 15 lots along Elmwood Court on May 18, 2023 for \$750,000, or \$50,000 per lot. These lots were developed in 2022/2023 by Wimbledon Holdings and WRH Investments following the purchase of the raw land on March 25, 2022. The raw land was purchased for development after the solar farm was approved and the subdivision infrastructure was developed during the construction of the solar farm. The developer clearly foresaw no negative impact on the property from the solar farm or they would not have invested in the development. The sales price is not a good indication of market value as Wimbledon and Merriwood are noted as related entities.

I searched for recent lot sales in the area and found 1 to 3 acre lots to the northeast selling for \$15,000 to \$30,000 each. The lots at Merriwood are in close proximity to Garrard County High School off Industry Road.

Lot 96 sold to Robert and Avonda Noe on January 24, 2023 for \$44,900 and was subsequently developed with a single family home. This lot directly adjoins the solar farm with the nearest panel 625 feet away. The panels appear to be visible in the background of the tax card photo.





Lot 97 sold to Michael and Jill Stevens on July 28, 2023 for \$60,800. This lot directly adjoins the solar farm with a likely home site 820 feet from the nearest panel.

Lot 98 was sold to Walter and Hannah Hulett for \$1 as an entity related to Wimbledon Holdings. This is the home visible in the map just underneath the word Elmwood Court. The Hulett's are WRH Investments, LLC that developed the site with Wimbledon Holdings, LLC.

Lot 100 sold on July 28, 2023 to Jimmie McCulley for \$39,900. This lot does not directly adjoin the solar farm.

Lot 101 sold on November 22, 2023 to Willie and Tiffany Skeens for \$50,000. This lot directly adjoins the solar farm with a likely home site 450 feet from the nearest panel.

Additional lots were transferred to Elmwood Builders, LLC that is noted as affiliated with Merriwood Development, LLC for \$1 each.

The various lot prices range from \$39,900 to \$60,800 with the low end of the range being a lot non-adjacent to the solar farm and the high end being adjacent to the solar farm. The sales data on the lots do not support any finding of a negative impact on property value. Comparing the most common lot value of \$50,000 per lot suggests an impact range of -10% for Lot 96 that sold for \$44,900 to +22% for Lot 97 that sold for \$60,800. Those two lots are adjacent to each other. Blending the two impacts suggests a 12% enhancement for adjoining the solar farm. But given the wide ranges of lot values in this development, I consider this to simply support a finding of no impact on property value.









## **5. E. W. Brown Solar, Harrodsburg, KY**



This project was built in 2016 on 50 acres for a 10 MW project. This solar facility adjoins three coal-fired units shown to the north which makes it difficult to do a paired sales analysis on the nearby homes. I have however considered Sale/Resale analysis as the impact of the nearby coal power plant as well as the impact of the river frontage is the same in both sales prices, which leaves the primary difference of the solar project as what we are testing for.

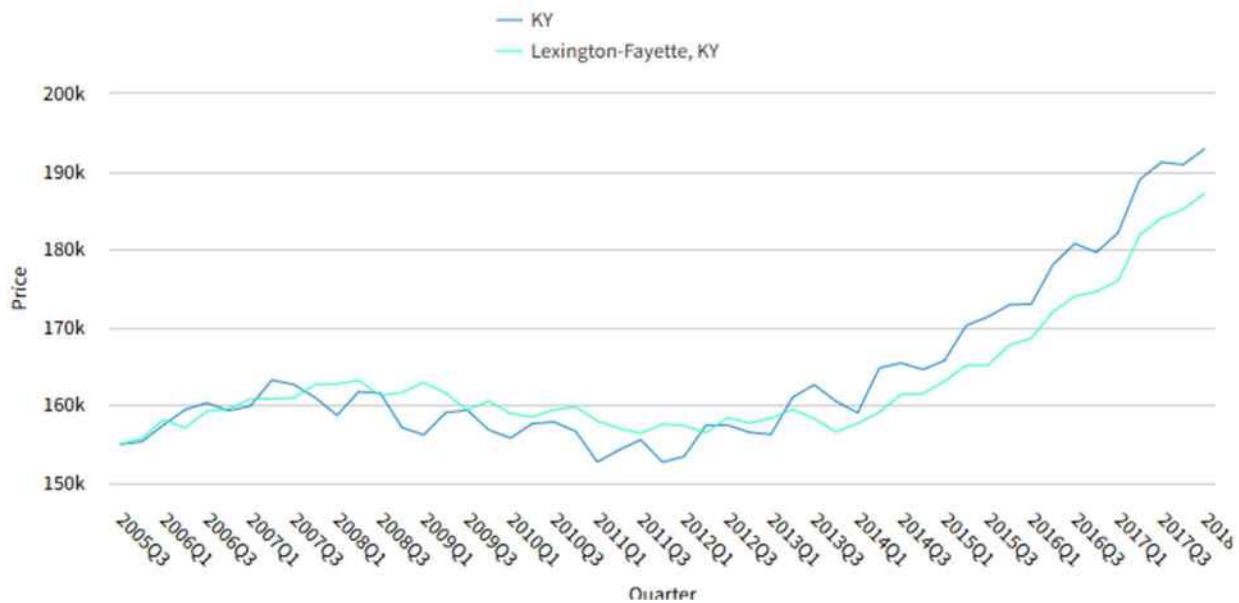
A home at 837 Hardin Hts sold on September 12, 2005 for \$155,000 before the solar project and sold again on March 29, 2018 for \$212,500 after the solar farm was built. The tax assessor identified both of these sales at Arms-Length transactions. Over that time period, the FHFA HPI indicates that a home that sold in 2005 in the area for \$155,000 would be expected to appreciate to \$187,274. This strongly supports a finding of no impact on this home value due to the solar project. The river frontage and the proximity to the power plant was the same in both the before and after. The solar panels are 1,015 feet from the nearest point on this home.

I will not rely heavily on this indicator, but it is included for additional information.

Estimated Value for MSA:  
\$187,274

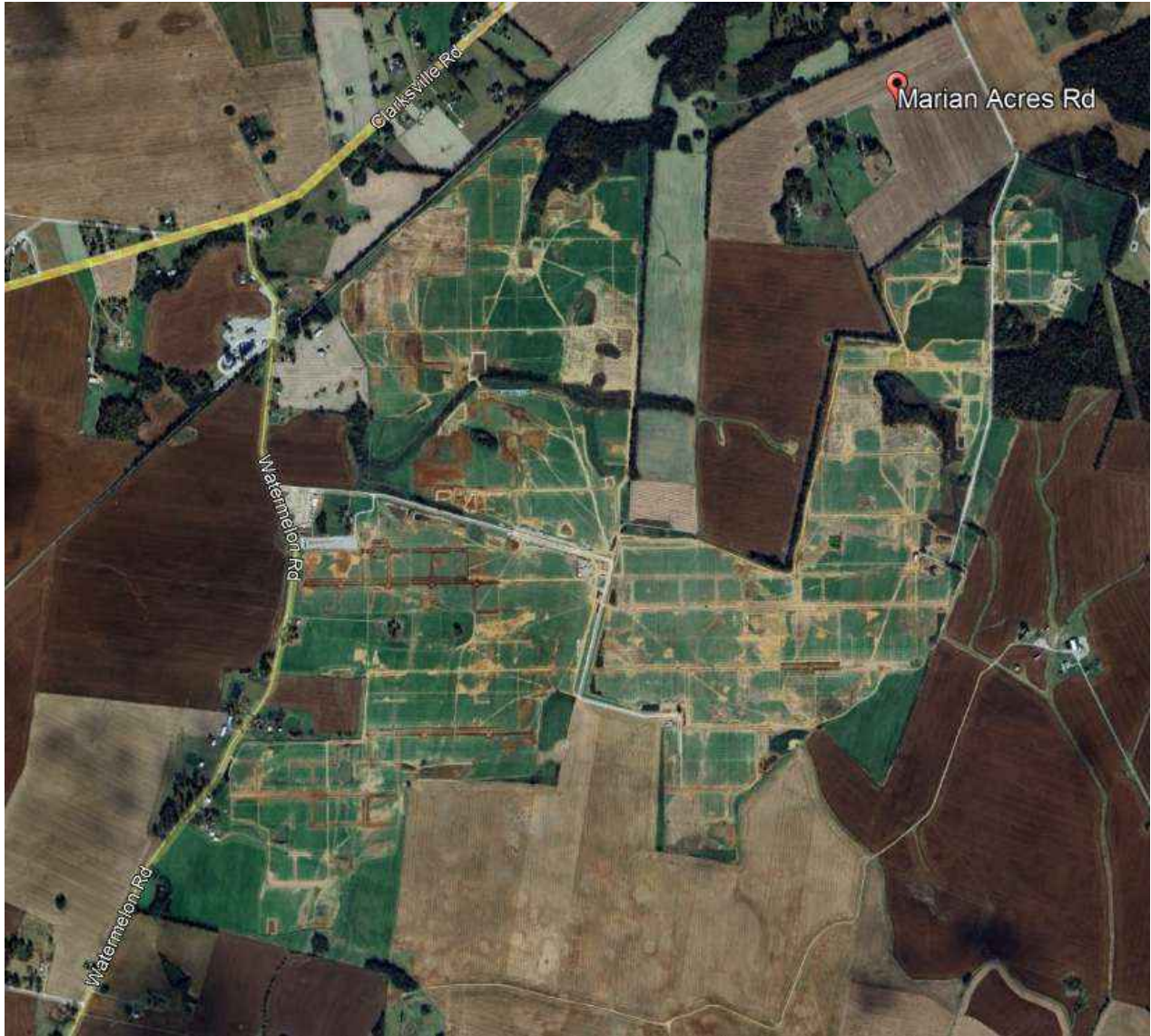
Estimated Value for State:  
\$192,956

MSA Percentage Change:  
20.82%





## **6. Logan County Solar, Russelville, Logan County, KY**



This project began construction in 2023 and proposed to be complete in early 2025. It is located on 1,100 acres for a 173 MW project.

I identified a May 17, 2022 sale of 528 Watermelon Road for \$275,000 for a home on 1.29 acres with 2,370 s.f. with 3 BR and 2 BR built in 1940 with 2 carport spaces. This home is 1,460 feet from the nearest panel through an existing wooded patch. The distance and age makes it difficult to compare this home in this area to similar properties for a paired sale analysis. This home last sold on September 12, 2016 for \$149,000. Using the FHFA Home Price Index the anticipated appreciated value as of the date of the most recent sale was expected to be \$234,000. This Sale/Resale analysis suggests a 17.5% increase in value due to the solar farm.

I also identified 557 J Montgomery Road that sold on December 8, 2021 for \$185,000 for a 4 BR, 2 BA with 2,200 s.f. of living space on 1 acre that was built in 1980. This home has a pool that is noted as needing work but was otherwise in average condition. I spoke with Dewayne Whittaker the listing agent who indicated that the proposed nearby solar farm had no impact on the sales price or marketing of the home. This home previously sold on May 5, 2016 for \$114,000 and also on June 17, 2008 for \$125,000. The 2008 sales price was higher than the 2016 due to

the crash in the housing market in 2008. Adjusting each of these former sales to a December 2021 value expectation based on the FHFA Home Price Index, I derive expectations of \$174,000 from the 2016 sale and \$210,000 from the 2008 sale. The Sale/Resale difference from the 2008 sale is considered more reliable as it covers a shorter period of time. It shows a 6% increase in value over the expected value and supports a mild increase in value due to the adjacency to the solar farm. This home is over 1,900 feet to the nearest panel through existing woods. Given the distance involved this is not a strong indicator for properties closer to solar panels.

Similarly, 263 Donald Lane sold on October 3, 2022 for \$263,400 for a brick ranch with 4 BR, 2.5 BA with 1,704 s.f. of living area on 5 acres. This home is about 1400 feet from the nearest panel through existing woods. This home previously sold in May 2010 for \$141,000. Adjusting this for time using the FHFA HPI, I derive an expected value of \$262,000. This is within 1% of the actual closed price and strongly supports a finding of no impact at this distance. It is not a strong indicator for properties closer to panels.



## 7. Mulberry, Selmer, McNairy County, TN



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

This solar farm adjoins two subdivisions with Central Hills having a mix of existing and new construction homes. Lots in this development have been marketed for \$15,000 each with discounts offered for multiple lots being used for a single home site. I spoke with the agent with Rhonda Wheeler and Becky 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%
<b>Total</b>	<b>100.00%</b>	<b>100.00%</b>

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

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

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

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%	
										<b>Average</b>	<b>4%</b>	

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%	
										<b>Average</b>	3%	

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

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

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

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

Parcel	Solar	Address	Acres	Date Sold	Sales Price	4/18/2019	4/18/2019
						Adj for Time	Adj for Time
4	Adjoins	Shelter	2.05	10/25/2017	\$16,000	\$16,728	\$7,805
10	Adjoins	Carter	1.70	8/2/2018	\$14,000	\$14,306	\$8,235
11	Adjoins	Cooper	1.28	9/17/2018	\$12,000	\$12,215	\$9,375
	Not	75 Dusty	1.67	4/18/2019	\$20,000	\$20,000	\$11,976
	Not	Lake Trl	1.47	11/7/2018	\$13,000	\$13,177	\$8,844
	Not	Lake Trl	1.67	4/18/2019	\$20,000	\$20,000	\$11,976
		<b>Adjoins</b>	<b>Per Acre</b>	<b>Not Adjoins</b>	<b>Per Acre</b>	<b>% DIF/Lot</b>	<b>% DIF/AC</b>
	<b>Average</b>	\$14,416	\$8,706	\$17,726	\$10,972	19%	21%
	<b>Median</b>	\$14,306	\$8,415	\$20,000	\$11,976	28%	30%
	<b>High</b>	\$16,728	\$9,543	\$20,000	\$11,976	16%	20%
	<b>Low</b>	\$12,215	\$8,160	\$13,177	\$8,964	7%	9%



## **8. Grand Ridge Solar, Streator, LaSalle County, IL**



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

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

### Adjoining Residential Sales After Solar Farm Completed

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

### Not Adjoining Residential Sales After Solar Farm Completed

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



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

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

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

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

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

**9. Portage Solar, Portage, Porter County, 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. As can be seen by the more recent map, Lennar Homes is now developing a new subdivision on the vacant land just west of this solar farm.

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

**Adjoining Residential Sales After Solar Farm Completed**

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

**Nearby Residential Sales After Solar Farm Completed**

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

**Adjoining Land Sales After Solar Farm Completed**

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

**Nearby Land Sales After Solar Farm Completed**

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

**Residential Sale Adjustment Chart**

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.

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

#### Land Sale Adjustment Chart

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

2% adjustment/year  
Adjusted to 2017

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

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

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



**10. Dominion Indy III, Indianapolis, Marion County, IN**



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

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

**Adjoining Residential Sales After Solar Farm Completed**

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

**Nearby Not Adjoining Residential Sales After Solar Farm Completed**

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

**Adjustments**

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

2% adjustment/year

Adjusted to 2017

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

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

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



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

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

12. Walker-Correctional Solar, Barham Road, Barhamsville, New Kent County, VA



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

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

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

**Adjoining Residential Sales After Solar Farm Approved**

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

**Adjoining Sales Adjusted**

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

**Average Diff** 0%

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



**13. Sappony Solar, Stony Creek, Sussex County, VA**



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

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

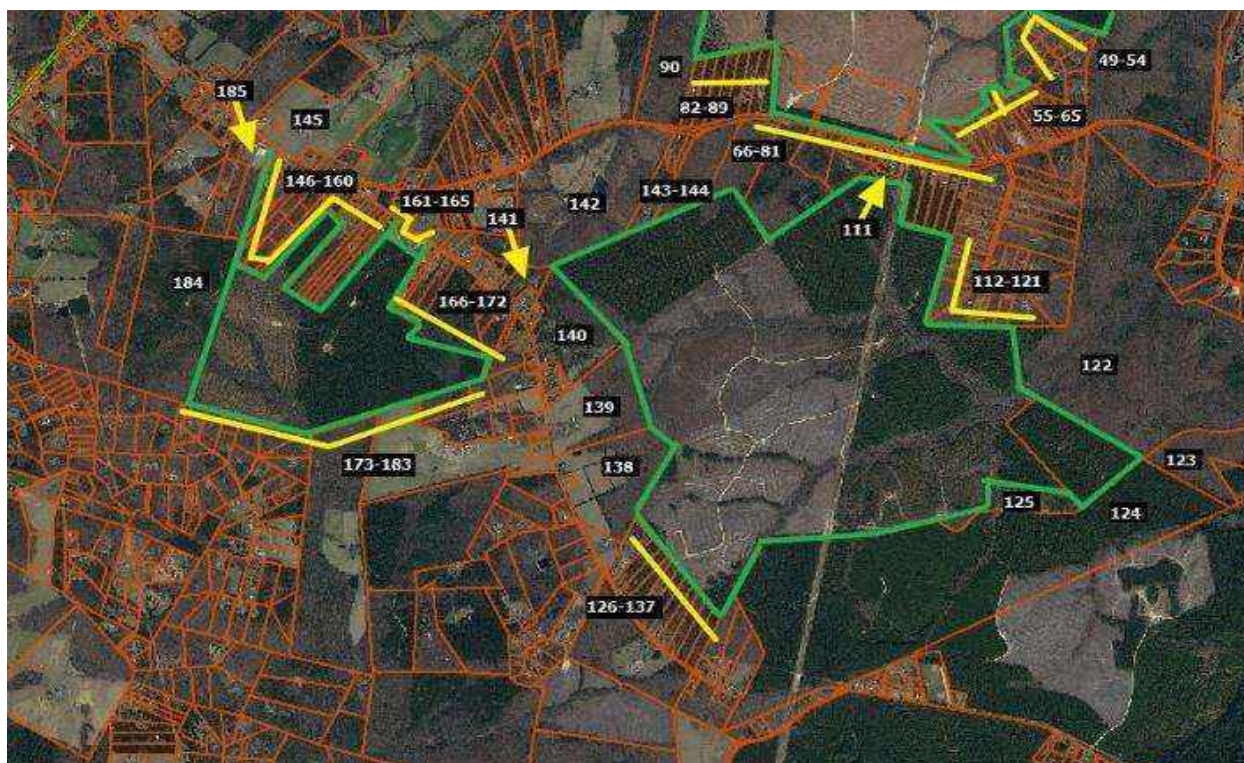
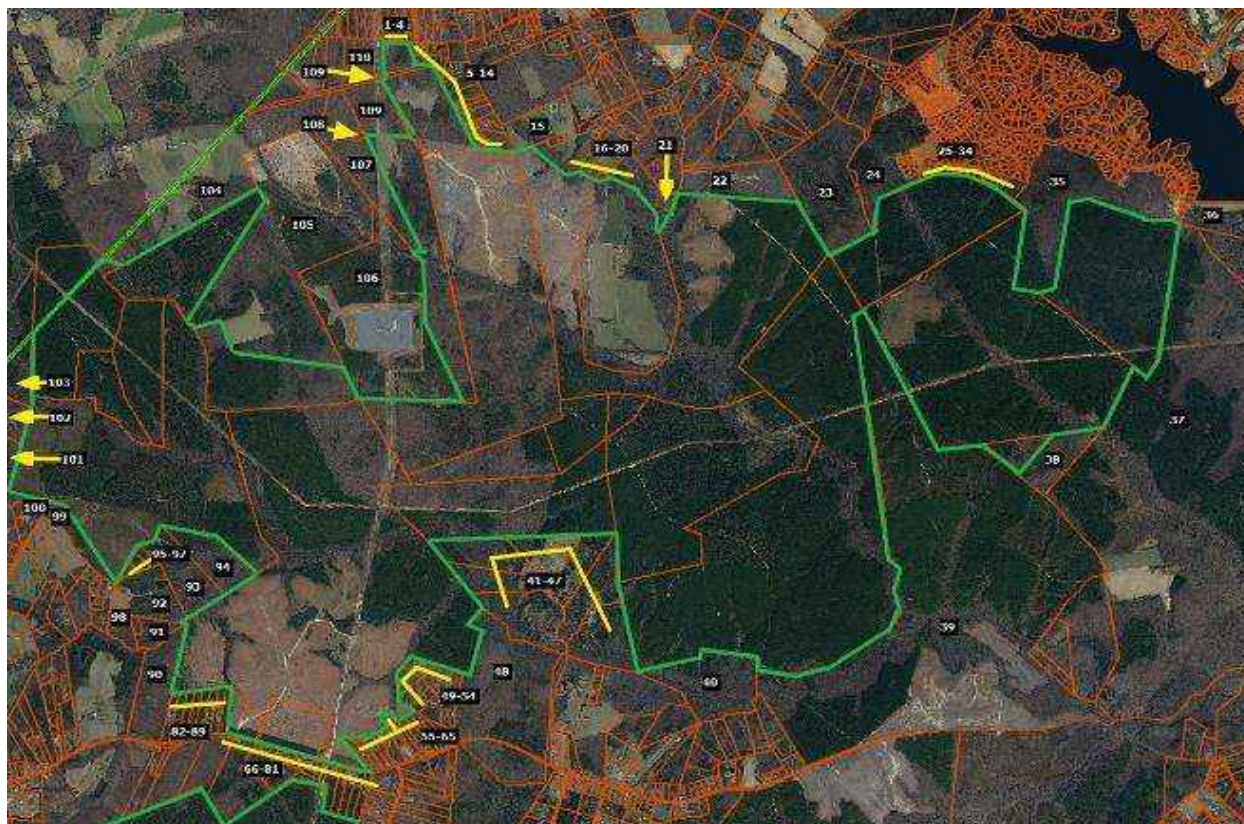
### Adjoining Residential Sales After Solar Farm Approved

