MAROUS & COMPANY

MARKET IMPACT ANALYSIS

MURAL ENERGY FACILITY PROJECT
VERMILION COUNTY, ILLINOIS

1550 N. NORTHWEST HIGHWAY • SUITE 401 • PARK RIDGE, ILLINOIS 60068
(847) 384-2030 • FAX (847) 692-5498 • www.marous.com
Real Estate Consultation, Appraisal & Investment Services

May 23, 2023

Algonquin Power
c/o Mural Energy Facility Project
2100 West Cypress Creek Road - Suite 130
Fort Lauderdale, Florida 33309

Attention: Kristy Ramkissoon, Renewable Development

Subject: Market Impact Analysis
Mural Energy Facility Project
Vermilion County, Illinois

Dear Ms. Ramkissoon,

In accordance with your request, the proposed development of the Mural Energy Facility Project 200-megawatt solar project in Vermilion County, Illinois, has been analyzed and this market impact analysis has been prepared.

MaRous & Company has conducted similar market impact studies for a variety of clients and for a number of different proposed developments over the last 40 years. Clients have ranged from municipalities, counties, and school districts, to corporations, developers, and citizen's groups. The types of proposals analyzed include commercial developments such as shopping centers and big-box retail facilities; religious facilities such as mosques and mega-churches; residential developments such as high-density multifamily and congregate-care buildings and large single-family subdivisions; recreational uses such as skate parks and lighted high school athletic fields; and industrial uses such as waste transfer stations, landfills, and quarries. We also have analyzed the impact of transmission lines on adjacent residential uses and a number of proposed natural gas-fired electric plants in various locations.

MaRous & Company has conducted numerous market studies of energy-related projects. The solar-related projects include the following by state:

- **Illinois** - Hickory Point Solar Energy Center in Christian County, Mulligan Solar in Logan County, Black Diamond Solar in Christian County, South Dixon Solar in Lee County, Pleasant Grove Solar in Boone County and McHenry County, Double Black Diamond Solar in Sangamon County and Morgan County, Osagrove Flats Solar in LaSalle County, Pleasant Grove Solar in McHenry and Boone County, and Blue Violet Energy Facility in Stephenson County.
- **Iowa** – Duane Arnold Solar I & II in Linn County, Creston Solar in Union County, and Weaver Solar in Lee County.
- **Indiana** - Lone Oak Solar Farm in Madison County, Hardy Hills Solar in Clinton County, and Mammoth Solar in Pulaski County and Starke County.
- **Wisconsin** - Badger Hollow Solar Farm in Iowa County, Paris Solar Energy Center in Kenosha County, Darien Solar Energy Center in Rock County and Walworth County, Grant County Solar in Grant County, Koshkonong Solar in Dane County, St. Croix Solar in St. Croix County, and High Noon Solar in Columbia County.
- **Maryland** - Dorchester County Solar Farms in Dorchester County.

- **Solar Projects of the Western Regions of the United States of America** - Arizona, Colorado, Nevada, New Mexico, and Utah in the Southwest Region; Idaho and Oregon in the Northwest Region; Texas in the Southern Great Plains Region; General Research in the Northern Great Plains Region.

The wind-related projects include the following by state:

