



Medanos Solar

Champaign County Special
Use Permit

Kiera Gavin - Cultivate Power

February 16th, 2022





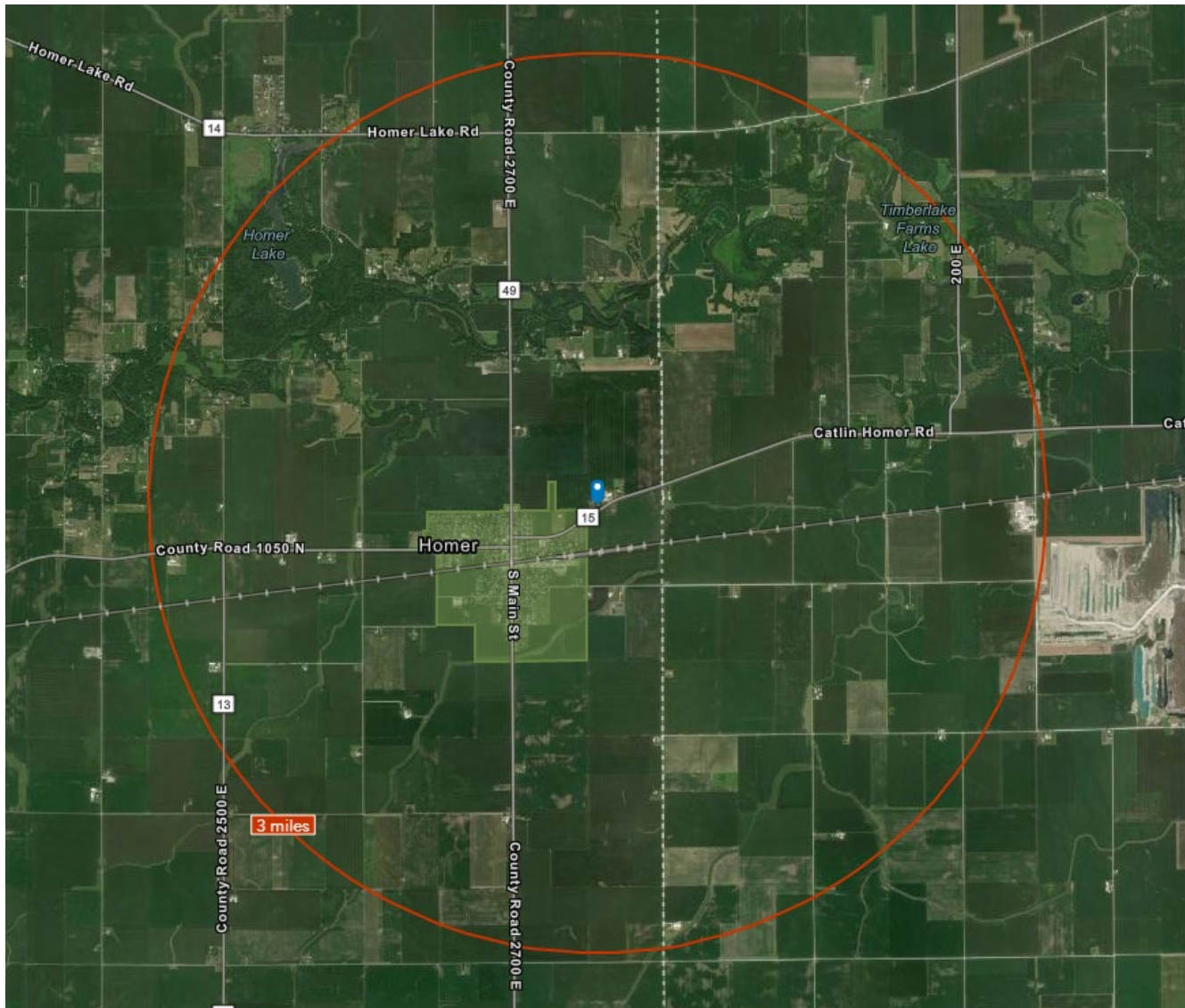
Local Demographics

Population within a 3-mile radius of the project decreased over the past 12 years and is anticipated to continue to decrease.