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

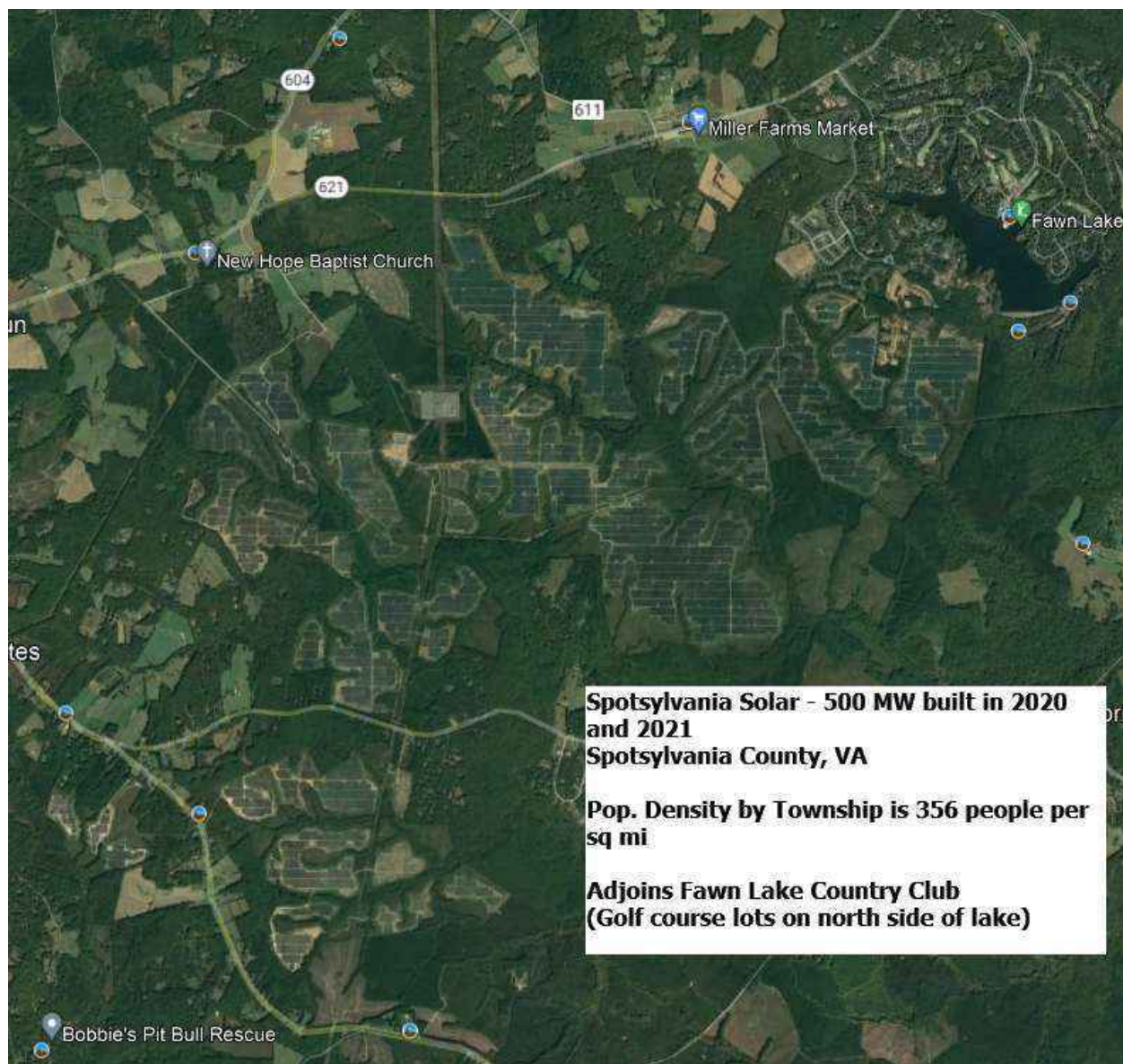
### Adjoining Sales Adjusted

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

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

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



**Spotsylvania Solar Farm**

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

**Adjoining Sales Adjusted**

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

**Average Diff 4%**

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

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

**Adjoining Sales Adjusted**

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

**Average Diff 2%**

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

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

**Adjoining Sales Adjusted**

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

**Average Diff -4%**

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

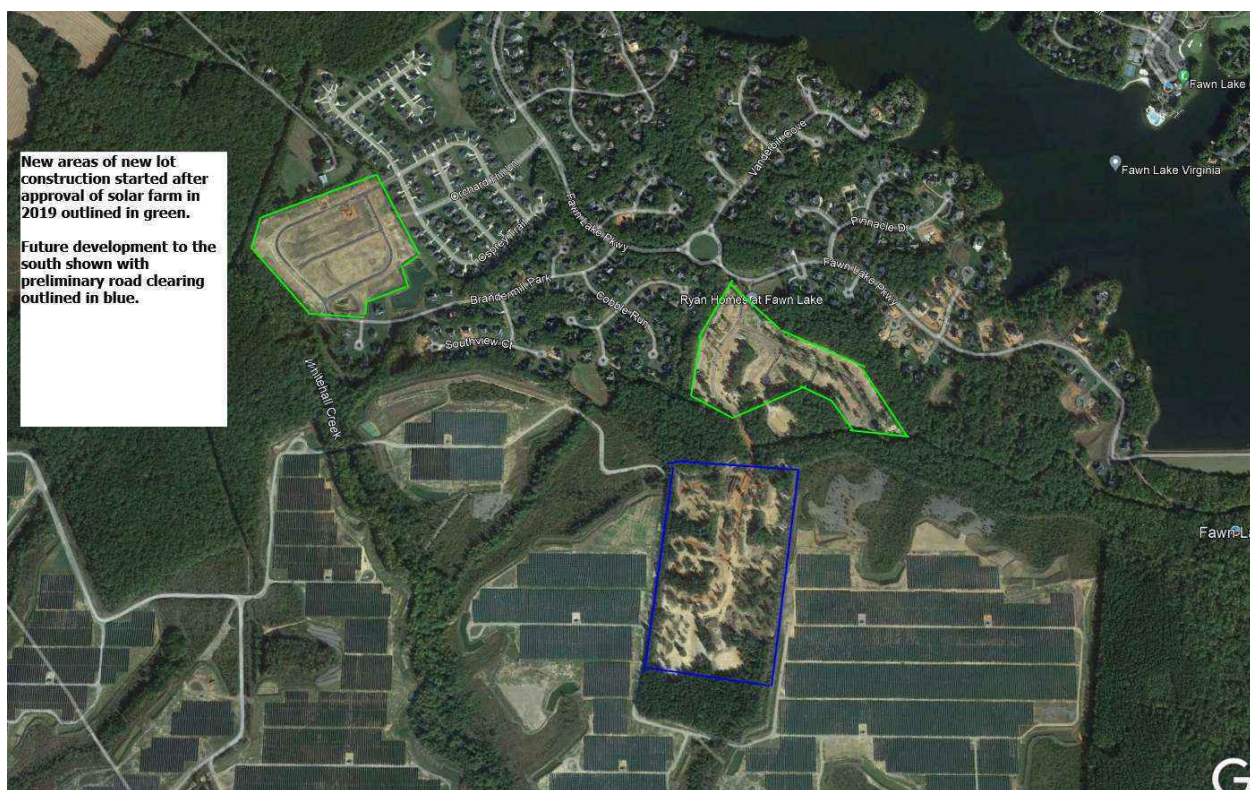
All three of these homes are well set back from the solar panels at distances over 1,000 feet and are well screened from the project. All three show no indication of any impact on property value.

There are a couple of recent lot sales located along Southview Court that have sold since the solar farm was approved. The most recent lot sales include 11700 Southview Court that sold on December 29, 2021 for \$140,000 for a 0.76-acre lot. This property was on the market for less than 2 months before closing within 6% of the asking price. This lot sold earlier in September 2019 for \$55,000 based on a liquidation sale from NTS to an investor.

A similar 0.68-acre lot at 11507 Stonewood Court within the same subdivision located away from the solar farm sold on March 9, 2021 for \$109,000. This lot sold for 18% over the asking price within 1 month of listing suggesting that this was priced too low. Adjusting this lot value upward by 12% for very strong growth in the market over 2021, the adjusted indicated value is \$122,080 for this lot. This is still showing a 15% premium for the lot backing up to the solar farm.

The lot at 11009 Southview Court sold on August 5, 2019 for \$65,000, which is significantly lower than the more recent sales. This lot was sold by NTS the original developer of this subdivision, who was in the process of liquidating lots in this subdivision with multiple lot sales in this time period throughout the subdivision being sold at discounted prices. The home was later improved by the buyer with a home built in 2020 with 2,430 square feet ranch, 3.5 bathrooms, with a full basement, and a current assessed value of \$492,300.

I spoke with Chris Kalia, MAI, Mark Doherty, local real estate investor, and Alex Doherty, broker, who are all three familiar with this subdivision and activity in this neighborhood. All three indicated that there was a deep sell off of lots in the neighborhood by NTS at discounted prices under \$100,000 each. Those lots since that time are being sold for up to \$140,000. The prices paid for the lots below \$100,000 were liquidation values and not indicative of market value. Homes are being built in the neighborhood on those lots with home prices ranging from \$600,000 to \$800,000 with no sign of impact on pricing due to the solar farm according to all three sources.







Fawn Lake Lot Sales

Parcel	Solar?	Address	Acres	Sale Date	Sale Price	Ad. For Time	% Diff
A	Adjoins	11700 Southview Ct	0.76	12/29/2021	\$140,000		
1	1 parcel away	11603 Southview Ct	0.44	3/31/2022	\$140,000	\$141,960	-1.4%
2	Not adjoin	11507 Stonewood Ct	0.68	3/9/2021	\$109,000	\$118,374	15.4%
3	Not adjoin	11312 Westgate Wy	0.83	10/15/2020	\$125,000	\$142,000	-1.4%
4	Not adjoin	11409 Darkstone Pl	0.589	9/23/2021	\$118,000	\$118,000	15.7%
Average							7.1%
Median							7.0%
Least Adjusted							15.7%
2nd Least Adjusted							-1.4%
(Parcel 1 off solar farm)							

Time Adjustments are based on the FHFA Housing Price Index

I have identified additional home sales after construction was complete. I looked at 11710 Southview Court that sold on May 5, 2022. I have compared that to three similar homes built

and sold in the same time frame in the same community but not near the solar farm. The first two comparables are in close proximity to Fawn Lake and may have some mild enhancement from that proximity, but I made no adjustment for that factor.

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style	Other
Adjoins	11710 Soutview	0.89	5/5/2022	\$767,945	2022	3,740	\$205.33	5/4.5	2Gar	2-Story	UnBsmt
Not	11305 Hidden	0.57	2/18/2022	\$789,905	2022	3,750	\$210.64	4/3.5	2Gar	2-Story	PrtFinBsmt
Not	10501 Ridge Cv	0.57	12/30/2021	\$737,119	2021	3,535	\$208.52	6/4	2Gar	2-Story	UnBsmt
Not	10919 Grn Lf	0.39	6/16/2022	\$739,990	2022	3,768	\$196.39	4/4.5	2Gar	2-Story	UnBsmt

Adjoining Sales Adjusted											
Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist	
11710 Soutview								\$767,945		435	
11305 Hidden	\$18,092		\$0	-\$843	\$15,000		-\$20,000	\$802,155	-4%		
10501 Ridge Cv	\$27,990		\$0	\$17,099	\$10,000			\$792,208	-3%		
10919 Grn Lf	-\$9,366		\$0	-\$2,200				\$728,424	5%		

**Average Diff** -1%

I identified a sale at 11708 Southview Court that sold on September 1, 2021 for \$623,345. The first comparable required a significant adjustment for the unfinished basement, but otherwise required the least adjusting. In this time of rapid home value increase, I consider the sale closest in time to be the best indicator for this paired sale.

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style	Other
Adjoins	11606 Aprils	0.73	9/7/2023	\$711,400	2023	2,745	\$259.16	4/3	2Gar	2-Story	UnBsmt
Not	11701 Quail Rn	0.44	7/26/2023	\$650,000	2020	2,588	\$251.16	3/2.5	2Gar	2-Story	
Not	11809 Pheasant	0.36	10/3/2022	\$629,510	2022	2,612	\$241.01	3/2	2Gar	2-Story	UnBsmt
Not	10908 Grn Lf	0.43	2/16/2023	\$774,760	2023	2,927	\$264.69	5/4	2Gar	2-Story	UnBsmt

Adjoining Sales Adjusted											
Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist	
11606 Aprils								\$711,400		410	
11701 Quail Rn	\$5,360		\$9,750	\$15,773	\$10,000		\$32,500	\$723,383	-2%		
11809 Pheasant	\$40,927		\$0	\$12,822	\$15,000			\$698,258	2%		
10908 Grn Lf	\$30,163		\$0	-\$19,270	-\$15,000			\$770,653	-8%		

**Average Diff** -3%



**15. Whitehorn Solar, Gretna, Pittsylvania County, VA**



This project was built in 2021 for a solar project with 50 MW. Adjoining uses are residential and agricultural. There was a sale located at 1120 Taylors Mill Road that sold on December 20, 2021, which is about the time the solar farm was completed. This sold for \$224,000 for 2.02 acres with a 2,079 s.f. mobile home on it that was built in 2010. The property was listed for \$224,000 and sold for that same price within two months (went under contract almost exactly 30 days from listing). This sales price works out to \$108 per square foot. This home is 255 feet from the nearest panel.

I have compared this sale to an August 20, 2020 sale at 1000 Long Branch Drive that included 5.10 acres with a 1,980 s.f. mobile home that was built in 1993 and sold for \$162,000, or \$81.82 per square foot. Adjusting this upward for significant growth between this sale date and December 2021 relied on data provided by the FHFA House Pricing Index, which indicates that for homes in the Roanoke, VA MSA would be expected to appreciate from \$162,000 to \$191,000 over that period of time. Using \$191,000 as the effective value as of the date of comparison, the indicated value of this sale works out to \$96.46 per square foot. Adjusting this upward by 17% for the difference in year built, but downward by 5% for the much larger lot size at this comparable, I derive an adjusted indication of value of \$213,920, or \$108 per square foot.

This indicates no impact on value attributable to the new solar farm located across from the home on Taylors Mill Road.

## 16. Altavista Solar, Altavista, Campbell County, VA



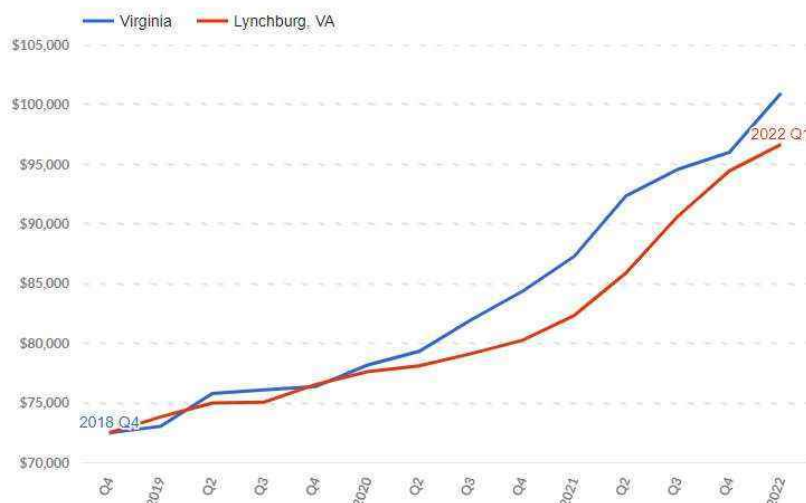
This project was mostly built in 2021 with final construction finished in 2022. This is an 80 MW facility on 720 acres just north of Roanoke River and west of Altavista. Adjoining uses are residential and agricultural.

I have done a Sale/Resale analysis of 3211 Leesville Road which is approximately 540 feet from the nearest solar panel. There was an existing row of trees between this home and the panels that was supplemented with additional screening for a narrow landscaped buffer between the home and the solar panels.

This home sold in December 2018 for \$72,500 for this 1,451 s.f. home built in 1940 with a number of additional outbuildings on 3.35 acres. This was before any announcement of a solar farm. This home sold again on March 28, 2022 for \$124,048 after the solar farm was constructed. This shows a 71% increase in value on this property since 2018. There was significant growth in the market between these dates and to accurately reflect that I have considered the FHFA House Price Index that is specific for the Lynchburg area of Virginia (the closest regional category), which shows an expected increase in home values over that same time period of 33.8%, which would suggest a normal growth in value up to \$97,000. The home sold for significantly more than this which certainly does not support a finding of a negative impact and in fact suggests a significant positive impact. However, I was not able to discuss this sale with the broker and it is possible that the home also was renovated between 2018 and 2022, which may account for that additional increase in value. Still given that the home increased in value so significantly over the initial amount there is no sign of any negative impact due to the solar farm adjacency, but I have not included this datapoint in the charts as it shows a substantial outlier enhancement due to adjoining a solar project which is likely attributable to renovations and not an actual enhancement.

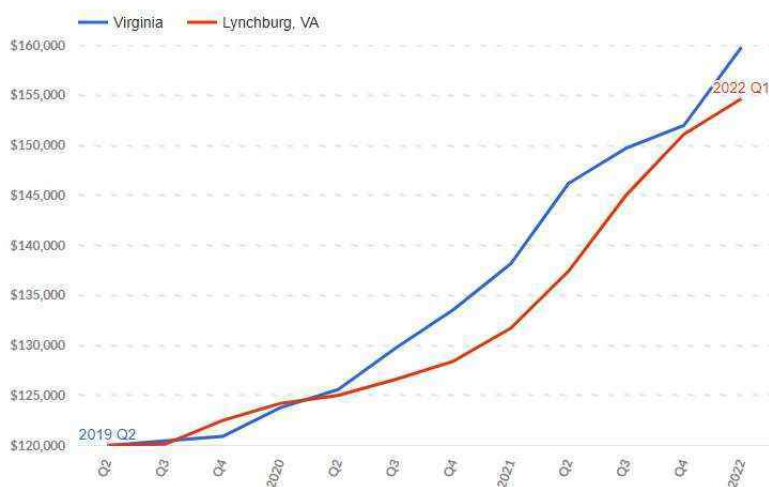


Purchase Quarter	Valuation Quarter	Percentage Change
<b>2018 Quarter 4</b>	<b>2022 Quarter 1</b>	
Purchase Value	Estimated Value for MSA	<b>33.8%</b>
<b>\$72,500</b>	<b>\$97,000</b>	



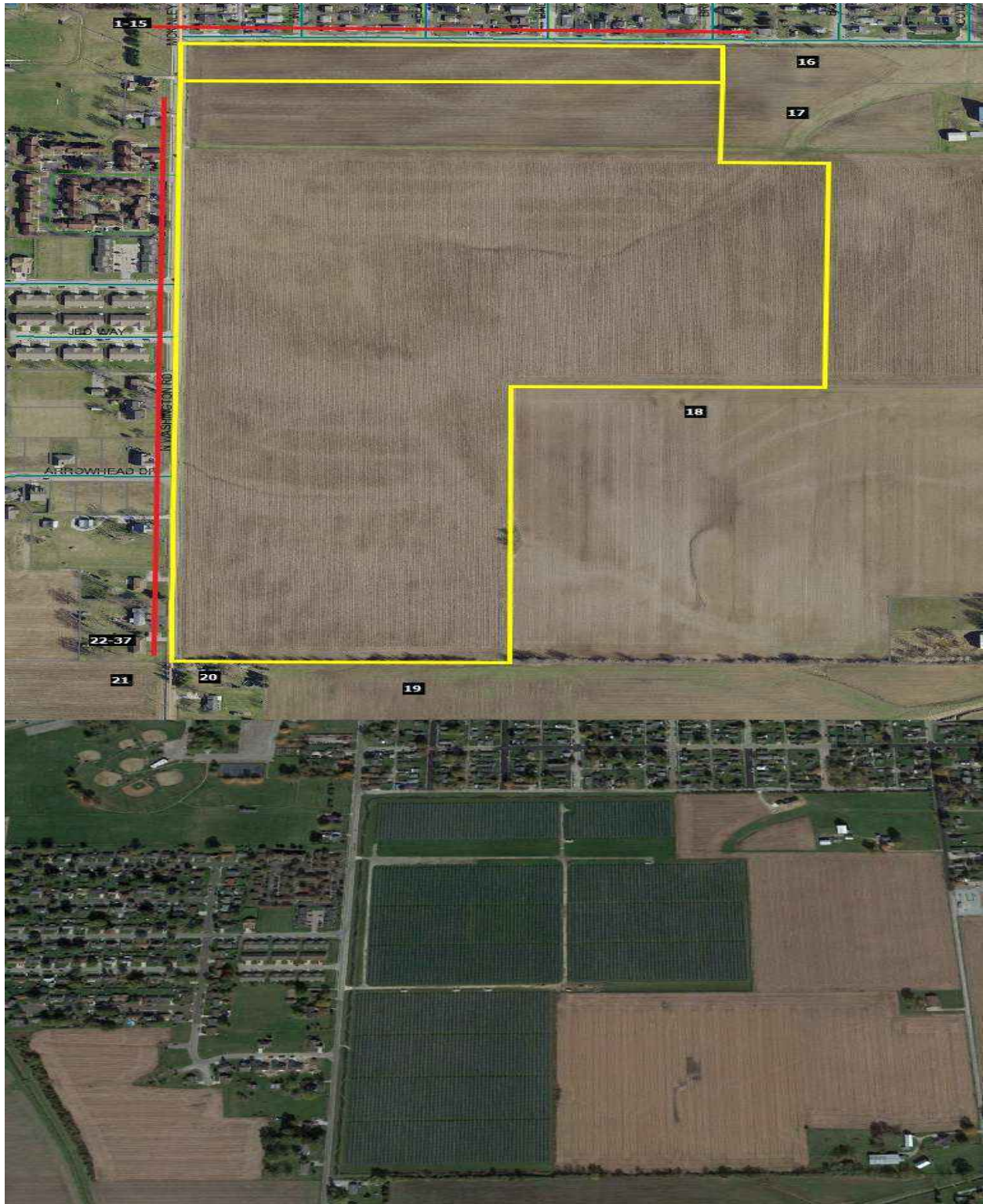
Similarly, I looked at 3026 Bishop Creek Road that is approximately 600 feet from the nearest solar panel. This home sold on July 16, 2019 for \$120,000, which was before construction of the solar farm. This home sold again on February 23, 2022 for \$150,000. This shows a 25% increase in value over that time period. Using the same FHFA House Price Index Calculator, the expected increase in value was 29.2% for an indicated expected value of \$155,000. This is within 3% of the actual closed price, which supports a finding of no impact from the solar farm. This home has a dense wooded area between it and the adjoining solar farm.

Purchase Quarter	Valuation Quarter	Percentage Change
<b>2019 Quarter 2</b>	<b>2022 Quarter 1</b>	
Purchase Value	Estimated Value for MSA	<b>29.2%</b>
<b>\$120,000</b>	<b>\$155,000</b>	



I also considered 2049 Bishop Creek Road that sold on July 3, 2023. This home included a pool and in the analysis I made no consideration positive or negative for the pool among the comparables. The comparable at 3270 Wards has a partially finished basement instead of a fully finished basement, but I was unable to determine how much that partial indicated. I will focus on the other two paired sales which range from -5% to +4% impacts and support a finding of no impact on property value.