- **Illinois** - Grand Ridge V and Otter Creek wind farms in LaSalle County, Pleasant Ridge Wind Farm in Livingston County, Walnut Ridge Wind Farm in Bureau County, McLean County Wind Farm in McLean County, Radford's Run Wind Farm in Macon County, Midland Wind Project in Henry County, Harvest Ridge Wind Project in Douglas County, Lincoln Land Wind in Morgan County, Bennington Wind Project in Marshall County, Goose Creek Wind in Piatt County, Shady Oaks II in Lee County, Osagrove Flats Wind Project in LaSalle County, and Crescent Ridge Wind Farm in McLean County.
- **Indiana** - Tippecanoe County Wind Farm in Tippecanoe County and Roaming Bison Wind Farm in Montgomery County.
- **Michigan** - Crescent Wind in Hillsdale County.
- **Ohio** - Seneca Wind in Seneca County, Republic Wind in Seneca County and Sandusky County, and Emerson Creek Wind Farm in Erie County, Huron County, and Seneca County.
- **Minnesota** - Freeborn County Wind Farm in Freeborn County, Three Waters Wind in Jackson County, Dodge County Wind in Dodge County and Steele County.
- **Iowa** - Ida County Wind Farm in Ida County, Palo Alto County Wind Farm in Palo Alto County, Worthwhile Wind in Worth County, and Three Waters Wind in Dickinson County.
- **New York** - Orangeville Wind Farm in Wyoming County and Alle-Catt Wind Farm in Allegany County, Cattaraugus County, and Wyoming County.
- **South Dakota** - Dakota Range Wind Project I, II, & III, in Codington County, Grant County, and Roberts County, Deuel Harvest Wind Farm in Deuel County, Crocker Wind Farm in Clark County, Prevailing Wind Park in Charles Mix County, Bon Homme County, and Hutchinson County, Triple-H Wind Project in Hyde County, Crowned Ridge Wind II in Codington County, Deuel County, and Grant County, Tatanka Ridge Wind Farm in Deuel County, and Sweetland Wind Farm in Hand County.
- **Kansas** - Neosho Ridge Wind Farm in Neosho County and Jayhawk Wind in Bourbon County and Crawford County.

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Project Summary

Project Information	
Property Name	Mural Energy Facility Project
Location	Vermilion County, Illinois
Townships	Jamaica, Vance
Property Type	Solar Farm
Project Developer	Algonquin Power
Solar Farm Description	
Project Area Land Acreage	≈ 65,178 Acres
Actual Acreage used by Panels	≈ 1,443 Acres
Panel Height (Min/Max)	Max: ≈ 18 Feet Min: ≈ 18 Inches
Total Capacity	≈ 200 Megawatts
Setbacks	⁘ 250 Feet - Non-participating residence from inverters ⁘ 150 Feet - Transmission line ⁘ 100 Feet - Non-participating residence from panels ⁘ 66 Feet - Distribution line ⁘ 50 Feet - Non-participating property lines, Public Road, Wetlands and Waters of the US
Number of Participants	≈ 33 Landowners
Project Area Population Density	≈ 1.8 Persons Per Square Mile
Ancillary Construction	
Collection Substation	Gravel access roads
Underground collection lines	Power conversion stations
Security fencing	Operations and maintenance building
Temporary construction areas	
Total Project Cost *(Wind & Solar Development)*	≥ $600,000,000

Purpose and Intended Use of the Study

The purpose of this appraisal assignment is to analyze the potential impact, if any, on the value of the surrounding residential properties of the development of the proposed Mural Energy Facility Project. The report is intended specifically for the use of the client for the proposed Mural Energy Facility Project. Any other use or user of this report is considered to be unintended.

Executive Summary

As a result of the market impact analysis undertaken, the conclusion made is that there is no market data indicating the project will have a negative impact on either rural residential or agricultural property values in the surrounding area. Further, market data from Illinois, specifically, supports the conclusion that the project will not have a negative impact on rural residential or agricultural property values in the surrounding area. For agricultural properties that host photovoltaic panels, the additional income from the solar lease may increase the value and marketability of those properties. These conclusions are based on the following:

- The use will meet or exceed all the required development and operating standards.
- Controls are in place to ensure on-going compliance.
- There are significant financial benefits to the local economy and to the local taxing bodies from the development of the solar farm.
- The solar farm will create well-paid jobs in the area which will benefit overall market demand.
- The finding of fact provided by the Public Service Commission of Wisconsin for the application for a Certificate of Public Convenience and Necessity of Badger Hollow Solar Farm LLC in Iowa County, Wisconsin on property value impacts expressed that negative impact concerns cannot be substantiated.
- The finding of fact provided by the Public Service Commission of Wisconsin for the application for a Certificate of Public Convenience and Necessity of Darien Solar Energy Center, LLC in Walworth County, Wisconsin on property value impacts expressed that negative impact concerns cannot be substantiated.
- The finding of fact provided by the Public Service Commission of Wisconsin for the application for a Certificate of Public Convenience and Necessity of Grant County Solar, LLC in Grant County, Wisconsin on property value impacts expressed that negative impact concerns cannot be substantiated.
- The finding of fact provided by the Public Service Commission of Wisconsin for the application for a Certificate of Public Convenience and Necessity of Paris Solar Farm LLC in Kenosha County, Wisconsin on property value impacts expressed that negative impact concerns cannot be substantiated.