DEMOGRAPHIC PROFILE - MEDANOS SOLAR				
	3-Mile Radius	Champaign County	Vermilion County	Illinois
Population				
2027 Projection	1,518	208,028	70,080	12,560,734
2022 Estimate	1,544	206,681	72,344	12,740,556
2010 Census	1,658	201,081	81,625	12,830,632
Growth 2022 - 2027	-1.68%	0.65%	-3.13%	-1.41%
Growth 2010 - 2022	-6.88%	2.78%	-11.37%	-0.70%
Total Land Area	28 sq. mi.	998 sq. mi.	901 sq. mi.	57,915 sq. mi.
Population Density	55/sq. mi.	207/sq. mi.	80/sq. mi.	220/sq. mi.
Households				
2027 Projection	627	85,791	29,203	4,957,695
2022 Estimate	640	84,940	29,938	4,993,039
2010 Census	645	80,665	32,655	4,836,972
Growth 2022 - 2027	-2.03%	1.00%	-2.46%	-0.71%
Growth 2010 - 2022	-0.78%	5.30%	-8.32%	3.23%
2022 Owner Occupied (%)	85.78%	52.89%	70.08%	61.30%
2022 Renter Occupied (%)	14.22%	47.11%	29.92%	38.70%
2022 Med. Household Income	\$73,162	\$59,171	\$46,442	\$76,812
2022 Avg. Household Income	\$97,642	\$89,259	\$68,088	\$108,788

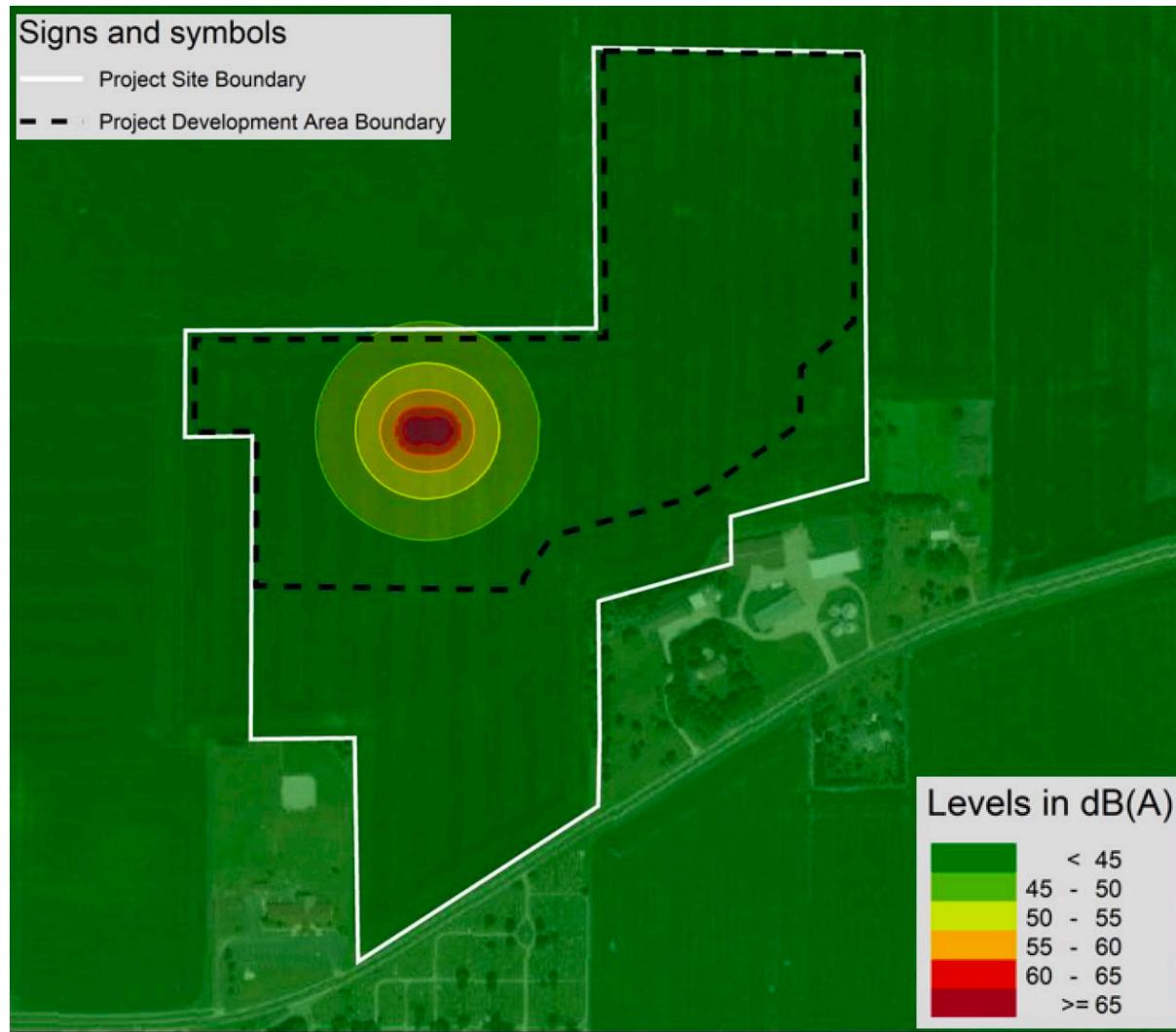
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Noise