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
Nearby	2049 Bishop Crk	3.72	7/3/2023	\$375,000	1970	3,966	\$94.55	3/3	2Gar	Br Rnch FinBsmt/Pool	
Not	56 Whisper. Pn	1.02	2/29/2024	\$375,000	1988	3,548	\$105.69	5/3	2Gar	Br Rnch	FinBsmt
Not	1900 Woodhaven	1.90	8/31/2022	\$355,000	1969	3,643	\$97.45	3/2/2	2Gar	Br Rnch	FinBsmt
Not	3270 Wards	3.60	9/21/2023	\$325,000	1960	3,564	\$91.19	3/2.5	2Gar	Br Rnch	PrtFn Bsmt
Adjoining Sales Adjusted											
Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist	
2049 Bishop Crk								\$375,000		745	
56 Whisper. Pn	-\$17,332	\$20,000	-\$33,750	\$17,672				\$361,590	4%		
1900 Woodhaven	\$20,833	\$10,000	\$1,775	\$12,590	-\$5,000			\$395,198	-5%		
3270 Wards	-\$4,986		\$16,250	\$14,663	\$10,000			\$360,927	4%		
Average Diff										1%	

**17. DG Amp Piqua, Piqua, Miami County, OH**

This project is located on the southeast corner of Manier Street and N Washington Road, Piqua, OH. There are a number of nearby homes to the north, south and west of this solar farm.

I considered one adjoining sale and one nearby sale (one parcel off) that happened since the project was built in 2019. I did not consider the sale of a home located at Parcel 20 that happened in that time period as that property was marketed with damaged floors in the kitchen and bathroom, rusted baseboard heaters and generally was sold in an As-Is condition that makes it difficult to compare to move-in ready homes. I also did not consider some sales to the north that sold for prices significantly under \$100,000. The homes in that community includes a wide range of smaller, older homes that have been selling for prices ranging from \$25,000 to \$80,000. I have not been tracking home sales under \$100,000 as homes in that price range are less susceptible to external factors.

The adjoining sale at 6060 N Washington is a brick range fronting on a main road. I did not adjust the comparables for that factor despite the subdivision exposure on those comparables was superior. I considered the difference in lot size to be balancing factors. If I adjusted further for that main road frontage, then it would actually show a positive impact for adjoining the solar farm.

#### Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style	Other
22	Adjoins	6060 N Washington	0.80	10/30/2019	\$119,500	1961	1,404	\$85.11	3/1	2 Gar	Br Rnch	Updates
	Not	1523 Amesbury	0.25	5/7/2020	\$119,900	1973	1,316	\$91.11	3/2	Gar	Br Rnch	Updates
	Not	1609 Haverhill	0.17	10/17/2019	\$114,900	1974	1,531	\$75.05	3/1	Gar	Br Rnch	Updates
	Not	1511 Sweetbriar	0.17	8/6/2020	\$123,000	1972	1,373	\$89.58	4/2	Gar	Br Rnch	Updates

#### Adjoining Sales Adjusted

Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
							\$119,500			155
-\$1,920		-\$7,194	\$6,414	-\$5,000	\$7,500	\$0	\$119,700	0%		
\$126		-\$7,469	-\$7,625		\$7,500	\$0	\$107,432	10%		
-\$2,913		-\$6,765	\$2,222	-\$5,000	\$7,500	\$0	\$118,044	1%		
									4%	

I also considered a home fronting on Plymouth Avenue which is one lot to the west of the solar farm with a rear view towards the solar farm. After adjustments this set of matched pairs shows no impact on the value of the property due to proximity to the solar farm.

#### Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style	Other
	Nearby	1011 Plymouth	0.21	2/24/2020	\$113,000	1973	1,373	\$82.30	4/2	Gar	1.5 Stry	Fnce/Shd
	Not	1630 Haverhill	0.32	8/18/2019	\$94,900	1973	1,373	\$69.12	4/2	Gar	1.5 Stry	N/A
	Not	1720 Williams	0.17	12/4/2019	\$119,900	1968	1,682	\$71.28	4/1	2Gar	1.5 Br	Fnce/Shd
	Not	1710 Cambridge	0.17	1/22/2018	\$116,000	1968	1,648	\$70.39	4/2	Det 2	1.5 Br	Fnce/Shd

#### Adjoining Sales Adjusted

Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
							\$113,000			585
\$1,519		\$0	\$0			\$10,000	\$106,419	6%		
\$829		\$2,998	-\$17,621	\$5,000			\$111,105	2%		
\$7,459		\$2,900	-\$15,485				\$110,873	2%		
									3%	

I considered a home located at 6010 N Washington that sold on August 3, 2021. This property was sold with significant upgrades that made it more challenging to compare, but I focused on similar older brick ranches with updates in the analysis. The comparables suggest an enhancement to this property due to proximity from the solar farm, but it is more likely that the upgrades at the subject were superior. Still this strongly supports a finding of no impact on the value of the property due to proximity to the solar farm.



**Adjoining Residential Sales After Solar Farm Built**

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style	Other
24	Adjoins	6010 N Washington	0.80	8/3/2021	\$176,900	1961	1,448	\$122.17	4/2	2 Gar	Br Ranch	Updates
	Not	1244 Severs	0.19	10/29/2021	\$149,900	1962	1,392	\$107.69	3/2	Gar	Br Ranch	Updates
	Not	1515 Amesbury	0.19	5/5/2022	\$156,500	1973	1,275	\$122.75	3/2	2 Gar	Br Ranch	Updates
	Not	1834 Wilshire	0.21	12/3/2021	\$168,900	1979	1,265	\$133.52	3/2	2 Gar	Br Ranch	Updates

**Adjoining Sales Adjusted**

Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
							\$176,900			155
-\$1,099		-\$750	\$4,221		\$7,000		\$159,273	10%		
-\$3,627		-\$9,390	\$16,988				\$160,471	9%		
-\$1,736		-\$14,357	\$19,547				\$172,354	3%		
									7%	

I considered a home located at 6240 N Washington that sold on October 15, 2021. The paired sale located at 532 Wilson included a sunroom that I did not adjust for. The -4% impact from that sale is related to that property having a superior sunroom and not related to proximity to the solar farm. The other two comparables strongly support that assertion as well as a finding of no impact on the value of the property due to proximity to the solar farm.

**Adjoining Residential Sales After Solar Farm Built**

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style	Other
	Adjoins	6240 N Washington	1.40	10/15/2021	\$155,000	1962	1,582	\$97.98	2/1	Det 3	Ranch	
	Not	1408 Brooks	0.13	8/20/2021	\$105,000	1957	1,344	\$78.13	3/1	Drive	Ranch	
	Not	532 Wilson	0.14	7/29/2021	\$159,900	1948	1,710	\$93.51	3/2	Det Gar	Ranch	Sunroom
	Not	424 Pinewood	0.17	5/20/2022	\$151,000	1960	1,548	\$97.55	4/2	Gar	Ranch	

**Adjoining Sales Adjusted**

Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
							\$155,000			160
\$496		\$2,625	\$13,016		\$15,000		\$136,136	12%		
\$1,051		\$11,193	-\$9,575	-\$10,000	\$8,000		\$160,569	-4%		
-\$2,761		-\$2,265	\$2,653	-\$10,000	\$7,000		\$145,627	6%		
									5%	

Based on these four matched pairs, the data at this solar farm supports a finding of no impact on property value due to the proximity of the solar farm for homes as close as 155 feet.

I also identified three new construction home sales on Arrowhead Drive that sold in 2022. I have reached out to the builder regarding those homes, but these homes sold between \$250,000 and \$275,000 each and were located within 350 feet of the solar farm. These sales show that the presence of the solar farm is not inhibiting new home construction in proximity to the solar farm.

### **18. Solidago Solar, Windsor, Isle of Wight County, VA**

This 20 MW solar farm was completed in March 2024. The closest adjoining home is 350 feet away.



The home located just north of this solar farm at 17479 Courthouse Highway, Windsor on December 28, 2023 for \$555,000 for this 4 BR, 2.5 BA with 2,775 s.f. built in 2001 on 3.62 acres with a 2-car garage. This also includes a 4 bay barn and large metal storage building, which complicates using this home for paired sales analysis. The purchase price works out to \$200 per s.f. The tax card allocates \$23,000 to the two outbuildings (assessed value), which I will use in adjusting the comparables. This home is 610 feet from the nearest solar panel.

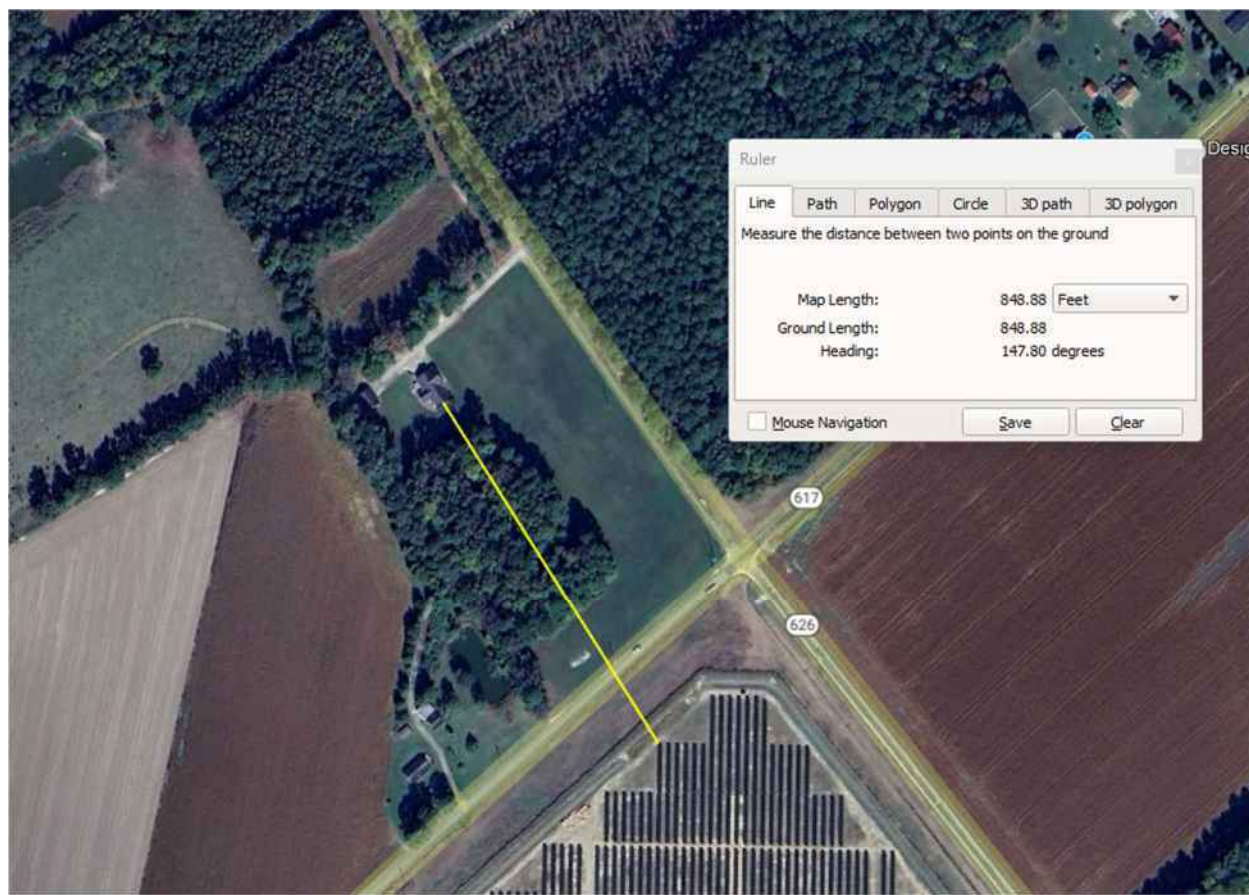
I have compared this to 15414 Trump Town Road, Windsor that sold on September 22, 2023 for \$463,000 for a 4 BR, 2.5 BA home with 2,583 s.f. built in 1998 on 1.88 acres with a 2-car garage. The purchase price works out to \$179.25 per s.f. Adjusting the price upward by \$18,000 for the additional acreage and \$23,000 for the outbuildings, the indicated price becomes \$514,000, or \$198.99 per s.f. I made no adjustment for the difference in frontage but Courthouse Highway is a busier road than Trump Town Road, which is inferior. If I adjusted for that road frontage difference, the Trump Town Road sales price would go even lower. The adjusted sales price is 1% less than the price of the home next to the solar farm sold for and supports a finding of no impact on property value. Applying that per s.f. rate to the home size at Courthouse Highway indicates an adjusted value of \$552,197, which is also just 1% less than the sales price of the home adjoining the solar farm.



I also considered 11497 Dews Plantation Road, Ivor, which the broker Anna Boyer suggested was a good comparable. This home sold on October 19, 2023 for \$640,000 for a 3 BR, 2.5 BA with 2,684 s.f., built in 2003 with a 2-car garage on 15.20 acres. This home includes a powered horse barn with 4 stalls and a tack room, an additional 2-car detached garage with a finished room over it and fenced pasture. Adjusting the price downward by \$58,000 for the much larger acreage and \$41,000 for the outbuildings (difference in assessed value of relative outbuildings) the adjusted sales price is \$541,000, or \$201.56 per s.f. This is 1% more than the home at Courthouse Highway without making any adjustment for the difference in frontage, which supports a finding of no impact on property value. Applying that per s.f. rate to the home size at Courthouse Highway indicates an adjusted value of \$559,329, which is also just 1% more than the sales price of the home adjoining the solar farm. I consider both of these reasonable comparisons, but the Trump Town Road comparable is closer and required less adjusting, which makes it a more reliable comparable.

I reached out to Anna Boyer with Howard Hanna Smithfield as the listing broker for this home. She indicated that she believed that the solar farm was a big issue for a number of folks who came to look at this home and it could have impacted the sales price. However, she also indicated that while she initially listed the property for \$625,000, her internal analysis suggested a value of \$550,000 and she only listed it at the higher price due to the owner's insistence. She noted that \$550,000 was her opinion assuming no impact from the solar farm. When they later dropped the asking price to \$559,000, they received an offer quickly and the property appraised and sold for \$555,000. She noted that the appraiser indicated that the solar farm would not impact the value and assigned no impact on the appraisal. The closing price was slightly above the broker's opinion of value and supported by the appraisal with no impact from the adjoining solar farm.

Ms. Boyer indicated that she currently has a listing at 6568 Beechland Road, Elberon that is asking \$585,000 for a 4 BR, 3.5 BA with 2,800 s.f. built in 2000 on 9.33 acres with a 2-car garage and a detached garage with a workshop. This home adjoins Cavalier Solar in Surry County which was under construction during this time period for a 240 MW project and the home is 848 feet from the nearest panel with a large wooded area separating it. During the listing she had a number of potential buyers express concern over the adjoining solar farm. This illustrates that for some buyers the solar farm will be a deterrent, but she also noted that some potential buyers have indicated that the solar farm is protection from future development nearby. This home sold in June 2024 for \$535,000, or \$191 per s.f. The last sale of this home was in 1999 which was for the land only so I could not do a Sale/Resale analysis.

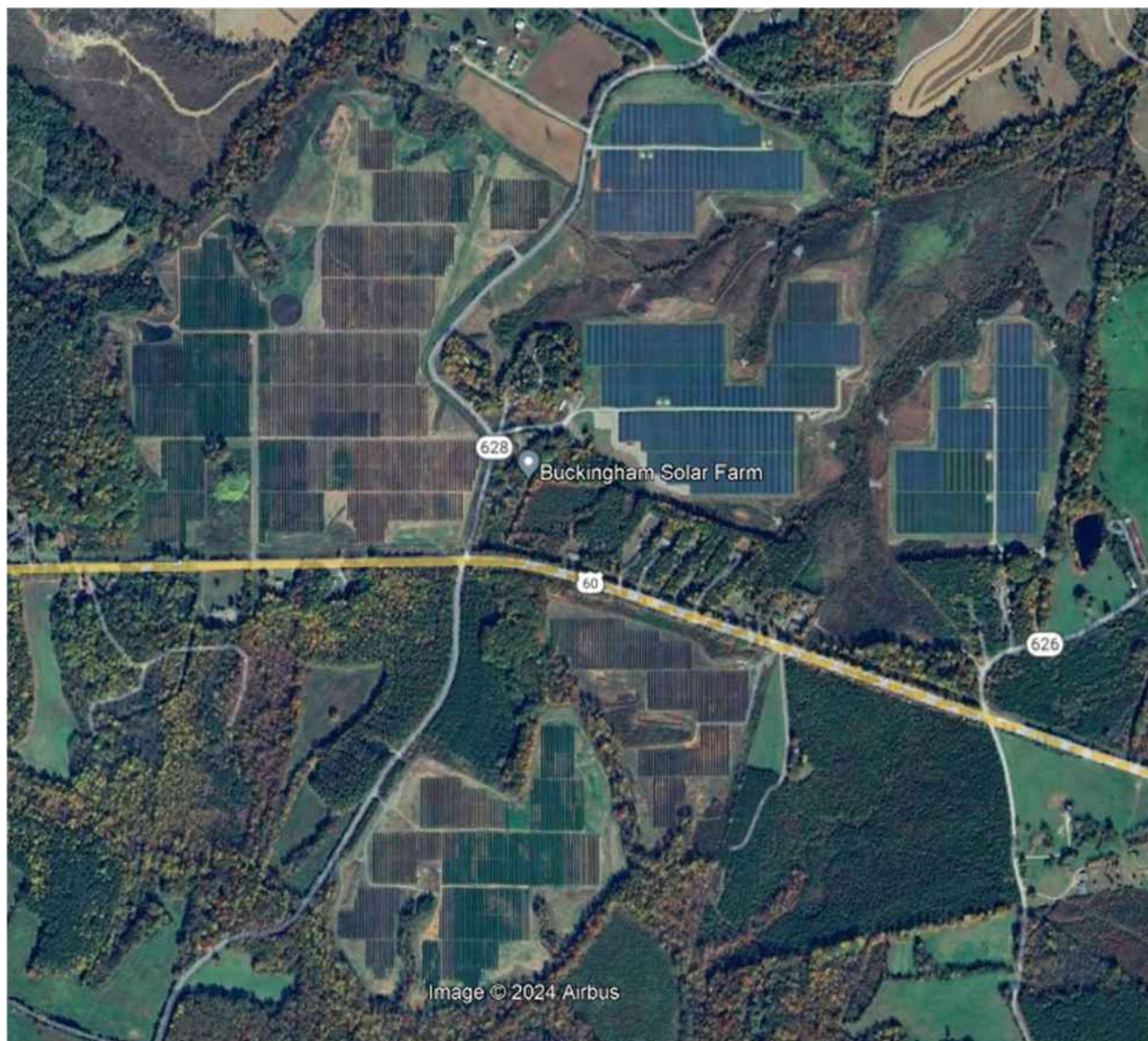


The home located at 12256 Redhouse Road sold on February 8, 2024 for \$671,650 for this 2,640 s.f. home with 3 BR, 2 full BA and 2 half BA built in 2002 on 21 acres, or \$254.41 per s.f. Given that this home includes an updated kitchen, bar/entertainment room, 4-stall barn with feed and wash stalls and stable room with electrical fencing for pastures, riding ring and other horse features this becomes a difficult home to use for a paired sales analysis. I reached out to Anna Hansen with Surry Side Realty about this sale. She said that while she expected a certain amount of pushback from the solar farm she did not have any negative comments or impacts from the solar farm and it therefore did not impact the sales price or marketing of this home. This home is 640 feet from the nearest panel.

While it is challenging to find a good comparable, I considered 11497 Dews Plantation Road, Ivor, which has similar pasture and a horse features. This home sold on October 19, 2023 for \$640,000 for a 3 BR, 2.5 BA with 2,684 s.f., built in 2003 with a 2-car garage on 15.20 acres. This home includes a powered horse barn with 4 stalls and a tack room, an additional 2-car detached garage with a finished room over it and fenced pasture. Adjusting the price upward by \$25,000 for the smaller acreage and assuming that the horse features balance out, the adjusted sales price is \$665,000, or \$247.76 per s.f. This is 3% less than the home at Redhouse Road, which supports a finding of no impact on property value.

Interestingly, Ms. Anna Boyer indicated that she did bring a prospective buyer to view 12256 Redhouse Road. That buyer visited the site 3 times before deciding that the solar farm would be the reason she did not want to purchase that home. So while there clearly are purchasers in the market that would not purchase a home next to a solar farm, there are enough other buyers that do not see it as a negative to keep the prices stable as illustrated by the paired sales above.

**19. Buckingham Solar, Cumberland, Buckingham County, VA**



Buckingham Solar is a 19.8 MW project east of 628 shown above, while Energix Buckingham is a 20 MW project west of 628 shown above.

The closest adjoining home is 125 feet from the nearest panel.

1 - I identified 24081 E James Anderson Highway sold on June 2, 2023 for \$160,000 for a 3 BR, 2BA, 1,248 s.f. manufactured home built in 1999 on 1 acre. This home is 380 feet from the solar panels south of US 60 and 760 feet from the solar panels to the north. The sales price works out to \$128.21 per s.f.

I compared that to 755 High School Road that sold on September 8, 2023 for \$190,000 for a 3 BR, 2BA, 1,296 s.f. manufactured home built in 2007 on 2.04 acres and including a detached workshop with power. Adjusting this sale downward by \$5,000 for the difference in lot size, \$7,600 for difference in building age (based on 0.5% per year difference in age), and \$15,000 for the detached workshop for an adjusted indication of value of \$162,400, or \$125.31 per s.f. This supports a finding of no impact on property value for the home at 24081 E James Anderson Highway due to the solar farm proximity.



2 - I also identified 23225 E James Anderson Highway that sold on June 30, 2023 for \$180,000 for a 2 BR, 1 BA, 1,076 s.f. home built in 1958 on 1.50 acres with a 2-car garage and a full unfinished basement. This home is 560 feet from the nearest solar panel.

I compared that to 17534 E James Anderson Highway that sold on January 24, 2024 for \$205,000 for a 3 BR, 2 BA, 1,218 s.f. home built in 1968 on 2 acres with a carport and detached 2 car garage and a full unfinished basement. Adjusting this sale downward by \$10,000 for the extra bathroom and \$9,560 for the larger size of this home (based on 40% of the per s.f. value for the difference in s.f.), the adjusted indication of value is \$185,440, which is within 3% of the property next to the solar farm. This difference is more likely attributable to the extra 0.50 acres at this site that I did not adjust for, but either way is within typical market imperfection and supports a finding of no impact on property value.