- The finding of fact provided by the Public Service Commission of Wisconsin for the application for a Certificate of Public Convenience and Necessity of Two Creeks Solar LLC in Manitowoc County, Wisconsin on property value impacts expressed that there are no negative impacts anticipated.
- An analysis of recent residential sales proximate to existing solar farms in Illinois and other states, which includes residential sales as close as 370 feet to photovoltaic panels, did not support any finding that proximity to a photovoltaic panel had any impact on property values.
- An in-depth analysis of recent residential sales proximate to the existing solar farms in North Branch, Minnesota; in Elizabeth City, North Carolina; and in Goldsboro, North Carolina; which includes residential sales within approximately 5,500 feet, and as close as 165 feet to photovoltaic panels, did not support any finding that proximity to a photovoltaic panel had any impact on property values.
- An analysis of agricultural land values in the area and in other areas of Illinois with solar farms did not support any finding that the agricultural land values are negatively impacted by the proximity to photovoltaic panels.
- Studies indicate that solar farm leases add value to agricultural land.
- A survey of County Assessors in 6 counties within Illinois in which solar farms are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a solar farm, and that there were no reductions in assessed valuations.
- A survey of Township Assessors within 20 counties in Michigan in which solar farms are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a solar farm, and that there were no reductions in assessed valuations.
- A survey of County Assessors in 11 counties within Wisconsin in which solar farms are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a solar farm, and that there were no reductions in assessed valuations.
- A survey of County Assessors in 9 counties within Indiana in which solar farms are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a solar farm, and that there were no reductions in assessed valuations.
- A survey of County Assessors in 7 counties within Iowa in which solar farms are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a solar farm, and that there were no reductions in assessed valuations.

- A survey of County Assessors in 5 counties within North Carolina in which solar farms are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a solar farm, and that there were no reductions in assessed valuations.
- A survey of County Assessors in 13 counties within Maryland in which solar farms are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a solar farm, and that there were no reductions in assessed valuations.
- An analysis and comparison of solar energy production facilities to wind energy production facilities describing the similarities in economic benefits and similarities in lack of any support for finding that residential or agricultural land values are negatively impacted by the proximity to photovoltaic panels and wind turbines.

Definition of Market Value

When discussing market value, the following definition is used:

The most probable price a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

- Buyer and seller are typically motivated.
- Both parties are well informed or well advised and acting in what they consider their own best interests.
- A reasonable time is allowed for exposure in the open market.
- Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto.
- The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.[1]

Scope of Work and Reporting Process

Information was gathered concerning the real estate market generally and the market of the area surrounding the project specifically. The uses in the surrounding area were considered. The following summarizes the actions taken:

- Review of the Vermilion County Public Documents and map.
- Review of the project's supporting documents provided by Mural Energy Facility Project LLC.
- Review of the demographics in the area of the proposed solar farm.
- Data on the general market area of the solar farm, and on the other areas in Illinois and/or Vermilion County in which existing solar farms are located.
- Data on the market for single-family houses in the immediate area of the proposed solar farm and from other areas in the county from private sources, public sources, and sources from the Vermilion County and/or Illinois public records.
- Illinois and other Midwestern real estate professionals were interviewed concerning recent sales in their area, local market conditions, and the impact of solar farms on property values in the area.
- Properties used for development of the matched pairs were physically inspected by MaRous & Company on the exterior, and photographs of the interiors were reviewed where available.
- Inspections were performed of the subject area and the areas in nearby counties with existing solar farms by Michael S. MaRous on March 12, 2023.

This document is considered to conform to the requirements of the *Uniform Standards of Professional Appraisal Practice and Advisory Opinions* (USPAP). This letter is a brief recapitulation of the appraisal

[1] *(12 C.F.R. Part 34.42(g); 55 Federal Register 34696, August 24, 1990, as amended at 57 Federal Register 12202, April 9, 1992; 59 Federal Register 29499, June 7, 1994)*

data, analyses, and conclusions; additional supporting documentation is retained in the MaRous & Company office file. There are no extraordinary assumptions or hypothetical conditions included in the market study.