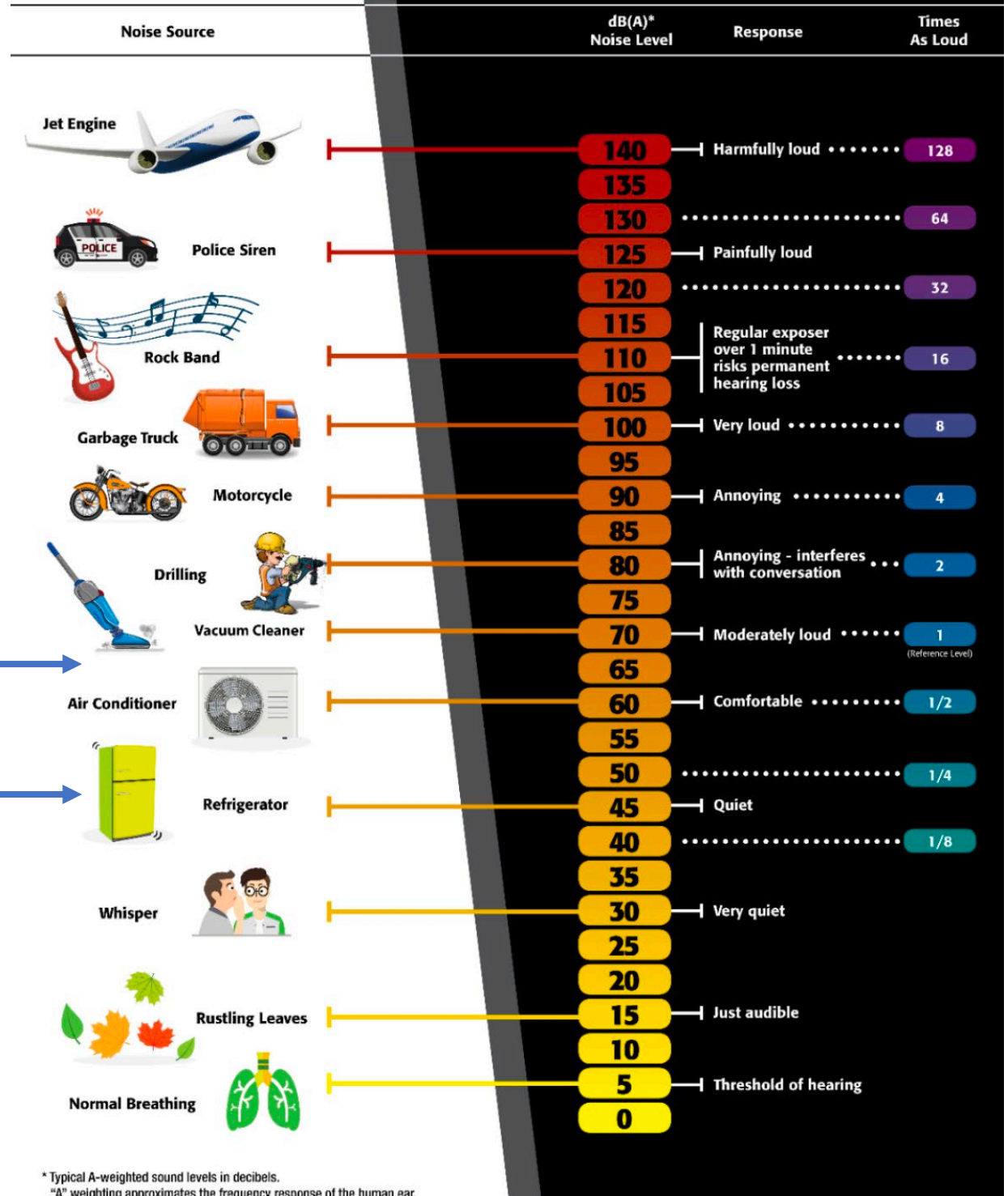
Neighbors will not be impacted by noise from the proposed solar project