**20. Anderson 6 Solar, Andreson, Madison County, IN**



This 6.8 MW solar project was built in 2022. The homes to the east are within 75 feet of the solar panels shown. The closest home to the south is 155 feet from the nearest panel. The closest home to the west is 115 feet from the nearest panel. The closest home to the north is 85 feet from the nearest panel.

A home located at 2819 S Layton Road, Anderson, IN located to the northwest of this solar farm sold in October 6, 2023 after construction was complete on the solar farm. This home is 345 feet from the nearest panel. This home is a 3 BR, 2 BA 2-story frame construction built in 1899 with significant updates, a detached 2-car garage and 1,946 s.f. on 1.38 acres. The sales price was \$210,000 or \$107.91 per s.f. This home sold in just over 30 days and at a price well above the asking price of \$194,500. I reached out to Dawn Rusk with Keller Williams-Morrison, the broker who listed the property for sale.

This same home sold for \$150,000 in February 2021. Typical appreciation in this market based on the FHFA House Price Index for the Indianapolis-Carmel-Anderson MSA would be 32% over that period, or \$198,000. The actual sales price after the construction of the solar farm was higher than the value before the solar farm. Comparing the sales price of \$210,000 to the anticipated \$198,000 from typical appreciation shows a difference of 6%, suggesting a mild enhancement from the solar farm. However, given the rapid increases in this time frame, this mild difference could be attributable to the minor shifts in months within each quarter as the FHFA HPI is only by quarter. I therefore consider this to be a strong indication of no impact on property value.

Purchase Quarter

**2021 Quarter 1**

Purchase Value

**\$150,000**

Valuation Quarter

**2023 Quarter 4**

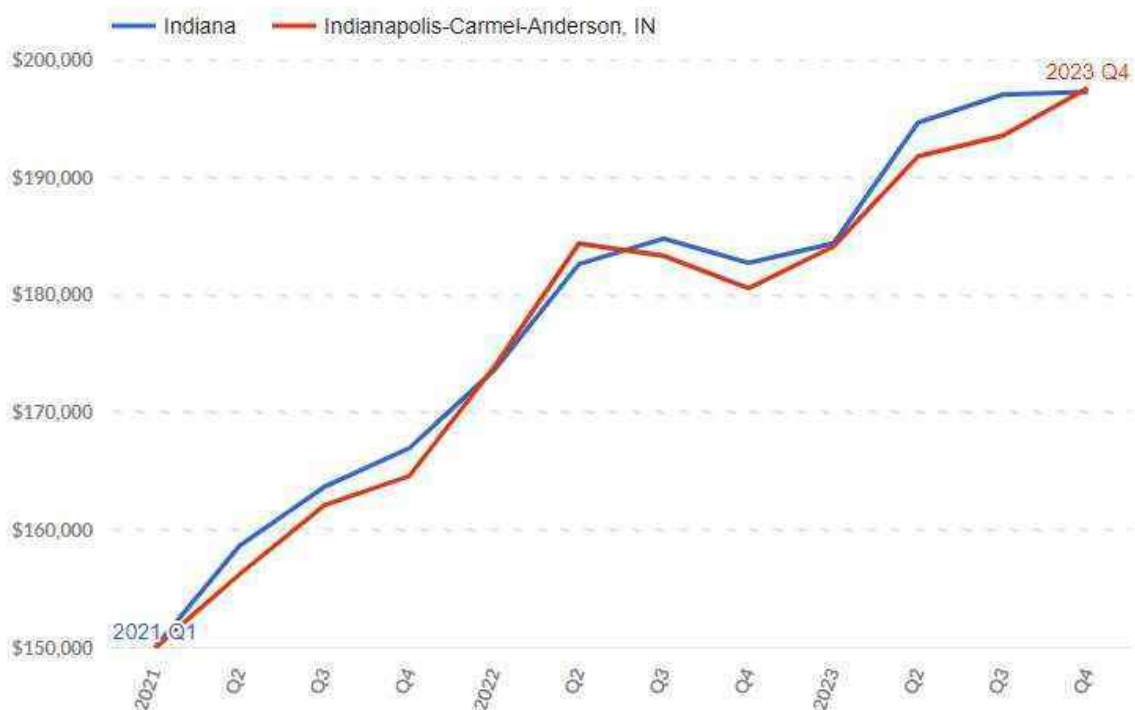
Estimated Value for MSA

**\$198,000**

Percentage Change

**32.0%**

X





**21. Logansport Solar, Logansport, Cass County, IN**



This is a 16 MW solar project built in 2022. The closest adjoining home to the west is 170 feet. The closest adjoining home to the north is 225 feet. The closest adjoining home to the east is 90 feet. The uses to the south are commercial or industrial.

A nearby home at 1015 Pink Street (260 feet to the east of the nearest solar panel sold on December 28, 2021. This was during construction of the solar farm. This home sold for \$135,000 after being listed for sale for \$129,900. It sold within 30 days. This was a 2,048 s.f. home with 4 BR, 2 BA, built in 1954 with 4 garage spaces on 0.49 acres. I spoke with the broker Cindy J Heinzman with Galloway, Murray & Scheetz who indicated that the sellers were simply downsizing and that the solar farm had no impact on the marketing or the sales price of the home.

**22. Dunn's Bridge 1, Wheatfield, Jasper and Starke Counties, IN**

This is a 435 MW solar project with a 75 MW BESS was under construction in 2023 and expected to be operational by the end of 2024. Based on the current aerial image, the closest adjoining home to the west is 205 feet. The closest adjoining home to the north is 260 feet. The closest adjoining home to the east is 90 feet. The closest home to the south is 260 feet.

I located a nearby sale at 1546 E 1225 N, Wheatfield, IN that sold on February 11, 2022, which would have been after approval of the project, but likely before construction began. This home is 3,130 s.f. home on 15.90 acres built in 2004 and is 910 feet from the nearest panel. The unique size and features make it difficult to compare this home as a paired sale. I reached out to Dan Walstra with Countryside Realty, the buyer's agent for this home, for comments. This home went on the market in December 2021 for \$499,900 and sold in February 2022 for the asking price. According to Mr. Walstra the sales price was not impacted by the solar farm and the buyers were happy with that as an adjoining neighbor as they would be quiet and would not include any new residential development.



### **23. Crane Solar Facility, Burns City, Martin County, IN**



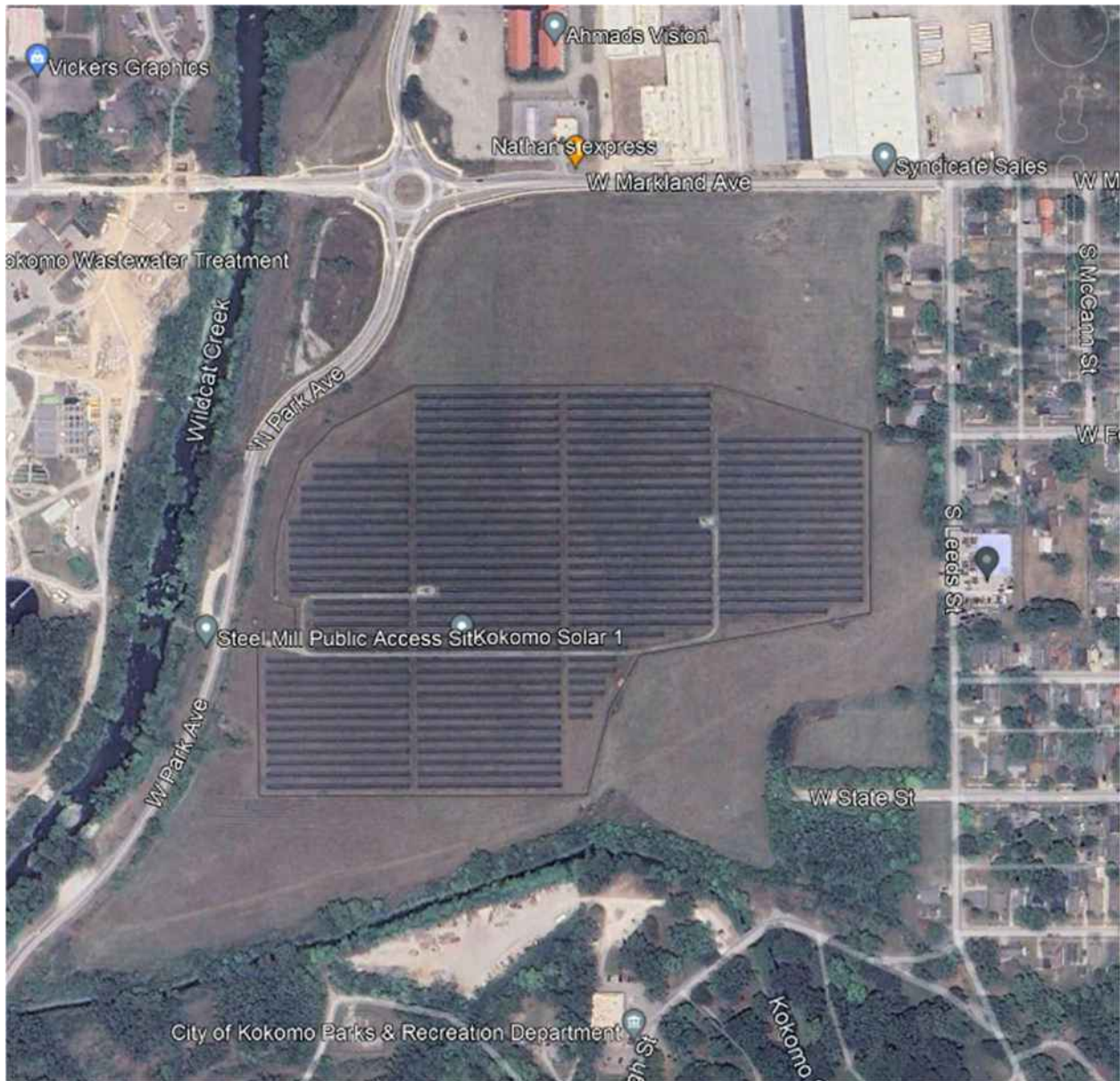
This 24.3 MW solar project built in 2017 is located on the former front nine holes at Eagle View Golf Course at Naval Support Activity Crane.

A home located at 21893 Golf Club Lane, Loogootee sold on September 26, 2022 for \$296,000 for a 2,232 s.f. ranch with 2 BR, 2 BA, with a 3-car garage, built in 1992 on 10 acres. The purchase price works out to \$132.62 per s.f. The assessed land value is 11% of the overall assessed value. This home is 440 feet from the nearest solar panel.

I have compared this to 12889 N US 231, Odon that sold on July 27, 2022 for \$325,000 for a 2,640 s.f. home with 5 BR, 3 BA, with a 3-car garage, built in 1992 on 2.65 acres. The purchase price works out to \$123.11 per s.f. This home is slightly larger which typically has a slightly lower price per square foot. It is also on a smaller lot, which also supports a lower price point. However, this home has 5 BR and 3 BA, which is significantly superior to the comparable. The assessed land value is 7% of the overall assessed value. I have adjusted this upward by \$16,000 for the difference in land value for an adjusted indication of value of \$341,000, or \$129.17 per s.f. Adjusting this downward for size by \$21,081 and downward for the bathroom by \$15,000, the total adjusted value is \$304,919. This indicates a -3% impact on property value, which is within the margin of typical variation. I also did not adjust for the difference in 3 bedrooms. Typically, a 2 BR house sells for less than a 3 BR, so there likely is an impact associated with that difference from 5.

Comparing these two sales, the proximity to the solar farm shows no impact on the property value.

**24. Kokomo Solar 1, Kokomo, Howard County, IN**

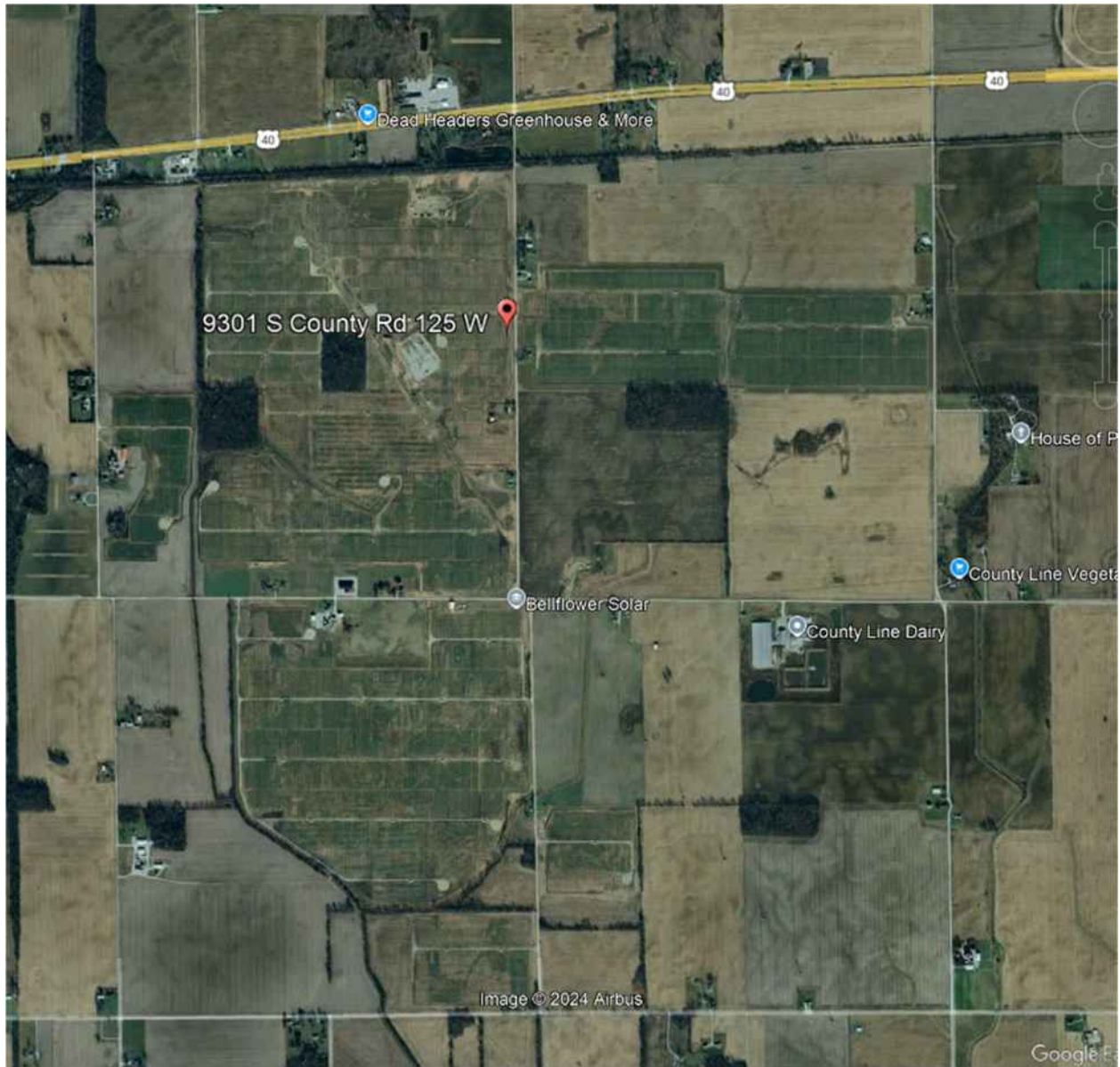


This is a 5.4 MW solar project built in 2016. The closest adjoining home is 145 feet from the closest panel.

That closest home sold on December 21, 2023 for \$129,900 for this 1,252 s.f. ranch at 1049 S. Leeds Street with 2 BR, 1 BA, 2 car garage, built in 1925 on 0.19 acres. This home has a new roof and was fully updated. I reached out to the broker Jennifer Lane with Keller Williams who indicated that the proximity to the solar farm had no impact on the property value or the marketing. She noted that the floorplan was a limitation to the marketing of the home as it only had 2 BR and 1 BA.



## 25. Bellflower Solar 1, Henry & Rush County, IN



This 152.5 MW solar project is located on the south side of US 40 Highway east of State Road 3. This was built in 2023.

I identified the sale of a home at 2312 W US Highway 40, Spiceland that sold on April 19, 2024 for \$155,000 for a 4 BR, 1 BA, 2,760 s.f. two-story home with a 3-car garage built in 1900 on 4.82 acres. I reached out to Jason Loveless with F.C. Tucker/Crossroads Real Estate who indicated that the marketing and sales price were not negatively impacted by the adjoining solar project. This home is 2,200 feet from the nearest solar panel and were not visible according to the broker. Given the age of the improvements this was a difficult home to complete a paired sales analysis. I have relied on the broker comments for this.

I also looked at the sale of a home located at 9559 S County Road 225 W, Lewisville. This custom built timber/log home sold on January 4, 2024 for \$650,000 for this 3,409 s.f. 3 BR, 3.5 BA, 2 car garage, finished basement home built in 2018 on 3.39 acres. This home is 360 feet from the nearest solar panel. I reached out to Kayla Walker with F.C. Tucker/Crossroads Real Estate



about this sale. She indicated that this home had sold several times in the last few years due to some unfortunate life circumstances for the original owner. That owner apparently tried to buy the home back 6 months after this most recent sale once those issues were resolved but the current owners were not interested. She noted that there was one social media post saying “there is a solar panel project across the road good luck selling,” but no one else responded to that comment. The home sold quickly and the solar project had no impact on the sales price or marketing of this property.

I considered a Sale/Resale analysis on this property due to the unique nature of this home. The most recent sale prior to the solar farm construction was on December 30, 2022 for \$634,000, which would have been after the solar farm was approved and possibly during construction. I therefore have not completed a Sale/Resale analysis on this property. The home sold again on May 17, 2023 for \$635,721 before finally selling on January 4, 2024 for \$650,000.

I have completed the following paired sales analysis on this home.

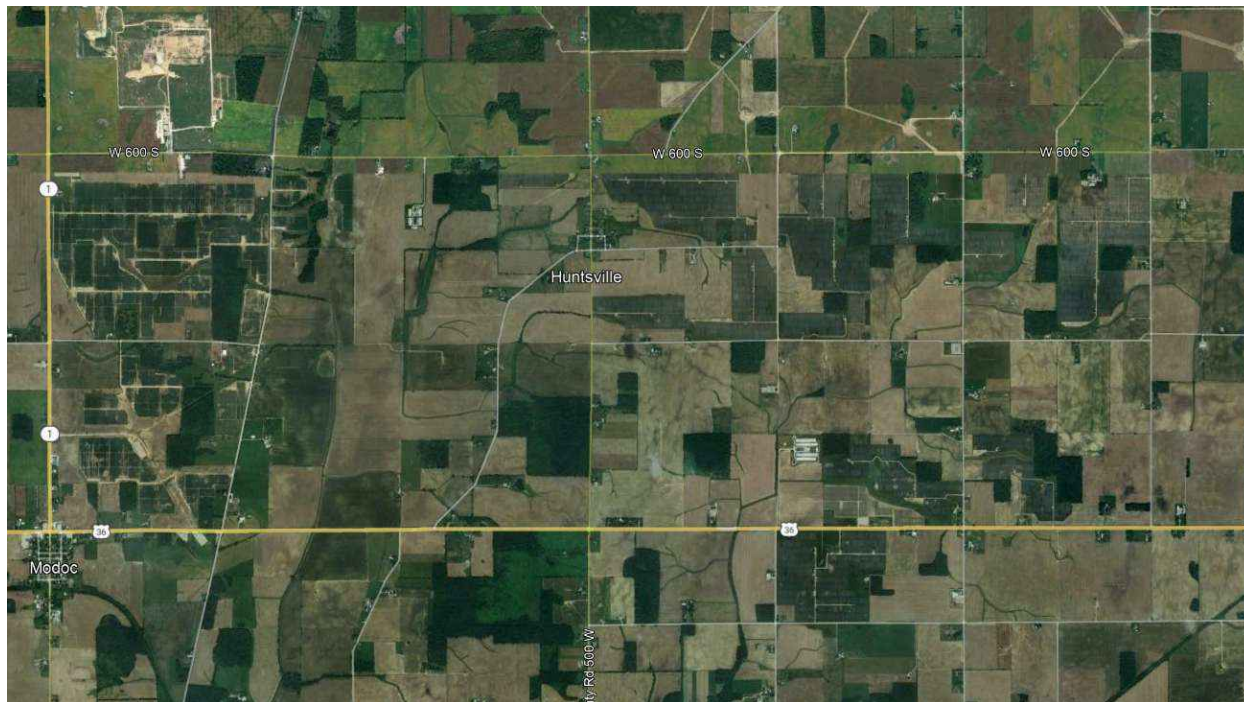
Adjoining Residential Sales After Solar Farm Built					Eff.					
Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style
Adjoins	9559 S CR 225 W	3.88	1/4/ 2024	\$650,000	2018	3,409	\$190.67	3/3.5	Det. 2 Gar	Timber
Not	9582 S CR 125 E	5.10	7/8/ 2024	\$725,000	1979	3,851	\$188.26	5/4	2 Gar	
Not	1068 Landmark	1.87	7/17/ 2023	\$565,900	2020	3,550	\$159.41	4/3.5	3 Gar	
Not	5520 W Riley	5.01	12/8/ 2022	\$520,500	1998	3,080	\$168.99	3/2.5	3 Gar	Brick

Adjoining Sales Adjusted										Avg
Address	Time	Site	YB	GLA	BR/BA	Park	Total	% Diff	% Diff	Distance
9559 S CR 225 W							\$650,000			360
9582 S CR 125 E	-\$14,778	-\$10,000	\$28,275	-\$33,285	-\$10,000	-\$10,000	\$675,212	-4%		
1068 Landmark	\$10,605	\$20,000	-\$1,132	-\$8,991		-\$15,000	\$571,382	12%		
5520 W Riley	\$22,360	-\$10,000	\$10,410	\$22,240	\$20,000	-\$15,000	\$570,510	12%		
									7%	

These comparables required a fair bit of adjustment, but two of them indicate a positive impact on property value and that includes the comparable requiring the least amount of adjustment. Relying on the average from these three comparables, I derive an impact of +7%.

## 26. Riverstart Solar, Winchester, Randolph County, IN

This 200 MW solar farm was completed in January 2022.



The home located to the west of the solar farm between the western and eastern side at 6535 S 500 West sold for \$129,900 4BR, 1BA house with a tax card year built of 1900. This 1,592 s.f. dwelling sold February 10, 2022 and is a 2-story house. This property is in close proximity to the solar farm and is 1,205 feet away from the closest panel.

I have compared this to 3 nearby sales to compare them to this property. I have utilized the actual year built per the tax cards for each of these.