In order to form a judgment concerning the potential impact, if any, on the value of the surrounding residential properties of the approval of the conditional use for the solar farm, the following have been considered:

- The character and the value of the residential and agricultural properties in the general area of the proposed solar farm.
- Agricultural land values in Vermilion County, and in other Illinois counties in which solar farms are located.
- Market trends for both residential and agricultural land within the market area up to the past 5 years.
- The economic impact on the larger community by the proposed solar farm.
- The impact on the value of the surrounding residential and agricultural properties by the proposed solar farm.

Description of Area Demographics and Development Area Analysis

Mural Energy Facility Project Location	
Homer, Illinois	
2010 Population	1,140 Persons
2022 Population	1,064 Persons
Median Household Income in 2022	$72,076
Number of Households in 2022	1,183 Households
Number of Housing Units in 2022	455 Units
Number of Vacant Housing Units in 2022	504 Units
Unemployment Rate 2022	2.6%
Fairmount, Illinois	
2010 Population	654 Persons
2022 Population	613 Persons
Median Household Income in 2022	$50,985
Number of Households in 2022	249 Households
Number of Housing Units in 2022	275 Units
Number of Vacant Housing Units in 2022	26 Units
Unemployment Rate 2022	1.9%
Sidell, Illinois	
2010 Population	593 Persons
2022 Population	471 Persons
Median Household Income in 2022	$48,185
Number of Households in 2022	185 Households
Number of Housing Units in 2022	206 Units
Number of Vacant Housing Units in 2022	21 Units
Unemployment Rate 2022	4.6%
Townships – *Jamaica, Vance*	
2010 Population	1,294 Persons
2022 Population	1,211 Persons
Median Household Income in 2022	$56,522
Number of Households in 2022	483 Households
Number of Housing Units in 2022	533 Units
Number of Vacant Housing Units in 2022	50 Units
Unemployment Rate 2022	2.5%
Vermilion County, Illinois	
2010 Population	81,625 Persons
2022 Population	72,344 Persons
Median Household Income in 2022	$46,442
Number of Households in 2022	29,938 Households
Number of Housing Units in 2022	34,140 Units
Number of Vacant Housing Units in 2022	4,202Units
Unemployment Rate 2022	4.2%
Main Roadway Arterials	
North/South	IL-49 extends east of the footprint
East/West	US-150 extends north of the footprint

Nearest Cities within the Market Area of Mural Energy Facility Project	
Georgetown, Illinois ≈ 9 Miles East of Project Footprint	
2010 Population	3,491 Persons
2022 Population	3,034 Persons
Olivet, Illinois ≈ 9 Miles Southeast of Project Footprint	
2010 Population	384 Persons
2022 Population	319 Persons
Broadlands, Illinois ≈ 9 Miles Southwest of Project Footprint	
2010 Population	341 Persons
2022 Population	322 Persons
Ridge Farm, Illinois ≈ 11 Miles Southeast of Project Footprint	
2010 Population	895 Persons
2022 Population	771 Persons
Danville, Illinois ≈ 12 Miles Northeast of Project Footprint	
2010 Population	32,695 Persons
2022 Population	28,511 Persons
Urbana, Illinois ≈ 18 Miles Northwest of Project Footprint	
2010 Population	41,421 Persons
2022 Population	38,658 Persons
Champaign, Illinois ≈ 20 Miles Northwest of Project Footprint	
2010 Population	81,784 Persons
2022 Population	88,668 Persons

Site to do Business - *https://www.stdb.com/*

Top Employers Near Vermilion County, Illinois	
Business Name	**Business Type**
Vermilion County Public Schools & District 118	Education
Veteran's Affairs Illiana Health Care System	Health Care
McLane Midwest Company	Logistics
OSF HealthCare Sacred Heart Medical Center	Health Care
AutoZone	Auto Parts
Blue Cross Blue Shield	Insurance
Vermilion County Government	Government
Quaker Oats	Food Manufacturing
thyssenkrupp Crankshaft	Manufacturing
Carle Physician Group	Health Care