Noise

The inverters are rated at 67.0 dB(A) at ~33ft, which is well inside the fence line of the project.

At southern fence line and beyond, noise levels are anticipated to be below 45 dB(A).



* Typical A-weighted sound levels in decibels.
 * "A" weighting approximates the frequency response of the human ear.

Noise

“Unmitigated hourly equivalent operational noise levels are estimated to be below approximately 45 dB(A) during daytime hours at the closest noise-sensitive land uses south of the site. Additionally, the operational noise levels are anticipated to remain below the Illinois Pollution Control Board (IPCB) allowable octave band sound pressure levels at Class A property boundaries during daytime hours; therefore, noise mitigation is not recommended at this time.”

Safety

Electromagnetic Fields (EMFs)/Radiation – **solar farms are not a strong source of EMFs**

“Someone outside of the fenced perimeter of a solar facility is not exposed to significant EMF from the solar facility. Therefore, there is no negative health impact from the EMF produced in a solar farm.”¹

- Panels themselves do not emit measurable EMI/radiation, transformers and electrical cables are not sources of EMI because of low frequency operation.²
- The inverters produce the “strongest” EMFs in a solar farm.
 - At 150 feet from the inverters, no EMFs can be detected above the earth’s magnetic field.¹
 - Inverters EMFs are comparable to that of common household appliances.²

“The strength of ELF-EMF present at the perimeter of a solar facility or near a PV system in a commercial or residential building is significantly lower than the typical American’s average EMF exposure”¹

Grade A panels, the highest quality, will be procured for all the facilities we develop. Lower grade panels are not only less resistant to the elements and surrounding environment but also at times have minor manufacturing defects that can impact production which makes them unsuitable for our installations. Solar panels approved for use in the United States are proven to be safe for solar farm and rooftop uses.

1: https://nccleantech.ncsu.edu/wp-content/uploads/2018/10/Health-and-Safety-Impacts-of-Solar-Photovoltaics-2017_white-paper.pdf

2: <https://www.nrel.gov/docs/fy17osti/67440.pdf> (NREL)

Property Values

Solar farms do not have a negative impact on adjacent property values.

“These published studies and other valuation expert opinions conclude that there is no impact to property adjacent to established solar farms. These conclusions have been confirmed by academic studies utilizing large sales databases and regression analysis investigating this uses’ potential impact on property values. Further, the conclusion has been confirmed by county assessors who have also investigated this adjacent land use’ potential impact on property values.”

SOLAR FARMS – LOCAL BENEFITS

- Locally generated energy accessible to even those who cannot participate in rooftop solar
- Subscriptions to electricity at or below market rates
- Quiet, low-maintenance, and low-impact development
- Environmentally safe and pollution-free
- Economic benefits for our landowner
- Significant property tax revenue for the community



Thank you