Adjoining Residential Sales After Solar Farm Built												
Pa	Solar	Address	Acres	Date Sold	Sales Price	Built	GLA	\$/GLA	BR/BA	Park	Style	Other
	Adjoins	6535 S 500 W	2.00	2/10/2022	\$129,900	1900	1,592	\$81.60	4/1	Park	2 Stry	No wind nearby
	Not	1076 N Old Hwy 27	0.80	2/11/2022	\$149,900	1880	1,719	\$87.20	4/1.5	Det. 2 Gar	1.5 Stry	No solar/wind nearby
	Not	113 N Main St	0.34	10/24/2022	\$142,900	1900	1,872	\$76.34	3/2	2 Gar	2 Stry	No solar/wind nearby
	Not	109 S Main St	0.16	1/23/2023	\$111,000	1860	1,716	\$64.69	3/2	Det. 1 Gar	2 Stry	No solar/wind nearby

Adjoining Sales Adjusted										Avg	
Address	Time	Site	YB	GLA	BR/BA	Park	Total	% Diff	% Diff	% Diff	Distance
6535 S 500 W							\$129,900				1205
1076 N Old Hwy 27	\$0	\$10,000	\$8,994	-\$4,430	-\$5,000	-\$10,000	\$149,464	-15%			
113 N Main St	-\$5,716	\$10,000	\$0	-\$8,550	-\$10,000	-\$10,000	\$118,634	9%			
109 S Main St	-\$9,990	\$20,000	\$13,320	-\$3,208	-\$10,000	-\$5,000	\$116,122	11%			
									1%		

This matched pair indicates no impact for being in close proximity to the solar farm.

I have also identified 3928 W 600 South which sold adjoining the solar farm to the north which sold for \$250,000 for a 5BR, 2BA house with a tax card effective year built of 2000. This 2,305 s.f. dwelling sold February 17, 2022 and is a ranch with a detached 2 car garage. This property is in close proximity to the solar farm and is 677 feet away from the closest panel.

#### Adjoining Residential Sales After Solar Farm Built

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style	Other
Adjoins	3928 W 600 S	3.00	2/17/2022	\$250,000	2000	2,305	\$108.46	5/2	Det. 2 Gar	Ranch	Wind nearby
Not	1614 S Old Hwy 27	1.10	8/31/2021	\$250,000	2014	2,148	\$116.39	3/2	3 Gar	BR Rnch	No solar/wind
Not	4095 N 1000	2.13	1/14/2022	\$281,250	2010	2,579	\$109.05	3/2.5	2 Gar	BR Rnch	Basement No S/W
Not	3432 S Indian Trail	1.37	3/14/2023	\$280,000	2002	1,927	\$145.30	3/2.5	2 Gar	BR Rnch	No solar/wind

#### Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
3928 W 600 S								\$250,000			677
1614 S Old Hwy 27	\$9,315		-\$10,500	\$7,309			-\$10,000	-\$10,000	\$236,124	6%	
4095 N 1000	\$2,096		-\$8,438	-\$11,952	-\$10,000		-\$5,000	-\$10,000	\$237,956	5%	
3432 S Indian Trail	-\$23,934		-\$1,680	\$21,970	-\$5,000		-\$5,000	-\$10,000	\$256,356	-3%	
										3%	

I also considered a Sale/Resale Analysis looking at an earlier sale of this same property prior to the solar farm on July 6, 2020 for \$180,000 and an earlier sale on March 1, 2021 for \$219,000.

Adjusting the 2020 sale upward based on the FHFA HPI, I derive an expected value as of February 2022 of \$225,677, which is lower than the actual closed sales price and shows a 10% premium for the sales price. This strongly supports a finding of no impact on property value.

Adjusting the 2021 sale upward based on the FHFA HPI, I derive an expected value as of February 2022 of \$264,556. This is 6% less than the actual sales price and suggests a mild negative impact.

However blending the two indicators, it suggests a +2% increase in value. Using the blended rate is a better indicator as the increase between 2020 and 2021 was disproportionately higher than typical for the market. This suggests that the 2020 sale may have been a little low for that time, but it is just as likely that the 2021 sale was a little high. Using the average helps to blend these potential market imperfections. In the comparables chart I have blended these sales to reflect that 2% impact.

The Sale/Resale analysis as well as the paired sales analysis support a finding of no impact on property value due to the solar farm.



I have also identified 7141 S State Road 1 which sold in close proximity to the solar farm to the west which sold on September 24, 2021 for \$165,000 for a 4BR, 2BA house with a tax card year built of 1900. This 2,040 s.f. dwelling sold September 24, 2021 and is a 2-story house with a 2-car garage. The home includes a 3,240 s.f. pole barn with 3 stalls and fenced pasture. This home is 1,070 feet away from the closest panel. This sold during the construction process of the solar farm. I attempted a paired sales analysis, but the horse improvements on the subject property complicated this. I therefore focused on a Sale/Resale analysis. This home last sold on October 12, 2012 for \$95,000. Adjusting this upward based on the FHFA HPI, the anticipated value of the home as of 9/24/2021 would be \$143,287 based on the MSA or \$169,551 based on the state average. This strongly supports a finding of no impact on property value and actually suggests a positive impact on property value.

Purchase Quarter \*

2012Q3



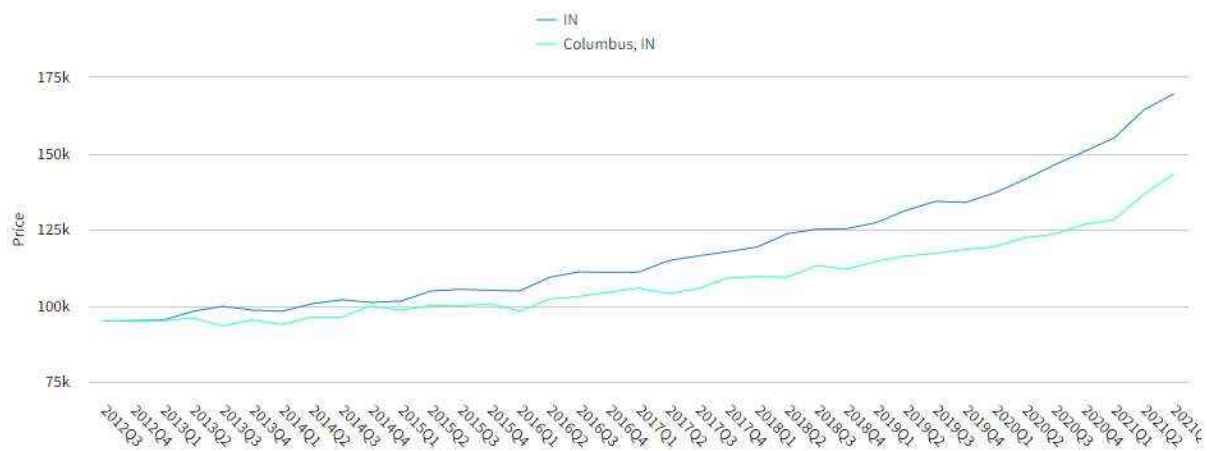
Valuation Quarter \*

2021Q3



Purchase Price \*

95000

**Submit****Estimated Value for MSA: \$143,287****Estimated Value for State: \$169,551****MSA Percentage Change: 50.83%**



## 27. Bedford Solar, Chesapeake, Chesapeake County, VA



This is a 70MW solar facility located in Chesapeake that went operational in 2021. The closest adjoining home is 390 feet from the nearest panel.

I identified 1407 Whittamore Road sold on December 22, 2022 for \$293,500 or \$214 per square foot, for a 3 BR, 2BA, 1,372 s.f. one-story, single family home built in 1962 on a 0.69 acre lot. This home is 560 feet from the closest panel. This home last sold on December 14, 2015 for \$176,000. Using the FHFA HPI to increase the earlier sale based on the typical appreciation, that home price was expected to appreciate to \$276,145. Based on this sale/resale analysis, the solar farm is showing no impact on the property value or appreciation of this home adjoining the solar project.



## IV. Conclusions from Market Research

### A. *Demographic Data from Solar Projects Identified*

The solar developments identified in the earlier section are not all of the ones that I looked at, but all of the ones where I found usable data of some sort. In the following sections, I will address the analysis conclusions based on Sale/Resale Analysis, Paired Sale Analysis, and Broker Comments.

Below I have simply summarized the demographic data around the solar projects identified to illustrate the mix of uses and demographics around these projects.

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

Matched Pair Summary						Adj. Uses By Acreage					1 mile Radius (2010-2024 Data)		
	Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com/Ind	Population	Med. Income	Avg. Housing Unit
1	Crittenden	Crittenden	KY	34	2.70	40	22%	51%	27%	0%	1,419	\$60,198	\$178,643
2	Walton 2	Walton	KY	58	2.00	90	21%	0%	60%	19%	880	\$81,709	\$277,717
3	Turkey Crk	Lancaster	KY	753	50.00	120	7%	36%	51%	6%	257	\$52,892	\$221,809
4	Mt. Olive Crk	Russell Spr	KY	421	60.00	N/A	N/A	N/A	N/A	N/A	149	\$60,646	\$152,778
5	EW Brown	Harrodsburg	KY	50	10.00	N/A	3%	44%	29%	25%	182	\$68,772	\$294,444
6	Logan Cnty	Russellville	KY	1,100	173.00	N/A	N/A	N/A	N/A	N/A	177	\$54,545	\$284,459
7	Mulberry	Selmer	TN	160	5.00	60	13%	73%	10%	3%	467	\$40,936	\$171,746
8	Grand Ridge	Streator	IL	160	20.00	1	8%	87%	5%	0%	96	\$70,158	\$187,037
9	Portage	Portage	IN	56	2.00	0	19%	81%	0%	0%	6,642	\$65,695	\$186,463
10	Dominion	Indianapolis	IN	134	8.60	20	3%	97%	0%	0%	3,774	\$61,115	\$167,515
11	Clarke Cnty	White Post	VA	234	20.00	70	14%	39%	46%	1%	578	\$81,022	\$374,453
12	Walker	Barhamsville	VA	485	20.00	N/A	12%	68%	20%	0%	203	\$80,773	\$320,076
13	Sappony	Stony Crk	VA	322	20.00	N/A	2%	98%	0%	0%	74	\$51,410	\$155,208
14	Spotsylvania	Paytes	VA	3,500	615.00	160	37%	52%	11%	0%	74	\$120,861	\$483,333
15	Whitehorn	Gretna	VA	N/A	50.00	N/A	N/A	N/A	N/A	N/A	166	\$43,179	\$168,750
16	Altavista	Altavista	VA	720	80.00	N/A	N/A	N/A	N/A	N/A	7	\$50,000	\$341,667
17	D G Amp Piqua	Piqua	OH	86	12.60	2	26%	16%	58%	0%	6,735	\$38,919	\$96,555
18	Solidago	Isle of Wight	VA	193	20.00	N/A	N/A	N/A	N/A	N/A	62	\$88,375	\$312,500
19	Buckingham	Cumberland	VA	240	39.80	50	4%	6%	90%	0%	120	\$59,445	\$251,562
20	Anderson 6	Anderson	IN	N/A	6.80	N/A	N/A	N/A	N/A	N/A	736	\$77,343	\$181,635
21	Logansport	Logansport	IN	N/A	6.80	N/A	N/A	N/A	N/A	N/A	4,534	\$51,694	\$122,099
22	Dunns Brdge	Wheatfield	IN	N/A	435.00	N/A	N/A	N/A	N/A	N/A	208	\$71,098	\$203,986
23	Crane	Burns City	IN	182	24.30	100	N/A	N/A	N/A	N/A	114	\$68,227	\$273,077
24	Kokomo 1	Kokomo	IN	83	5.40	5	30%	36%	0%	34%	8,656	\$50,193	\$168,723
25	Bellflower 1	Lewisville	IN	N/A	152.50	N/A	N/A	N/A	N/A	N/A	45	\$78,261	\$215,789
26	Riverstart	Winchester	IN	N/A	200.00	N/A	N/A	N/A	N/A	N/A	47	\$75,000	\$169,565
27	Bedford	Chesapeake	VA	N/A	70.00	N/A	N/A	N/A	N/A	N/A	993	\$127,047	\$509,365
<b>Average</b>				449	78.20	55	15%	52%	27%	6%	1,385	\$67,760	\$239,665
<b>Median</b>				188	20.00	50	13%	51%	20%	0%	203	\$65,695	\$203,986
<b>High</b>				3,500	615.00	160	37%	98%	90%	34%	8,656	\$127,047	\$509,365
<b>Low</b>				34	2.00	0	2%	0%	0%	0%	7	\$38,919	\$96,555

## B. Sale/Resale Analysis

In the market data I was able to identify a number of home sales where I was able to complete a Sale/Resale Analysis. The summary of that data is shown below.

### Residential Dwelling Sale/Resale Analysis

Pair	Solar Farm	City	State	Area	MW	Approx Distance	Tax ID/ Address	Date	Sale Price	Adj. Sale Price	% Diff
1	Crittenden	Crittenden	KY	Suburban	2.7	500	280 Clairborne	Mar-24	\$295,500		
							280 Clairborne	Apr-06	\$119,200	\$282,245	4%
2	Crittenden	Crittenden	KY	Suburban	2.7	488	300 Clairborne	Sep-18	\$212,720		
							300 Clairborne	Jul-14	\$173,000	\$208,183	2%
3	Walton 2	Walton	KY	Suburban	2	410	783 Jones	May-22	\$346,000		
							783 Jones	May-12	\$174,900	\$353,000	-2%
4	Turkey Crk	Lancaster	KY	Rural	50	250	166 Long Branch	Nov-20	\$180,000		
							166 Long Branch	Feb-19	\$160,000	\$181,000	-1%
5	Turkey Crk	Lancaster	KY	Rural	50	1050	209 Ashlock	Jun-22	\$180,000		
							209 Ashlock	Feb-19	\$160,000	\$181,000	-1%
6	Mt Olive Crk	Russell Spng	KY	Rural	60	1250	2985 KY 1729	Dec-22	\$150,000		
							2985 KY 1729	Sep-18	\$110,000	\$158,000	-5%
7	EW Brown	Harrodsburg	KY	Rural	10	1015	837 Hardin Hts	Mar-18	\$212,500		
							837 Hardin Hts	Sep-05	\$155,000	\$187,274	12%
8	Logan Cnty	Russellville	KY	Rural	173	1460	528 Watermelon	May-22	\$275,000		
							528 Watermelon	Sep-16	\$149,000	\$234,000	15%
9	Logan Cnty	Russellville	KY	Rural	173	1900	557 J Montgomery	Dec-21	\$185,000		
							557 J Montgomery	May-16	\$114,000	\$174,000	6%
10	Logan Cnty	Russellville	KY	Rural	173	1400	263 Donald	Oct-22	\$263,400		
							263 Donald	May-10	\$141,000	\$262,000	1%
11	Altavista	Altavista	VA	Rural	80	600	3026 Bishop Crk	Feb-22	\$150,000		
							3026 Bishop Crk	Jul-19	\$120,000	\$155,000	-3%
12	Bremen	Bremen	IN	Suburban	6.8	310	1141 Gilbert	May-23	\$186,000		
							1141 Gilbert	Jan-22	\$160,000	\$189,000	-2%
13	Riverstart	Winchester	IN	Rural	200	677	3928 W 600 S	Feb-22	\$250,000		
							3928 W 600 S	Mar-21	\$219,000	\$245,000	2%
14	Riverstart	Winchester	IN	Rural	200	1070	7141 S SR 1	Sep-21	\$165,000		
							7141 S SR 1	Oct-12	\$95,000	\$143,287	13%
15	Anderson 6	Anderson	IN	Suburban	6.8	345	2819 S Layton	Oct-23	\$210,000		
							2819 S Layton	Feb-21	\$150,000	\$198,000	6%
16	Bedford	Chesapeake	VA	Rural	70	560	1407 Whittamore	Dec-22	\$293,500		
							1407 Whittamore	Dec-15	\$176,000	\$276,145	6%

	Avg. MW	Avg. Distance	Indicated Impact
Average	78.75	830	3%
Median	55.00	639	2%
High	200.00	1,900	15%
Low	2.00	250	-5%

The Sale/Resale Analysis includes 16 examples with impacts ranging from -5% to +15% with an average impact of +3% and a median impact of +2%.

The closest adjoining home is 250 feet and the range of solar projects range from 2 MW up to 200 MW.

The Sale/Resale Analysis uses no appraiser judgement and links the consideration of appreciation to the FHFA Home Price Index. The advantage of this approach is that there is only one factor to address and it is linked to a national source. The disadvantage is that there is

generally a more limited pool of homes that are usable in this type of analysis. Homes with significant updates or renovations between sales are less reliable and extended periods of time between the sales could lead to less reliable results.

I have attempted to minimize any usage of homes with updates, though there are a few examples of those as discussed in the data. I have also attempted to minimize the usage of homes with extended period of time between the first and second sale.

### **C. *Paired Sale/Matched Pair Analysis***

In the market data I was able to identify a number of home sales where I was able to complete a Paired Sale or Matched Pair Analysis. The summary of that data is shown on the next page.

The Matched Pairs includes 47 examples with impacts ranging from -7% to +12% with an average impact of +1% and a median impact of +0%.

The closest adjoining home is 155 feet and the range of solar projects range from 2.7 MW up to 617 MW.

The Matched Pair Analysis includes numerous examples and many were also supported with supporting broker data, which strengthens the reliability of these results. Furthermore, these results show a very similar breakdown of values to the Sale/Resale Analysis.

## Residential Dwelling Matched Pairs Adjoining Solar Farms

Pair	Solar Farm	City	State	Area	MW	Approx		Date	Adj. Sale		% Diff
						Distance	Tax ID/ Address		Sale Price	Price	
1	Crittenden	Crittenden	KY	Suburban	2.7	373	250 Clairborne 315 N Fork	Jan-19 May-19	\$120,000 \$107,000	\$120,889	-1%
2	Crittenden	Crittenden	KY	Suburban	2.7	488	300 Clairborne 1795 Bay Valley	Sep-18 Dec-17	\$213,000 \$231,200	\$228,180	-7%
3	Crittenden	Crittenden	KY	Suburban	2.7	720	350 Clairborne 2160 Sherman	Jul-18 Jun-19	\$245,000 \$265,000	\$248,225	-1%
4	Crittenden	Crittenden	KY	Suburban	2.7	930	370 Clairborne 125 Lexington	Aug-19 Apr-18	\$273,000 \$240,000	\$254,751	7%
5	Crittenden	Crittenden	KY	Suburban	2.7	365	250 Clairborne 240 Shawnee	Jan-22 Jun-21	\$210,000 \$166,000	\$219,563	-5%
6	Crittenden	Crittenden	KY	Suburban	2.7	390	260 Clairborne 355 Oakwood	Oct-21 Oct-20	\$175,000 \$186,000	\$173,988	1%
7	Crittenden	Crittenden	KY	Suburban	2.7	570	300 Clairborne 39 Pinhook	Dec-21 Mar-22	\$290,000 \$299,000	\$289,352	0%
8	Crittenden	Crittenden	KY	Suburban	2.7	1080	410 Clairborne 114 Austin	Feb-21 Dec-20	\$275,000 \$248,000	\$279,680	-2%
9	Mulberry	Selmer	TN	Rural	5	400	0900A011 099CA043	Jul-14 Feb-15	\$130,000 \$148,900	\$136,988	-5%
10	Mulberry	Selmer	TN	Rural	5	400	099CA002 0990NA040	Jul-15 Mar-15	\$130,000 \$120,000	\$121,200	7%
11	Mulberry	Selmer	TN	Rural	5	480	491 Dusty 35 April	Oct-16 Aug-16	\$176,000 \$185,000	\$178,283	-1%
12	Mulberry	Selmer	TN	Rural	5	650	297 Country 53 Glen	Sep-16 Mar-17	\$150,000 \$126,000	\$144,460	4%
13	Mulberry	Selmer	TN	Rural	5	685	57 Cooper 191 Amelia	Feb-19 Aug-18	\$163,000 \$132,000	\$155,947	4%
14	Dominion	Indianapolis	IN	Rural	8.6	400	2013249 (Tax ID) 5723 Minden	Dec-15 Nov-16	\$140,000 \$139,900	\$132,700	5%
15	Dominion	Indianapolis	IN	Rural	8.6	400	2013251 (Tax ID) 5910 Mosaic	Sep-17 Aug-16	\$160,000 \$146,000	\$152,190	5%
16	Dominion	Indianapolis	IN	Rural	8.6	400	2013252 (Tax ID) 5836 Sable	May-17 Jun-16	\$147,000 \$141,000	\$136,165	7%
17	Dominion	Indianapolis	IN	Rural	8.6	400	2013258 (Tax ID) 5904 Minden	Dec-15 May-16	\$131,750 \$130,000	\$134,068	-2%
18	Dominion	Indianapolis	IN	Rural	8.6	400	2013260 (Tax ID) 5904 Minden	Mar-15 May-16	\$127,000 \$130,000	\$128,957	-2%
19	Dominion	Indianapolis	IN	Rural	8.6	400	2013261 (Tax ID) 5904 Minden	Feb-14 May-16	\$120,000 \$130,000	\$121,930	-2%
20	Clarke Cnty	White Post	VA	Rural	20	1230	833 Nations Spr 6801 Middle	Jan-17 Dec-17	\$295,000 \$249,999	\$296,157	0%
21	Walker	Barhamsville	VA	Rural	20	250	5241 Barham 9252 Ordinary	Oct-18 Jun-19	\$264,000 \$277,000	\$246,581	7%
22	Clarke Cnty	White Post	VA	Rural	20	1230	833 Nations Spr 2393 Old Chapel	Aug-19 Aug-20	\$385,000 \$330,000	\$389,286	-1%
23	Sappony	Stony Creek	VA	Rural	20	1425	12511 Palestine 6494 Rocky Branch	Jul-18 Nov-18	\$128,400 \$100,000	\$131,842	-3%
24	DG Amp	Piqua	OH	Suburban	12.6	155	6060 N Washington 1511 Sweetbriar	Oct-19 Aug-20	\$119,500 \$123,000	\$118,044	1%
25	DG Amp	Piqua	OH	Suburban	12.6	585	1011 Plymouth 1720 Williams	Feb-20 Dec-19	\$113,000 \$119,900	\$111,105	2%
26	DG Amp	Piqua	OH	Suburban	12.6	155	6010 N Washington 1834 Wilshire	Aug-21 Dec-21	\$176,900 \$168,900	\$172,354	3%