Major Employers - *https://www.vermilionadvantage.com/vermilion-county/#employers*

Operating Solar Farms in Proximity to Vermilion County

The closest operating solar farms to the proposed project include Olmstead II CSG Solar Farm in Lena, Illinois, and has a total capacity of approximately 2.7 megawatts and came online in 2019. Kent School Solar 1 in Lena, Illinois, has a total capacity of approximately 2.7 megawatts and came online in 2019. Grand Ridge Solar Farm in Streator, Illinois, has a total capacity of approximately 20 megawatts and came online in 2012. Phoenix Solar South Farms in Champaign, Illinois, has a total capacity of approximately 4.7 megawatts and came online in 2015. Rantoul Solar has approximately 1 megawatt and is located in Rantoul, Illinois. The next closest solar farms are the McDonald Solar Farm, Pastime Farm, and Sullivan Solar, all located near Terre Haute, Indiana. The McDonald Solar Farm has a total capacity of approximately 5 megawatt and came online in 2015. Pastime Farm has a total capacity of approximately 5 megawatt and came online in 2015. Sullivan Solar has a total capacity of approximately 5 megawatt and came online in 2016.

Residential Sales Nearest to the Project Area

Like many areas of Illinois, this area is primarily rural in nature. In addition to farms, there are single-family houses situated on either smaller lots or larger farmsteads. The following table summarizes a sample of recent sales of these types of residences in the general area of the proposed Mural Energy Facility Project which consisted of sales that had consistent data across private and public sources. A map illustrating the location of each of these sales is included in the addenda to this market impact study.

MOST RECENT SINGLE-FAMILY RESIDENTIAL SALES SUMMARY
NEAREST TO THE FOOTPRINT OF MURAL ENERGY FACILITY PROJECT

No.	Location	Sale Price	Sale Date	Site Size (Acres)	Year Built	Building Size (Sq. Ft.)	Sale Price Per Sq. Ft. of Bldg. Area Incl. Land
1	13688 N. 130 East Rd. Homer, IL 61849	$120,000	2/24/21	5.25	1952	1,560	$76.92
2	2566 E. 1050 North Rd. Fairmount, IL 61841	$185,000	12/15/20	7.60	1927	1,993	$92.82
3	8366 E. 850 North Rd. Fairmount, IL 61850	$185,000	8/23/22	3.02	1972	1,876	$98.61
4	5764 E. 200 North Rd. Sidell, IL 61876	$202,500	9/16/22	2.60	1981	1,925	$105.19
5	6270 N. 600 East Rd. Sidell, IL 61876	$222,000	3/9/20	4.42	2006	2,072	$107.14
6	6270 N. 600 East Rd. Sidell, IL 61876	$240,000	6/21/21	4.42	2006	2,072	$115.83
7	14131 N. Eighty East Rd. Homer, IL 61849	$295,000	4/20/22	1.45	1993	2,112	$139.68

The above table outlines the recent single-family residential sales in and around the project area that were performed under the definition of market value. Some of the remaining single-family residential sales discovered in the project area were bought and sold between related parties and cannot be considered to be sold at arm's length; and therefore, do not conform to the definition of market value.

Project Description

The project currently proposes to generate approximately 200 megawatts within a total land acreage of approximately 1,443 acres from 3-foot to 5-foot-tall photovoltaic panels. The proposed project will include solar energy development and wind energy development. The solar energy portion of the project will use approximately 1,443 acres of the total 65,178-acre footprint. The proposed project area is described in a map in the addenda to this market study.

Ancillary construction includes gravel-covered access roads, collection substation, Power conversion stations, underground collection lines, an operations and maintenance building, temporary construction areas, site security, and approximately 8-foot-tall fencing. Agreements with Vermilion County and with townships impacted will identify roads to be used, and to repair any damage caused by the project. All standard Vermilion County building setback requirements will be met.