Solar Farm	City	State	Area	MW	Approx		Date	Adj. Sale		
					Distance	Tax ID/Address		Sale Price	Price	% Diff
27 DG Amp	Piqua	OH	Suburban	12.6	160	6240 N Washington	Oct-21	\$155,000		
						424 Pinewood	May-22	\$151,000	\$145,627	6%
28 Spotsylvania	Paytes	VA	Rural	617	1270	12901 Orange Plnk	Aug-20	\$319,900		
						12717 Flintlock	Dec-20	\$290,000	\$326,767	-2%
29 Spotsylvania	Paytes	VA	Rural	617	1950	9641 Nottoway	May-20	\$449,900		
						11626 Forest	Aug-20	\$489,900	\$430,246	4%
30 Spotsylvania	Paytes	VA	Rural	617	1171	13353 Post Oak	Sep-20	\$300,000		
						12810 Catharpin	Jan-20	\$280,000	\$299,008	0%
31 Whitehorn	Gretna	VA	Rural	50	255	1120 Taylors Mill	Dec-21	\$224,000		
						100 Long Branch	Aug-20	\$162,000	\$213,920	5%
32 Solidago	Windsor	VA	Rural	20	610	17479 Courthouse	Dec-23	\$555,000		
						15414 Trump Tower	Sep-23	\$463,000	\$552,197	1%
33 Solidago	Windsor	VA	Rural	20	630	6568 Beechland	Feb-24	\$671,500		
						11497 Dews Plant.	Oct-23	\$640,000	\$665,000	1%
34 Spotsylvania	Spotsylvania	VA	Rural	617	435	11710 Southview	May-22	\$767,945		
						10919 Green Leaf	Jun-22	\$739,990	\$728,424	5%
35 Spotsylvania	Spotsylvania	VA	Rural	617	410	11606 Aprils	Sep-23	\$711,400		
						11701 Quail Run	Jul-23	\$650,000	\$723,383	-2%
36 Altavista	Altavista	VA	Rural	80	745	2049 Bishop Crk	Jul-23	\$375,000		
						1900 Woodhaven	Aug-22	\$355,000	\$395,198	-5%
37 Buckingham	Cumberland	VA	Rural	40	380	24081 E James An	Jun-23	\$160,000		
						755 High Sch	Sep-23	\$190,000	\$162,400	-2%
38 Buckingham	Cumberland	VA	Rural	40	560	23225 E James An	Jun-23	\$180,000		
						17534 E James An	Jan-24	\$205,000	\$185,440	-3%
39 Spotsylvania	Spotsylvania	VA	Rural	617	1252	9811 Deer Park	Jun-22	\$455,000		
						8109 Newton	Mar-22	\$450,000	\$447,900	2%
40 Spotsylvania	Spotsylvania	VA	Rural	617	1020	13000 W Catharpin	Jun-22	\$450,000		
						14207 Cedar Plant	Jul-23	\$473,800	\$472,015	-5%
41 Spotsylvania	Spotsylvania	VA	Rural	617	1060	12819 Faulconers	Oct-23	\$538,000		
						9811 Catharpin	Nov-23	\$480,000	\$508,753	5%
42 Spotsylvania	Spotsylvania	VA	Rural	617	395	11239 Chancellor	Mar-23	\$499,900		
						9651 Meadows	Jul-23	\$515,000	\$506,012	-1%
43 Crane	Burns City	IN	Rural	24.3	440	21893 Golf Club	Sep-22	\$296,000		
						12889 N US 231	Jul-22	\$325,000	\$304,919	-3%
44 Bellflower 1	Lewisville	IN	Rural	152	360	9559 S CR 225 W	Jan-24	\$650,000		
						1068 Landmark	Jul-23	\$565,900	\$571,382	12%
45 Riverstart	Winchester	IN	Rural	200	1205	6535 S 500 W	Feb-22	\$129,900		
						113 N Main	Oct-22	\$142,900	\$118,634	9%
46 Riverstart	Winchester	IN	Rural	200	677	3928 W 600 S	Feb-22	\$250,000		
						4095 N 1000	Jan-22	\$281,250	\$237,956	5%
47 White House	Louisa	VA	Rural	20	1780	751 Chalklevel	Apr-24	\$260,000		
						1404 Jefferson	May-24	\$219,700	\$249,140	4%

Avg.				Indicated	
	MW	Distance		Average	Impact
Average	141.02	675		Average	1%
Median	20.00	488		Median	0%
High	617.00	1950		High	12%
Low	2.70	155		Low	-7%

### ***D. Summary of Broker Opinions from Research***

From the research identified in the earlier section, I was able to identify and speak with the brokers identified below. The full comments provided by the brokers are shown in the market research, but the summary below shows that 13 of the 14 brokers who had sold a home adjoining a solar development identified no impact on property value. The one broker who identified a sale that “maybe” was impacted also confirmed a different home that definitely was not impacted by the adjacent solar project that was even closer than the one where “maybe” it did.

#### **Residential Dwelling Matched Pairs Adjoining Solar Farms**

#	Solar Farm	City	State	MW	Approx		Date	Sale Price	Impact	Broker
					Distance	Tax ID/ Address				
1	Crittenden	Crittenden	KY	2.7	365	250 Clairborne	Jan-22	\$210,000	No	Lisa Ann Lay
2	Crittenden	Crittenden	KY	2.7	390	260 Clairborne	Oct-21	\$175,000	No	Jim Dalton
3	Crittenden	Crittenden	KY	2.7	500	289 Clairborne	Mar-24	\$295,500	No	Carol Jackson
4	Crittenden	Logan Cnty	KY	173	1900	557 J Montgomery	Dec-21	\$185,000	No	Dewayne Whittaker
5	Kokomo 1	Kokomo	IN	5.4	145	1049 S. Leeds	Dec-23	\$129,900	No	Jennifer Lane
6	Logansport	Logansport	IN	16	260	1015 Pink	Dec-21	\$135,000	No	Cindy Heinzman
7	Dunns Bridge	Wheatfield	IN	435	910	1546 E 1225 N	Feb-22	\$499,900	No	Dan Walstra
8	Crittenden	Mulberry	TN	16	480	491 Dusty	Oct-16	\$176,000	No	Rhonda Wheeler
9	Walker-Corr.	Barhamsville	VA	20	250	5241 Barham	Oct-18	\$264,000	No	Alex Uminski, SRA
10	Walker-Corr.	Barhamsville	VA	20	510	5300 Barham	Apr-17	\$358,000	No	Patrick McCrery
11	Solidago	Windsor	VA	20	610	17479 Courthouse	Dec-23	\$555,000	No	Anna Boyer
12	Cavalier	Elberon	VA	20	850	6568 Beechland	Jun-24	\$535,000	Maybe	Anna Boyer
13	Bellflower	Spiceland	IN	152.5	2200	2312 US Hwy 40	Apr-24	\$155,000	No	Jason Loveless
14	Bellflower	Spiceland	IN	152.5	360	9559 S Cnty Rd 225	Jan-24	\$650,000	No	Kayla Walker

Yes	0
No	13
Maybe	1

## V. Supporting Data

### A. *Southeast Data*

I have been compiling data across numerous states and the following chart identifies the solar projects throughout the Southeast. I have focused on projects 5 MW or larger.

**Southeast USA Over 5 MW**

**Matched Pair Summary**

						Adj. Uses By Acreage					1 mile Radius (2010-2022 Data)		
	Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com/Ind	Pop.	Med. Income	Avg. Housing Unit
1	AM Best	Goldsboro	NC	38	5.00	2	38%	0%	23%	39%	1,523	\$37,358	\$148,375
2	Mulberry	Selmer	TN	160	5.00	60	13%	73%	10%	3%	467	\$40,936	\$171,746
3	Leonard	Hughesville	MD	47	5.00	20	18%	75%	0%	6%	525	\$106,550	\$350,000
4	Gastonia SC	Gastonia	NC	35	5.00	48	33%	0%	23%	44%	4,689	\$35,057	\$126,562
5	Summit	Moyock	NC	2,034	80.00	4	4%	0%	94%	2%	382	\$79,114	\$281,731
6	Tracy	Bailey	NC	50	5.00	10	29%	0%	71%	0%	312	\$43,940	\$99,219
7	Manatee	Parrish	FL	1,180	75.00	20	2%	97%	1%	0%	48	\$75,000	\$291,667
8	McBride	Midland	NC	627	75.00	140	12%	10%	78%	0%	398	\$63,678	\$256,306
9	Mariposa	Stanley	NC	36	5.00	96	48%	0%	52%	0%	1,716	\$36,439	\$137,884
10	Clarke Cnty	White Post	VA	234	20.00	70	14%	39%	46%	1%	578	\$81,022	\$374,453
11	Candace	Princeton	NC	54	5.00	22	76%	24%	0%	0%	448	\$51,002	\$107,171
12	Walker	Barhamsville	VA	485	20.00	N/A	12%	68%	20%	0%	203	\$80,773	\$320,076
13	Innov 46	Hope Mills	NC	532	78.50	0	17%	83%	0%	0%	2,247	\$58,688	\$183,435
14	Innov 42	Fayetteville	NC	414	71.00	0	41%	59%	0%	0%	568	\$60,037	\$276,347
15	Sunfish	Willow Spring	NC	50	6.40	30	35%	35%	30%	0%	1,515	\$63,652	\$253,138
16	Sappony	Stony Crk	VA	322	20.00	N/A	2%	98%	0%	0%	74	\$51,410	\$155,208
17	Camden Dam	Camden	NC	50	5.00	0	17%	72%	11%	0%	403	\$84,426	\$230,288
18	Grandy	Grandy	NC	121	20.00	10	55%	24%	0%	21%	949	\$50,355	\$231,408
19	Champion	Pelion	SC	100	10.00	N/A	4%	70%	8%	18%	1,336	\$46,867	\$171,939
20	Barefoot Bay	Barefoot Bay	FL	504	74.50	0	11%	87%	0%	3%	2,446	\$36,737	\$143,320
21	Miami-Dade	Miami	FL	347	74.50	0	26%	74%	0%	0%	127	\$90,909	\$403,571
22	Spotsylvania	Paytes	VA	3,500	617.00	160	37%	52%	11%	0%	74	\$120,861	\$483,333
23	Whitethorn	Gretna	VA	N/A	50.00	N/A	N/A	N/A	N/A	N/A	166	\$43,179	\$168,750
24	Altavista	Altavista	VA	720	80.00	N/A	N/A	N/A	N/A	N/A	7	\$50,000	\$341,667
25	Hattiesburg	Hattiesburg	MS	400	50.00	N/A	10%	85%	5%	0%	1,065	\$28,545	\$129,921
26	Solidago	Isle of Wight	VA	193	20.00	N/A	N/A	N/A	N/A	N/A	62	\$88,375	\$312,500
27	Buckingham	Cumberland	VA	240	39.80	50	4%	6%	90%	0%	120	\$59,445	\$251,562
28	Twiggs	Dry Branch	GA	N/A	200.00	N/A	N/A	N/A	N/A	N/A	15	\$55,000	\$50,000
29	Kings Bay	Kings Bay	GA	N/A	30.00	N/A	N/A	N/A	N/A	N/A	721	\$102,293	\$364,808
30	Dougherty	Albany	GA	N/A	120.00	N/A	N/A	N/A	N/A	N/A	30	\$60,354	\$204,167
31	Mustang	Robbins	NC	50	5.00	N/A	N/A	N/A	N/A	N/A	941	\$54,430	\$369,398
32	Bedford	Chesapeake	VA	N/A	70.00	N/A	N/A	N/A	N/A	N/A	993	\$127,047	\$509,365
33	Mt. Olive Crk	Russell Spr	KY	421	60.00	N/A	N/A	N/A	N/A	N/A	149	\$60,646	\$152,778
34	EW Brown	Harrodsburg	KY	50	10.00	N/A	3%	44%	29%	25%	182	\$68,772	\$294,444
35	Logan Cnty	Russellville	KY	1,100	173.00	N/A	N/A	N/A	N/A	N/A	177	\$54,545	\$284,459
<b>Average</b>				470	62.56	37	22%	47%	24%	6%	733	\$64,213	\$246,600
<b>Median</b>				237	30.00	20	17%	52%	11%	0%	403	\$59,445	\$251,562
<b>High</b>				3,500	617.00	160	76%	98%	94%	44%	4,689	\$127,047	\$509,365
<b>Low</b>				35	5.00	0	2%	0%	0%	0%	7	\$28,545	\$50,000

From these solar projects I have identified 77 data points (combined Sale/Resale, Matched Pair and Broker Opinions) as summarized below.

	MW	Avg. Distance	Indicated Impact
<b>Average</b>	106.39	631	<b>Average</b> 1%
<b>Median</b>	30.00	505	<b>Median</b> 1%
<b>High</b>	617.00	1,950	<b>High</b> 10%
<b>Low</b>	5.00	145	<b>Low</b> -10%

## B. National Data

Matched Pair Summary						Adj. Uses By Acreage					1 mile Radius (2020 Data)		
	Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com/Ind	Population	Med. Income	Avg. Housing Unit
1	AM Best	Goldsboro	NC	38	5.00	2	38%	0%	23%	39%	1,523	\$37,358	\$148,375
2	Mulberry	Selmer	TN	160	5.00	60	13%	73%	10%	3%	467	\$40,936	\$171,746
3	Leonard	Hughesville	MD	47	5.00	20	18%	75%	0%	6%	525	\$106,550	\$350,000
4	Gastonia SC	Gastonia	NC	35	5.00	48	33%	0%	23%	44%	4,689	\$35,057	\$126,562
5	Summit	Moyock	NC	2,034	80.00	4	4%	0%	94%	2%	382	\$79,114	\$281,731
6	Tracy	Bailey	NC	50	5.00	10	29%	0%	71%	0%	312	\$43,940	\$99,219
7	Manatee	Parrish	FL	1,180	75.00	20	2%	97%	1%	0%	48	\$75,000	\$291,667
8	McBride	Midland	NC	627	75.00	140	12%	10%	78%	0%	398	\$63,678	\$256,306
9	Grand Ridge	Streator	IL	160	20.00	1	8%	87%	5%	0%	96	\$70,158	\$187,037
10	Dominion	Indianapolis	IN	134	8.60	20	3%	97%	0%	0%	3,774	\$61,115	\$167,515
11	Mariposa	Stanley	NC	36	5.00	96	48%	0%	52%	0%	1,716	\$36,439	\$137,884
12	Clarke Cnty	White Post	VA	234	20.00	70	14%	39%	46%	1%	578	\$81,022	\$374,453
13	Flemington	Flemington	NJ	120	9.36	N/A	13%	50%	28%	8%	3,477	\$105,714	\$444,696
14	Frenchtown	Frenchtown	NJ	139	7.90	N/A	37%	35%	29%	0%	457	\$111,562	\$515,399
15	McGraw	East Windsor	NJ	95	14.00	N/A	27%	44%	0%	29%	7,684	\$78,417	\$362,428
16	Tinton Falls	Tinton Falls	NJ	100	16.00	N/A	98%	0%	0%	2%	4,667	\$92,346	\$343,492
17	Simon	Social Circle	GA	237	30.00	71	1%	63%	36%	0%	203	\$76,155	\$269,922
18	Candace	Princeton	NC	54	5.00	22	76%	24%	0%	0%	448	\$51,002	\$107,171
19	Walker	Barhamsville	VA	485	20.00	N/A	12%	68%	20%	0%	203	\$80,773	\$320,076
20	Innov 46	Hope Mills	NC	532	78.50	0	17%	83%	0%	0%	2,247	\$58,698	\$193,435
21	Innov 42	Fayetteville	NC	414	71.00	0	41%	59%	0%	0%	568	\$60,037	\$276,347
22	Demille	Lapeer	MI	160	28.40	10	10%	68%	0%	22%	2,010	\$47,208	\$187,214
23	Turrill	Lapeer	MI	230	19.60	10	75%	59%	0%	25%	2,390	\$46,839	\$110,361
24	Sunfish	Willow Spring	NC	50	6.40	30	35%	35%	30%	0%	1,515	\$63,652	\$253,138
25	Picture Rocks	Tucson	AZ	182	20.00	N/A	6%	88%	6%	0%	102	\$81,081	\$280,172
26	Avra Valley	Tucson	AZ	246	25.00	N/A	3%	94%	3%	0%	85	\$80,997	\$292,308
27	Sappony	Stony Crk	VA	322	20.00	N/A	2%	98%	0%	0%	74	\$51,410	\$155,208
28	Camden Dam	Camden	NC	50	5.00	0	17%	72%	11%	0%	403	\$84,426	\$230,288
29	Grandy	Grandy	NC	121	20.00	10	55%	24%	0%	21%	949	\$50,355	\$231,408
30	Champion	Pelion	SC	100	10.00	N/A	4%	70%	8%	18%	1,336	\$46,867	\$171,939
31	Eddy II	Eddy	TX	93	10.00	N/A	15%	25%	58%	2%	551	\$59,627	\$139,088
32	Somerset	Somerset	TX	128	10.60	N/A	5%	95%	0%	0%	1,293	\$41,574	\$135,490
33	DG Amp Piqua	Piqua	OH	86	12.60	2	26%	16%	58%	0%	6,735	\$38,919	\$96,555
34	Barefoot Bay	Barefoot Bay	FL	504	74.50	0	11%	87%	0%	3%	2,446	\$36,737	\$143,320
35	Miami-Dade	Miami	FL	347	74.50	0	26%	74%	0%	0%	127	\$90,909	\$403,571
36	Spotsylvania	Paytes	VA	3,500	617.00	160	37%	52%	11%	0%	74	\$120,861	\$483,333
37	Whitehorn	Gretna	VA	N/A	50.00	N/A	N/A	N/A	N/A	N/A	166	\$43,179	\$168,750
38	Altavista	Altavista	VA	720	80.00	N/A	N/A	N/A	N/A	N/A	7	\$50,000	\$341,667
39	Hattiesburg	Hattiesburg	MS	400	50.00	N/A	10%	85%	5%	0%	1,065	\$28,545	\$129,921
40	Bremen	Bremen	IN	37	6.80	15	40%	60%	0%	0%	388	\$62,855	\$232,857
41	North Rock	Fulton	WI	472	50.00	N/A	3%	40%	57%	0%	236	\$86,238	\$370,062
42	Wood County	Saratoga	WI	1,200	150.00	N/A	N/A	N/A	N/A	N/A	187	\$74,110	\$204,545
43	Solidago	Isle of Wight	VA	193	20.00	N/A	N/A	N/A	N/A	N/A	62	\$88,375	\$312,500
44	Buckingham	Cumberland	VA	240	39.80	50	4%	6%	90%	0%	120	\$59,445	\$251,562
45	Crane	Burns City	IN	182	24.30	100	N/A	N/A	N/A	N/A	114	\$68,227	\$273,077
46	Kokomo 1	Kokomo	IN	83	5.40	5	30%	36%	0%	34%	8,656	\$50,193	\$168,723
47	White Tail 1	Mowersville	PA	135	13.50	20	2%	73%	25%	0%	254	\$81,086	\$354,297
48	Twiggs	Dry Branch	GA	N/A	200.00	N/A	N/A	N/A	N/A	N/A	15	\$55,000	\$50,000
49	Kings Bay	Kings Bay	GA	N/A	30.00	N/A	N/A	N/A	N/A	N/A	721	\$102,293	\$364,808
50	Dougherty	Albany	GA	N/A	120.00	N/A	N/A	N/A	N/A	N/A	30	\$60,354	\$204,167
51	Whitetail 2	St Thomas	PA	293	20.00	N/A	N/A	N/A	N/A	N/A	107	\$85,844	\$274,265
52	Elk Hill 1	Mercersburg	PA	N/A	20.00	N/A	N/A	N/A	N/A	N/A	791	\$72,722	\$372,932
53	Elk Hill 2	Mercersburg	PA	N/A	15.00	N/A	N/A	N/A	N/A	N/A	454	\$81,208	\$484,672
54	Cattontail 1	York	PA	N/A	20.00	N/A	N/A	N/A	N/A	N/A	1,495	\$84,872	\$315,508
55	Cattontail 2	York	PA	N/A	20.00	N/A	N/A	N/A	N/A	N/A	707	\$61,415	\$383,896

Matched Pair Summary						Adj. Uses By Acreage					1 mile Radius (2020 Data)		
	Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com/Ind	Population	Med. Income	Avg. Housing Unit
56	Grazing Yak	Calhan	CO	272	35.00	N/A	0%	97%	3%	0%	40	\$78,104	\$623,214
57	San Luis Villy	Hooper	CO	308	35.00	N/A	5%	95%	0%	0%	11	\$59,164	\$450,000
58	SR Jenkins	Ft Lupton	CO	142	13.00	N/A	2%	90%	8%	0%	129	\$114,961	\$802,703
59	Big Horn 1	Pueblo	CO	2,760	240.00	N/A	0%	44%	2%	54%	20	\$75,000	\$400,000
60	Bison/Raw	Wellington	CO	1,160	52.00	N/A	0%	93%	7%	0%	0	\$0	\$0
61	Alamosa	Mosca	CO	163	30.00	N/A	0%	87%	13%	0%	7	\$0	\$0
62	Pioneer	Bennett	CO	611	110.00	N/A	3%	81%	16%	0%	67	\$82,329	\$497,991
63	Sandhill/SunE	Mosca	CO	N/A	10.00	N/A	N/A	N/A	N/A	N/A	4	\$0	\$0
64	Bellflower 1	Lewisville	IN	N/A	152.50	N/A	N/A	N/A	N/A	N/A	45	\$78,261	\$215,789
65	Riverstart	Winchester	IN	N/A	200.00	N/A	N/A	N/A	N/A	N/A	47	\$75,000	\$169,565
66	Mustang	Robbins	NC	50	5.00	N/A	N/A	N/A	N/A	N/A	941	\$54,430	\$369,398
67	North Star	North Branch	MN	1,099	100.00	N/A	18%	73%	7%	2%	218	\$119,700	\$323,413
68	Logansport	Logansport	IN	N/A	6.80	N/A	N/A	N/A	N/A	N/A	4,534	\$51,694	\$122,099
69	Anderson 6	Anderson	IN	N/A	6.80	N/A	N/A	N/A	N/A	N/A	736	\$77,343	\$181,635
70	Dunns Bridge	Wheatfield	IN	N/A	435.00	N/A	N/A	N/A	N/A	N/A	208	\$71,098	\$203,986
71	Bedford	Chesapeake	VA	N/A	70.00	N/A	N/A	N/A	N/A	N/A	993	\$127,047	\$509,365
72	Mt. Olive Crk	Russell Spr	KY	421	60.00	N/A	N/A	N/A	N/A	N/A	149	\$60,646	\$152,778
73	EW Brown	Harrodsburg	KY	50	10.00	N/A	3%	44%	29%	25%	182	\$68,772	\$294,444
74	Logan Cnty	Russellville	KY	1,100	173.00	N/A	N/A	N/A	N/A	N/A	177	\$54,545	\$284,459
Average				426	56.66	33	19%	56%	19%	7%	1,063	\$66,629	\$264,701
Median				182	20.00	18	12%	63%	7%	0%	385	\$65,953	\$254,722
High				3,500	617.00	160	98%	98%	94%	54%	8,656	\$127,047	\$802,703
Low				35	5.00	0	0%	0%	0%	0%	0	\$0	\$0

From these 74 solar developments I have identified 138 data points as summarized below.

	Avg.		
	MW	Distance	% Dif
<b>Average</b>	79.17	608	<b>Average</b> 1%
<b>Median</b>	20.00	440	<b>Median</b> 0%
<b>High</b>	617.00	2,020	<b>High</b> 14%
<b>Low</b>	5.00	145	<b>Low</b> -10%



### C. Larger Solar Farms Data

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

Matched Pair Summary - @20 MW And Larger						Adj. Uses By Acreage					1 mile Radius (2010-2020 Data)		
	Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com/Ind	Population	Med. Income	Avg. Housing Unit
1	Summit	Moyock	NC	2,034	80.00	4	4%	0%	94%	2%	382	\$79,114	\$281,731
2	Manatee	Parrish	FL	1,180	75.00	20	2%	97%	1%	0%	48	\$75,000	\$291,667
3	McBride	Midland	NC	627	75.00	140	12%	10%	78%	0%	398	\$63,678	\$256,306
4	Grand Ridge	Streator	IL	160	20.00	1	8%	87%	5%	0%	96	\$70,158	\$187,037
5	Clarke Cnty	White Post	VA	234	20.00	70	14%	39%	46%	1%	578	\$81,022	\$374,453
6	Simon	Social Circle	GA	237	30.00	71	1%	63%	36%	0%	203	\$76,155	\$269,922
7	Walker	Barhamsville	VA	485	20.00	N/A	12%	68%	20%	0%	203	\$80,773	\$320,076
8	Innov 46	Hope Mills	NC	532	78.50	0	17%	83%	0%	0%	2,247	\$58,688	\$183,435
9	Innov 42	Fayetteville	NC	414	71.00	0	41%	59%	0%	0%	568	\$60,037	\$276,347
10	Demille	Lapeer	MI	160	28.40	10	10%	68%	0%	22%	2,010	\$47,208	\$187,214
11	Turrill	Lapeer	MI	230	19.60	10	75%	59%	0%	25%	2,390	\$46,839	\$110,361
12	Picure Rocks	Tucson	AZ	182	20.00	N/A	6%	88%	6%	0%	102	\$81,081	\$280,172
13	Avra Valley	Tucson	AZ	246	25.00	N/A	3%	94%	3%	0%	85	\$80,997	\$292,308
14	Sappony	Stony Crk	VA	322	20.00	N/A	2%	98%	0%	0%	74	\$51,410	\$155,208
15	Grandy	Grandy	NC	121	20.00	10	55%	24%	0%	21%	949	\$50,355	\$231,408
16	Barefoot Bay	Barefoot Bay	FL	504	74.50	0	11%	87%	0%	3%	2,446	\$36,737	\$143,320
17	Miami-Dade	Miami	FL	347	74.50	0	26%	74%	0%	0%	127	\$90,909	\$403,571
18	Spotsylvania	Paytes	VA	3,500	617.00	160	37%	52%	11%	0%	74	\$120,861	\$483,333
19	Whitehorn	Gretna	VA	N/A	50.00	N/A	N/A	N/A	N/A	N/A	166	\$43,179	\$168,750
20	Altavista	Altavista	VA	720	80.00	N/A	N/A	N/A	N/A	N/A	7	\$50,000	\$341,667
21	Solidago	Isle of Wight	VA	193	20.00	N/A	N/A	N/A	N/A	N/A	62	\$88,375	\$312,500
22	Hattiesburg	Hattiesburg	MS	400	50.00	N/A	10%	85%	5%	0%	1,065	\$28,545	\$129,921
23	North Rock	Fulton	WI	472	50.00	N/A	3%	40%	57%	0%	236	\$86,238	\$370,062
24	Wood County	Saratoga	WI	1,200	150.00	N/A	N/A	N/A	N/A	N/A	187	\$74,110	\$204,545
25	Buckingham	Cumberland	VA	240	39.80	50	4%	6%	90%	0%	120	\$59,445	\$251,562
26	Crane	Burns City	IN	182	24.30	100	N/A	N/A	N/A	N/A	114	\$68,227	\$273,077
27	Twiggs	Dry Branch	GA	N/A	200.00	N/A	N/A	N/A	N/A	N/A	15	\$55,000	\$50,000
28	Kings Bay	Kings Bay	GA	N/A	30.00	N/A	N/A	N/A	N/A	N/A	721	\$102,293	\$364,808
29	Dougherty	Albany	GA	N/A	120.00	N/A	N/A	N/A	N/A	N/A	30	\$60,354	\$204,167
30	Whitetail 2	St Thomas	PA	293	20.00	N/A	N/A	N/A	N/A	N/A	107	\$85,844	\$274,265
31	Elk Hill 1	Mercersburg	PA	N/A	20.00	N/A	N/A	N/A	N/A	N/A	791	\$72,722	\$372,932
32	Cottontail 1	York	PA	N/A	20.00	N/A	N/A	N/A	N/A	N/A	1,495	\$84,872	\$315,508
33	Cottontail 2	York	PA	N/A	20.00	N/A	N/A	N/A	N/A	N/A	707	\$61,415	\$383,896
34	Grazing Yak	Calhan	CO	272	35.00	N/A	0%	97%	3%	0%	40	\$78,104	\$623,214
35	San Luis Villy	Hooper	CO	308	35.00	N/A	5%	95%	0%	0%	11	\$59,164	\$450,000
36	Big Horn 1	Pueblo	CO	2,760	240.00	N/A	0%	44%	2%	54%	20	\$75,000	\$400,000
37	Bison/Raw	Wellington	CO	1,160	52.00	N/A	0%	93%	7%	0%	0	\$0	\$0
38	Alamosa	Mosca	CO	163	30.00	N/A	0%	87%	13%	0%	7	\$0	\$0
39	Pioneer	Bennett	CO	611	110.00	N/A	3%	81%	16%	0%	67	\$82,329	\$497,991
40	Bellflower 1	Lewisville	IN	N/A	152.50	N/A	N/A	N/A	N/A	N/A	45	\$78,261	\$215,789
41	Riverstart	Winchester	IN	N/A	200.00	N/A	N/A	N/A	N/A	N/A	47	\$75,000	\$169,565
42	North Star	North Branch	MN	1,099	100.00	N/A	18%	73%	7%	2%	218	\$119,700	\$323,413
43	Dunns Bridge	Wheatfield	IN	N/A	435.00	N/A	N/A	N/A	N/A	N/A	208	\$71,098	\$203,986
44	Bedford	Chesapeake	VA	N/A	70.00	N/A	N/A	N/A	N/A	N/A	993	\$127,047	\$509,365
Average				654	84.59		14%	66%	18%	5%	465	\$69,031	\$275,883
Median				347	50.00		7%	74%	5%	0%	147	\$73,416	\$275,306
High				3,500	617.00		75%	98%	94%	54%	2,446	\$127,047	\$623,214
Low				121	19.60		0%	0%	0%	0%	0	\$0	\$0

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

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

Matched Pair Summary						Adj. Uses By Acreage					1 mile Radius (2010-2020 Data)		
	Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com/Ind	Population	Med. Income	Avg. Housing Unit
1	Summit	Moyock	NC	2,034	80.00	4	4%	0%	94%	2%	382	\$79,114	\$281,731
2	Manatee	Parrish	FL	1,180	75.00	20	2%	97%	1%	0%	48	\$75,000	\$291,667
3	McBride	Midland	NC	627	75.00	140	12%	10%	78%	0%	398	\$63,678	\$256,306
4	Innov 46	Hope Mills	NC	532	78.50	0	17%	83%	0%	0%	2,247	\$58,688	\$183,435
5	Innov 42	Fayetteville	NC	414	71.00	0	41%	59%	0%	0%	568	\$60,037	\$276,347
6	Barefoot Bay	Barefoot Bay	FL	504	74.50	0	11%	87%	0%	3%	2,446	\$36,737	\$143,320
7	Miami-Dade	Miami	FL	347	74.50	0	26%	74%	0%	0%	127	\$90,909	\$403,571
8	Spotsylvania	Paytes	VA	3,500	617.00	160	37%	52%	11%	0%	74	\$120,861	\$483,333
9	Hattiesburg	Hattiesburg	MS	400	50.00	N/A	10%	85%	5%	0%	1,065	\$28,545	\$129,921
10	North Rock	Fulton	WI	472	50.00	N/A	3%	40%	57%	0%	236	\$86,238	\$370,062
11	Wood County	Saratoga	WI	1,200	150.00	N/A	N/A	N/A	N/A	N/A	187	\$74,110	\$204,545
12	Twiggs	Dry Branch	GA	N/A	200.00	N/A	N/A	N/A	N/A	N/A	15	\$55,000	\$50,000
13	Dougherty	Albany	GA	N/A	120.00	N/A	N/A	N/A	N/A	N/A	30	\$60,354	\$204,167
14	Big Horn 1	Pueblo	CO	2,760	240.00	N/A	0%	44%	2%	54%	20	\$75,000	\$400,000
15	Bison/Raw	Wellington	CO	1,160	52.00	N/A	0%	93%	7%	0%	0	\$0	\$0
16	Pioneer	Bennett	CO	611	110.00	N/A	3%	81%	16%	0%	67	\$82,329	\$497,991
17	Bellflower 1	Lewisville	IN	N/A	152.50	N/A	N/A	N/A	N/A	N/A	45	\$78,261	\$215,789
18	Riverstart	Winchester	IN	N/A	200.00	N/A	N/A	N/A	N/A	N/A	47	\$75,000	\$169,565
19	North Star	North Branch	MN	1,099	100.00	N/A	18%	73%	7%	2%	218	\$119,700	\$323,413
20	Dunns Bdrge	Wheatfield	IN	N/A	435.00	N/A	N/A	N/A	N/A	N/A	208	\$71,098	\$203,986
21	Bedford	Chesapeake	VA	N/A	70.00	N/A	N/A	N/A	N/A	N/A	993	\$127,047	\$509,365
Average				1,123	146	41	13%	63%	20%	4%	449	\$72,272	\$266,596
Median				627	80	2	11%	74%	6%	0%	187	\$75,000	\$256,306
High				3,500	617	160	41%	97%	94%	54%	2,446	\$127,047	\$509,365
Low				347	50	0	0%	0%	0%	0%	0	\$0	\$0

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

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

On the following page I show a summary of 248 projects ranging in size from 50 MW up to 1,000 MW with an average size of 119.7 MW and a median of 80 MW. The average closest distance for an adjoining home is 365 feet, while the median distance is 220 feet. The closest distance is 50 feet. The mix of adjoining uses is similar with most of the adjoining uses remaining residential or agricultural in nature. This is the list of solar farms that I have researched for possible matched pairs and not a complete list of larger solar farms in those states.

Total Number of Solar Farms  
Researched Over 50 MW

238

	Output (MW)	Total Acres	Used Acres	Avg. Dist to home	Closest Home	Adjoining Use by Acre			
						Res	Agri	Agri/Res	Com
Average	119.7	1521.4	1223.3	1092	365	10%	68%	18%	4%
Median	80.0	987.3	805.5	845	220	7%	72%	12%	0%
High	1000.0	19000.0	9735.4	6835	6810	98%	100%	100%	70%
Low	50.0	3.0	3.0	241	50	0%	0%	0%	0%

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 68:

Explain whether there have been any sales of homes or properties adjacent to other recently constructed utility-scale solar projects in Kentucky that could be included in the analysis, including Unbridled Solar, Martin County Solar, or SR Russellville.

Response:

See the supplemental materials attached to the Response to Request No. 67 above.

Responding Witness: Richard C. Kirkland, Jr.

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 69:

Explain whether an examination of changes in assessed valuation of properties adjacent to solar projects would be appropriate in cases where there are few or no home sales.

Response:

Rural properties tend to have fewer and less frequent home sales than suburban areas, regardless of the presence of solar. Regarding appraisal value of properties proximal to solar projects like Wood Duck's, examination of property values in areas of no home sales or land sales, then analysis would not be possible because there would be no sales data to analyze. Valuation of properties where there are few home sales or land sales, then analysis would be appropriate because sales data would be available.

Responding Witness: Richard C. Kirkland, Jr.

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 70:

Provide details of any communications with the Barren County Road Department.

Response:

Communications have not yet been initiated with the Barren County Road Department (BCRD). However, the Project and its EPC contractor will coordinate with the BCRD to obtain proper road use permits, create traffic management plans, and execute road agreements as necessary to help ensure that traffic impacts attributable to Project construction are appropriately mitigated.

Responding Witness: Kelley Pope



Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 71:

Explain whether any Project construction traffic or deliveries will utilize Edmonson County roads. If so, provide details of any communications with Edmonson County and/or the Edmonson County Road Department related to Project construction.

Response:

The Project will likely use roadways located in Edmonson County to develop the site's northwestern parcels. Communications have not yet been initiated with the Edmonson County Road Department (ECRD). However, the Project or its EPC contractor will coordinate with the ECRD to obtain proper road use permits, create traffic management plans, and execute road agreements as necessary to help ensure that roadway impacts attributable to Project construction are appropriately mitigated.

Responding Witness: Kelley Pope

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 72:

Provide the method and route for delivery of the project transformer.

Response:

Wood Duck will use a carrier with a vehicle that will accommodate the weight of the transformer and meet road weight restrictions. Permits will be obtained by the carrier for any oversized or overweight loads. The currently anticipated delivery route would utilize Highway 65 to the KY-101 Exit and the US Route 68 to the substation location. Highway 65 and US Route 68 are AAA weight-rated roads.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 73:

Refer to SAR Attachment H, Traffic Impact Report, page 2. Provide the weight limits for Cumberland Pkwy, Oak Grove Church Rd, KY-255, and CR 1399.

Response:

Refer to the attachment to Response to Request No. 18 above, which provides a table for roads within proximity to the Project potentially to be used for delivery of construction equipment and materials. The table provides the number of lanes, shoulder width, bridges, speed limit, weight limit, AADT data, and total road width for Cumberland Parkway, Oak Grove Church Road, KY-255 (Park City-Bon Ayr Road), and CR-1399 (Apple Grove Road).

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 74:

Refer to the SAR Attachment H, Traffic Impact Report, page 2. Provide descriptions for the following Project area roadways: (1) C Bellamy Rd; (2) Millstown Rd; (3) Dripping Springs Rd; (4) Mayhew Rd; (5) KY-68/New Bowling Green Rd; (6) Waller Rd; (7) Merry Oaks-Railton Rd; (8) Red Cross Rd; and (9) Rick Road. Roadway descriptions should include AADT, number/width of travel lanes, shoulder width, speed limit, and weight limit.

Response:

Refer to the attachment to Response to Request No. 18 above, which provides a table for roads within proximity to the Project potentially to be used for delivery of construction equipment and materials. The table provides the number of lanes, shoulder width, bridges, speed limit, weight limit, AADT data, and total road width for: (1) C. Bellamy Road; (2) Millstown Road; (3) Dripping Springs Road; (4) Mayhew Rd; (5) KY-68/New Bowling Green Road; (6) Waller Road; (7) Merry Oaks-Railton Road; (8) Red Cross Road; and (9) Rick Road.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 75:

Refer to the SAR Attachment H, Traffic Impact Report, Figure 1: Project Area. Provide the location and weight limit ratings for all bridges on roadways within the map area. Indicate which bridges will or may be used by project construction traffic.

Response:

See the Response to Request No. 19 above.

Responding Witness: Chad Martin



Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

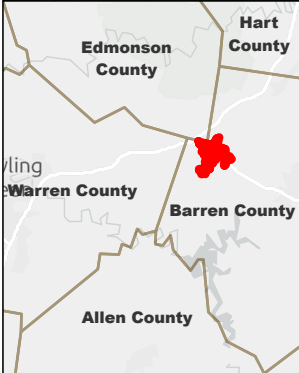
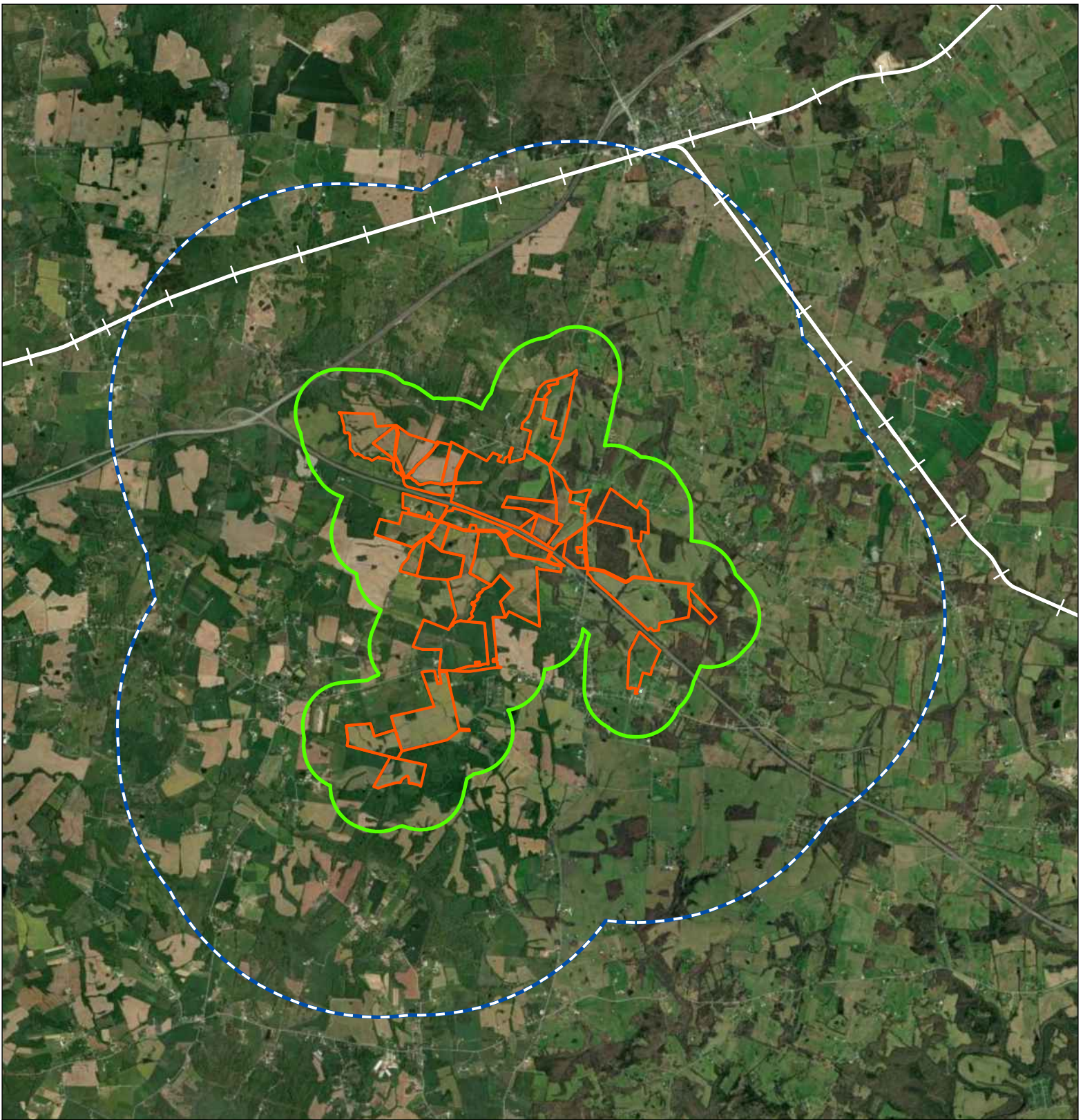
Request No. 76:

Refer to the SAR Attachment H, Traffic Impact Report, Figure 1: Project Area. Provide the location and weight limit ratings for any railroad crossing on roadways within the map area. Indicate which crossings will or may be used by project construction traffic.

Response:

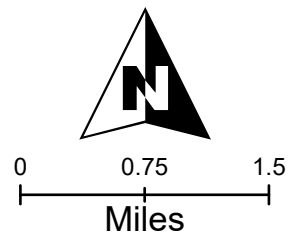
See the attached map for locations of railroads near the Project site. No applicable regulations prescribe weight limits for railroad crossings in Barren County.

Responding Witness: Chad Martin



**Legend**

- Active Railroads
- 2000ft\_buffer
- 2 mile Buffer
- Project\_Bndry\_2023



Wood Duck Solar Project  
RFI - Follow up  
Barren County, Kentucky

Railroads within 2 miles

Date:	Project No:	Figure No:
July 2025	237801898	--

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 77:

Provide the average daily number of construction vehicles accessing the site, by vehicle type -- i.e., worker vehicles, delivery trucks, water trucks (if utilized).

Response:

See Response to Request No. 64 regarding the average number of workers onsite per day. As discussed in the above Request, the actual number of daily construction workers will be determined by the Project's EPC contractor. However, assuming a 40% car share program if carpools are utilized, the average number of construction vehicles accessing the site would be 100 vehicles per day. Delivery trucks are estimated to average 10, and cement trucks would be variable based on construction schedule, averaging two trucks per day. Water truck use would depend on fugitive dust concerns but is expected to average one per day.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 78:

Provide the peak daily number of construction vehicles accessing the site, by vehicle type -- i.e., worker vehicles, delivery trucks, cement trucks, water trucks (if utilized).

Response:

See Response to Request No. 65 regarding the peak number of workers onsite per day. As discussed in the above Request, the actual number of daily construction workers will be determined by the Project's EPC contractor. However, assuming a 40% car share program if carpools are utilized, the number of daily worker vehicles would peak at 192. Delivery trucks are estimated to peak at 20 per day, and cement trucks would be variable based on the Project's construction schedule, averaging two trucks per day. Water truck use would depend on fugitive dust concerns but is expected to peak at two trucks per day.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 79:

Provide the maximum expected weights for each type of delivery truck, including water trucks (if utilized).

Response:

See the Responses to Request Nos. 13 and 15 above.

Responding Witness: Chad Martin



Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 80:

Provide the maximum expected load weights for each type of delivery, including cement and water trucks (if utilized), heavy equipment, gravel for access roads, panels, inverters, and the transformer.

Response:

See the Responses to Request Nos. 13 and 15 above.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 81:

Explain whether any improvements to roadways in the Project area will be necessary prior to construction.

Response:

No preconstruction improvements to roadways are anticipated at this time.

Responding Witness: Kelley Pope

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 82:

Explain the plan for repairing Project-related damage to any roadways, railway crossings, or bridges.

Response:

Road conditions will be evaluated prior to commencing construction and the Project will coordinate with state and local road authorities to repair road impacts attributable to Project construction to preconstruction conditions.

Responding Witness: Kelley Pope

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 83:

Explain any specific traffic management strategies to be employed during construction.

Response:

The Project will encourage carpooling to reduce the total number of vehicles traveling to and from the site. Project site entrances will be marked with caution signs to ensure safe ingress and egress from the facility, and flaggers will be utilized as needed for large load deliveries.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 84:

Explain whether any traffic stoppages will be necessary to accommodate large truck deliveries. If yes, provide the expected locations, frequency and length of those stoppages.

Response:

See the Response to Request No. 17 above.

Responding Witness: Kelley Pope



Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 85:

If applicable, describe odor impacts from diesel fumes or other sources from construction vehicles that may be noticeable to nearby residents.

Response:

Odor impacts are not anticipated because construction vehicles will be parked on site and no additional fumes outside of normal daily traffic are expected.

Responding Witness: Kelley Pope

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 86:

Indicate whether the Project site will be irrigated after construction to promote vegetation growth and reduce potential erosion.

Response:

Yes, as needed during the germination period.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

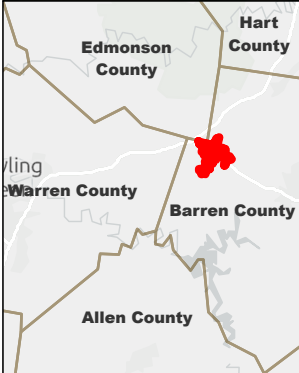
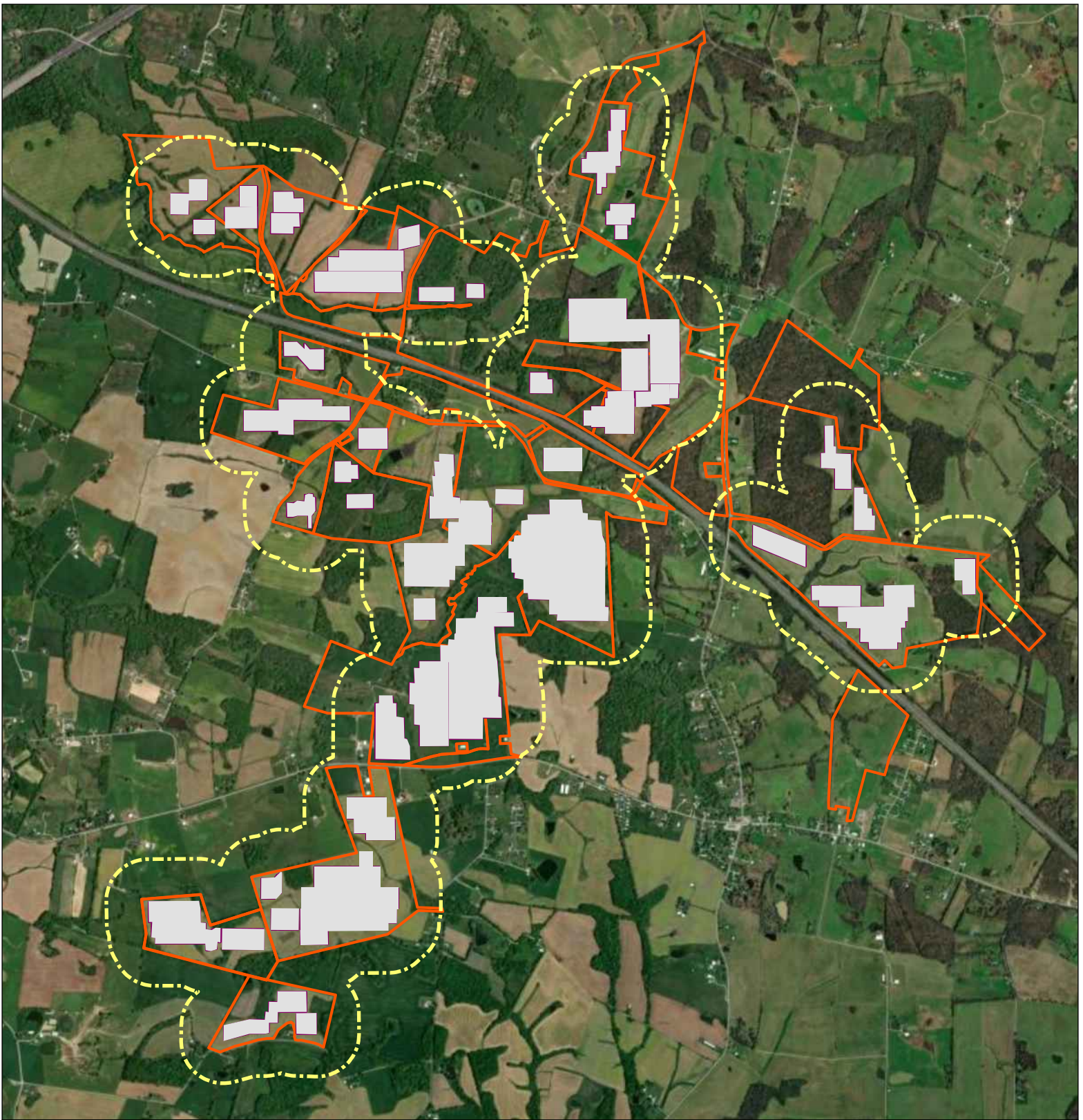
Request No. 87:

Refer to the SAR Attachment D, Sound Study, Figure 4 and Appendix A. Provide a similar noise contour map and a sound model results table for these noise receptors during construction, including the dbA Leq levels for multiple pieces of construction equipment operating simultaneously, with and without pile driving.

Response:

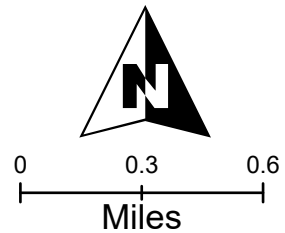
Refer to SAR Attachment D, Section 5.2 and see attached for the requested noise contour map. Noise impacts would be temporary and variable as construction equipment and vehicles move throughout the Project site. Stantec modeled three pile drivers within close proximity to each other and found a resulting 55 dB noise contour spanning approximately 1,000 feet from edge of panel. Noise from pile driving would vary depending on multiple factors including location of machinery within the Project, the number of pile drivers being used within a given area, humidity, and wind. The noise from pile driving would be different throughout construction based on these variables. Tabular data is static, thus any modeling based thereon would not accurately capture the dynamic and variable noise levels produced by construction equipment and activities, which fluctuate with the type of construction equipment and/or vehicles used at a given time, the number of equipment and/or vehicles operating simultaneously at a given time, and movement of construction equipment and vehicles throughout the site.

Responding Witness: Chad Martin



**Legend**

- Approximate 55db construction contour
- Parcels
- Panels
- Parcels



Wood Duck Solar Project  
RFI - Follow up  
Barren County, Kentucky

55dB Approximate Construction  
Noise Buffer

Date:	Project No:	Figure No:
July 2025	237801898	--

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 88:

Refer to the SAR Attachment D, Sound Study, Table 2. Provide the types of construction equipment that will be used for “trenching and installation of the underground electrical collection system” at the substation. Update Table 2 to include this equipment, as necessary.

Response:

Although the actual model and type of trenching equipment will be chosen by the EPC contractor, trenching equipment would most likely be similar to ride Ditch Witch Ride-On models (RT 70/80) that have a source noise level of 107 dBA.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 89:

Provide the existing daytime ambient sound level(s) for the project area (dbA).

Response:

Ambient noise levels were not measured at or near the Project area. EPA standards for residential were utilized: 55dB (day) and 45dB (night).

Responding Witness: Chad Martin



Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 90:

Explain whether a plan to coordinate construction activities around the schedules of local churches has been or will be developed. Provide that plan, if developed.

Response:

Based on the Project's understanding of local church service times, Wood Duck proposed daily working hours to avoid engaging in noise-producing construction activities within proximity of local churches during service hours.

Responding Witness: Kelley Pope

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 91:

Provide cumulative operation noise levels at each non-residential receptor within 2,000 feet of the Project, to account for the ambient noise level and operating noise levels.

Response:

Ambient noise and operation noises do not act concurrently to have an overall higher noise level. One would trump the other. All operating noise is modeled to be below perceived ambient noise levels at day and night and therefore would not be perceptible at nearby residences. When adding sound pressure levels created by multiple sound sources there is no mathematical additive effect. For instance, two proximal noise sources that are 70 dBA each do not have a combined noise level of 140 dBA. In this case, the combined noise level is 73 dBA (*see* table below).

Approximate Addition of Sound Levels	
Difference Between Two Sound Levels	Add to the Higher of the Two Sound Levels
1 dB or less	3 dB
2 to 3 dB	2 dB
4 to 9 dB	1 dB
10 dB or more	0 dB

(USEPA, Protective Noise Levels, 1974)

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 92:

Explain whether any measures will be taken to reduce construction-related noise emissions and impacts for nearby residents during construction.

Response:

See the Response to Request No. 50 above.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 93:

Refer to the SAR, Attachment E, Visual Resource Assessment. Table 3-3 and the accompanying Figure 3-2 indicate a total of 2 churches within a 5-mile radius of the project. However, Figure C203 included in Attachment A, Project Site Maps, appears to indicate six churches within a 2-mile buffer. Confirm the number of churches within each buffer.

Response:

Based upon review of updated imagery with supplemental available GIS data resources, 10 churches have been identified within two miles of the Project: Walnut Hill, Mount Vernon, Fairview Baptist, Oak Grove Church, Woodland Church, Bon Ayr Methodist, Bon Ayr Missionary, New Beginnings Baptist, Merry Oaks Community Church, and Loving Spring Baptist Church. Between two to five miles of the Project, there are an additional 19 churches according to aerial imagery, which results in 28 total churches within five miles of the Project.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 94:

Refer to the SAR, Attachment E, Visual Resource Assessment. Explain why residences are not included as visually sensitive resources.

Response:

The Visual Resource Assessment (VRA) characterizes and models potential impacts on visual resources. The sensitive visual resources specifically evaluated in the VRA analysis included those with the highest potential for impacts including public locations such as state landmarks, parks, cemeteries, schools, churches, airports, NRHP sites, highways, scenic byways, wildlife areas, waterbodies, and urban areas such as cities and villages. Residences are interspersed throughout the Project area and the Project's potential effect on the character of the general area was evaluated. Potential impacts on specific residences can be inferred from Project mapping included with the VRA (*See* VRA Table 3-1 Viewshed Analysis). The VRA found that 98.5% of the 5-mile visual study area would be screened from view of the Project. Additional information regarding Project screening is provided in the Landscape Plan provided as SAR Attachment G. Wood Duck implemented screening to mitigate potential viewshed impacts for visually sensitive resources (including residences) and roadways. The VRA also includes visual simulations at representative locations that are applicable to residences.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 95:

Refer to the SAR, Attachment E, Visual Resource Assessment. Explain how the visual simulation locations were chosen. Explain why no visual simulation location is located near the substation site.

Response:

Visual simulation locations were chosen by using aerial mapping and Google street view to determine the viewshed from sensitive resources including neighboring residences, public places, and/or adjacent roads. No simulation was completed for the proposed substation due the presence of the much larger electrical substation owned and operated by EKPC that currently exists at that location. It was assumed that there would be no further diminishment of visual resources next to this feature.

Responding Witness: Chad Martin



Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 96:

Describe the physical characteristics of the O&M building, i.e., footprint acreage, height.

Response:

Final physical characteristics will be determined by the Project's EPC contractor prior to commencing construction. However, the O&M building is anticipated to be a single story prefabricated pole barn-type structure, approximately 40' x 60' in size. It will be used to store Project-related equipment such as spare modules, tracker motors, and fuses. It will also serve as a gathering point for personnel to coordinate onsite operations activities and an operations center to monitor facility energy production.

Responding Witness: Steve Hazel

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 97:

Describe the physical characteristics of the 500-foot transmission line, i.e., height of poles, number of poles.

Response:

Please see Application paragraphs 6, 7, and 12, and Application Exhibit A for descriptions of the proposed nonregulated electric transmission line, which include the dimensions for the proposed transmission corridor (50-foot wide) and height of transmission poles (85 feet above grade).

Responding Witness: Steve Hazel

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 98:

Refer to the SAR, Attachment G, Landscape Plan. Explain how the specific locations identified for vegetative screening were chosen.

Response:

Refer to the Project's Landscape Map (SAR Attachment G) showing locations of existing screening as well as proposed additional screening to be implemented. Locations were selected due to proximity of Project infrastructure to all roadways and to both participating and nonparticipating residences. Screening was also implemented along nonparticipating residences' fence lines, and the Project's buildable areas were screened along roadways.

Responding Witness: Chad Martin

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 99:

Provide any available transcripts of the public meetings. Provide any written or oral comments offered by the public or government agencies, from public meetings or through other avenues, including the project website.

Response:

Refer to Application paragraphs 17-21 and 33, and Application Exhibits B and J. The only public meetings involving the Project are as follows:

- Public hearing by the Joint City-County Planning Commission of Barren County held on December 18, 2023.
- Open house meeting dated August 22, 2024.
- Public information meeting in compliance with KRS 278.706(2)(e) held on February 4, 2025.
- Local public hearing convened by the Siting Board on July 15, 2025.

Public comments received as part of the Project's August 22, 2024 meeting are included in Application Exhibit B. No public comments were submitted during the Project's public information meeting dated February 4, 2025.

Responding Witness: Kelley Pope

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 100:

Explain any plans to coordinate with local landowners or others in case of complaints or other issues that might arise during the course of construction or operations.

Response:

The Project has not implemented a complaint resolution program at this time but will establish the program prior to commencing construction. Additionally, the Project will work with adjoining landowners and the local community to address site-specific concerns that may arise during construction or operation of the facility.

Responding Witness: Kelley Pope

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 101:

Refer to Application, Exhibit F, Economic Impact Analysis Report. Describe the portion of the total \$130 million dollar investment that might be spent in the local area (Barren and surrounding counties).

Response:

Most of the \$130 million will be spent on equipment for the solar site, including electrical infrastructure. Very little, if any, of these materials would be available from vendors in the Barren County region or the state of Kentucky. Direct purchases are anticipated to be spent locally for construction materials such as concrete, earth moving equipment, timber cutting, fencing, and landscaping. The construction payroll is counted by the U.S. Bureau of Statistics as occurring in Barren County. The estimated labor income anticipated at \$14.2 million is based on the location of work and not necessarily the residence of the workers.

Responding Witness: Dr. Paul Coomes



Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 102:

Refer to Application, Exhibit F, Economic Impact Analysis Report. Explain whether the estimated 240 construction workers are anticipated to be hired from within Barren County and surrounding counties (consistent with the patterns in the table on page 6).

Response:

The actual number of construction workers anticipated to be hired from Barren County is unknown. The commuting patterns on page 6 of the report refers to employment across all industry sectors and the construction industry is specifically prone to traveling workers moving from site to site and may not live in the local area where construction activities are taking place. Given the historical lack of solar farms in the Barren County region, solar panel installers are likely to live outside of the area. However, there are likely available workers in certain occupations, such as earth moving, concrete powering, fencing, and landscaping that will be hired locally.

Responding Witness: Dr. Paul Coomes

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 103:

Refer to Application, Exhibit F, Economic Impact Analysis Report, page 11. Explain whether new construction related labor compensation is \$17.7 million (as in the text) or \$13.0 million (as in the table).

Response:

\$17.7 million in construction labor compensation is correct. The \$13.0 million figure was a result of using the IMPLAN multiplier for labor income, but not IMPLAN's estimate of the Project's direct impact. Using the Barren County multipliers for the relevant construction sector, and the direct construction budget, it is anticipated that there will be a total of 295 new jobs in Barren County, and new labor compensation of \$17.7 million. For the estimate of total labor income, IMPLAN's estimate was not used because it starts with a lower average income per job (\$43,600) than assumed in the report (\$59,000). Rather, the IMPLAN multiplier (1.247) was multiplied by the assumed construction job compensation (\$14.2 million) to arrive at the total estimated compensation of \$17.7 million.

Responding Witness: Dr. Paul Coomes

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 104:

Refer to Application, Exhibit F, Economic Impact Analysis Report, page 24. Explain the differences between the Year 1 solar-related employment and labor income in this table (299.4 people and \$17.9 M) as compared to the data in the table on page 11 (295.4 people and \$13.0 M).

Response:

The employment and labor income differences between the tables are explained from the inclusion of four predicted jobs resulting from new lease payments, while the difference in labor income is attributable to the use of the IMPLAN multiplier for labor income, but not IMPLAN's estimate of the Project's direct impact, as discussed in the Response to Request No. 103 above.

Responding Witness: Dr. Paul Coomes

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 105:

Refer to Application, Exhibit F, Economic Impact Analysis Report, page 24. Provide the estimated net economic impact over the entire life of the project, estimated to be approximately 40 years.

Response:

Please see below for a table showing extended net impact calculations for a 40-year Project lifecycle.

	Year 1 Construction	Years 2 through 39, annual average	Cumulative 30 years
Solar-related employment	299.4	12.7	794.0
Solar-related labor income	\$17,852,102	\$711,170	\$45,587,714
Agricultural-related employment	-4.8	-4.8	-191.3
Agricultural-related labor income	-\$154,722	-\$154,722	-\$6,188,873
Net employment	294.6	7.9	602.7
Net labor income	\$17,697,380	\$556,448	\$39,398,841

Responding Witness: Dr. Paul Coomes

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 106:

Refer to Application, Section X, Effect on Local and Regional Economies. Explain the statement indicating 323 jobs and \$20.2 million in new labor compensation during construction, given the different data in the table on page 11 of the Economic Impact Analysis Report.

Response:

The job and labor compensation figures cited in the above Request were remnants of a prior report issued in 2023, which have since been updated. The 323 jobs and \$20.2 million in labor compensation income were based on a 2019 IMPLAN data set for Barren County. Although economic data from 2020-2021 were available at the time the prior report was drafted, the data was heavily influenced by impacts of the COVID-19 virus, which reflected abnormal pandemic conditions and were not representative of typical economic linkages. The report submitted as Application Exhibit F reflects the job and labor compensation amounts based on updated IMPLAN economic data from 2023, which was the most recent data set available at the time the report was drafted. The shrinkages in total job impact and labor compensation between the reports were a result from a reduction in IMPLAN's job and labor income multipliers for construction between these time periods.

Responding Witness: Dr. Paul Coomes

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 107:

Provide a list of all permits required from other local, state or federal agencies for the construction and operation of the project, indicating the specific agency, permit type and applicability to the Project.

Response:

See attached. Wood Duck has prepared a matrix of potential permits that may be required to construct the Project. All permits required would be obtained prior to Project construction or permit use (*i.e.* overweight vehicle permit).

Responding Witness: Chad Martin



## Wood Duck Solar (Barren County) - Permit Matrix

Permit	Agency	Level	Applicability
<b>Pre-Construction: Ecological</b>			
Clean Water Act Section 404 Permit (Wetlands) - NWP 51 - Land-Based Renewable Energy Generation Facilities	United States Army Corps of Engineers- Louisville District (USACE)	Federal	Applicable for wetland impacts
Clean Water Act Section 404 Permit - NWP 57 - Electric Utility Line and Telecommunications Activities	United States Army Corps of Engineers- Louisville District (USACE)	Federal	Applicable for wetland impacts
Federal Endangered Species Act (ESA) Section 7 Consultations, Bald and Golden Eagle Protection Act (BGEPA), and Migratory Bird Treaty Act (MBTA)	United States Fish and Wildlife Service (USFWS)	Federal	Applicable for NWP usage and compliance with BGEPA and MBTA.
CWA Section 401 Water Quality Certification	Kentucky Energy and Environment Cabinet - Environmental Protection District	State	Required for 404 permit
<b>Pre-Construction: Additional Permits</b>			
National Historic Preservation Act, Section 106 Compliance	State Historic Preservation Office (SHPO) -Kentucky Heritage Council	State	Required for 404 permit
<b>Construction: Stormwater</b>			
Floodplain General Permit	Kentucky Energy and Environment Cabinet - Department of Water (DOW)	State	Required for floodplain impacts.
Construction Stormwater Permit	Kentucky Energy and Environment Cabinet - Department of Water (DOW)	State	NOI will need to be submitted prior to construction
Notice of Intent (NOI) NPDES Construction General Permit No. KYR10	Kentucky Energy and Environment Cabinet - Environmental Protection District	State	Notice of Intent is filed before the start of construction associated with the NPDES Permit
Notice of Termination (NOT) Construction General Permit No. KYR10	Kentucky Energy and Environment Cabinet - Environmental Protection District	State	Termination Request is filed when construction is complete
<b>Construction: Department of Transportation</b>			
Oversize & Overload Transportation Permit	Kentucky Transportation Cabinet (KYTC)	State	Required for oversize and/or overweight loads.
Commercial Driveway Permit	Kentucky Transportation Cabinet (KYTC)	State	Required for access via state highways.
Permit Agreement for the Accommodation of Utility Facilities on Public Right-of-Way	Kentucky Transportation Cabinet (KYTC)	State	Required for utilities within public ROW.
<b>Local Requirements</b>			
Joint City and County Planning Commission (Barren County) - Board of Adjustment Application	Barren County	County	Required for Development Plan
Joint City and County Planning Commission (Barren County) - Setback Variance Approval	Barren County	County	Variance for internal property lines of participating parcels.
Joint City and County Planning Commission (Barren County) - Soil Erosion and Sedimentation Control Ordinance	Barren County	County	E&SCP ordinance requirements.
Barren County - Floodplain Variance	Barren County	County	A development permit shall be required in a special flood hazard area based on the FEMA flood insurance study (FIS) for the county, dated May 3, 2011
Barren County - Zone Change Application	Barren County	County	Required if zoning changes are required.

Wood Duck Solar LLC  
Responses to Siting Board Staff's First Request for Information  
Case No. 2024-00337

Request No. 108:

Provide any materials submitted to other permitting agencies related to this Project.

Response:

Please refer to the documents attached to the Response to Request No. 33. No other materials have been submitted to any other permitting agencies related to this Project.

Responding Witness: Chad Martin