Project Benefits

Taxes	
Property Taxes	Property taxes from both the wind and solar projects of Mural Energy Facility Project are currently estimated to be approximately $4,500,000 per year over the life of the project.
Beneficiaries	County, Townships, School Districts, First Responders
Land Agreements	
Participating Landowner Lease Payments	Lease payments will be made to participating landowners
Job Creation	
Temporary/Construction	300-400 Construction Jobs
Permanent	10-12 Permanent Jobs
Induced Impacts due to Construction	
Indirect Impacts	Permit payments to the county and anticipated increase in household spending to local businesses, as well as spending from the construction workers who will require services and supplies

Factors that Affect Property Values Considered

- Appearance
  - Utility-grade solar farms have a passive use of the land they occupy and are compatible with rural or agricultural uses in their immediate area. Solar panels, typically, have a low-profile with a height of up to 15 feet causing the visual impact from street level to be minimal. Fencing is commonly utilized around a solar facility. Below you will see photographs of other common agricultural structures, such as ethanol plants, grain storage facilities, commercial greenhouses, hog farms, dairy farms, poultry farms, wind farms, and solar farms.

Ethanol Plant

Grain Storage Facility

Commercial Greenhouse

Hog Farm

Dairy Farm

Poultry Farm

Quarry

Wind Farm

Solar Farm

- Environment & Sustainability[2]
  - "Solar technologies offer a number of environmental benefits, including the reduction of greenhouse gas emissions and waste in comparison to fuel-based energy sources. [Environmental conditions], sustainability, and recycling are all concerns of the solar industry, which is taking steps to address environmental issues through the lifecycle of solar products."

[2] *Environment & Sustainability.* https://www.seia.org/initiative-topics/environment

- "Solar energy plays an important role in transitioning the U.S. to a low-carbon, sustainable future. Solar energy technologies can provide innovative, cost-effective solutions to reduce emissions in a number of sectors of the economy."

- Noise and Odor
  - Photovoltaic panels do not emit sound. However, the Power Conversion Stations, tracking system motors, and main transformer are audible, yet produce a very low sound output. Solar farms do not produce any odor.
    - A separate noise analysis will be conducted, and all anticipated noise levels from the project operation will fall well within the acceptable noise threshold.
- Traffic
  - Due to the low maintenance requirements of solar farms, there is an insignificant amount of traffic that is associated with operational solar farms.
- Hazardous Materials
  - Solar farms are reported to not produce any hazardous materials, toxins, or associated odors.
- Public Services
  - Infrastructure Benefits
    - Development of solar farms positively impacts the resiliency of the power grid. Further, building utility scale solar farms increases the need for local construction workers. Solar farms also pay significant taxes that go to the surrounding community to improve existing infrastructure.
  - Schools
    - Taxes paid by solar farms can benefit schools with greater funding. As well as funding, they do not add extra students to the classrooms causing overcrowding, such as a residential development that would add new families and students.
  - Public Safety
    - The taxes paid by solar farms can also benefit public safety concerns by adding funding to first responder departments. This funding could add benefit by giving more opportunities for training, allow for better equipment, upgrade existing departments, and create higher salaries.

Market Impact Analysis

A market impact analysis is undertaken to develop an opinion as to whether the existing solar farm will have an effect on the value of residential uses and/or agricultural land in proximity to the solar panels. This analysis includes:

- A matched pair analyzing the impact on value of residential properties proximate to solar farms in Illinois, as well as matched pairs developed in counties with similar demographics, land use, and economic characteristics of other states with a presence of solar energy, specifically, Indiana, Iowa, Michigan, Minnesota, and Arizona.
- Property value analysis near existing solar energy in other states, specifically, Minnesota and North Carolina.
- The value of agricultural land near the project area in Vermilion County.
- The results of a survey of assessors in Illinois, Michigan, Wisconsin, Indiana, Iowa, North Carolina, and Maryland with existing solar farms with a capacity over 1 megawatt in their respective jurisdictions.
- Interviews of local real estate professionals concerning solar farms.
- The results of a survey of assessors in Illinois, Indiana, Michigan, South Dakota, Minnesota, and Iowa with existing wind farms with over 25 turbines in their respective jurisdictions.
- Interviews of local real estate professionals concerning solar farms.
- The results of several academic and peer-reviewed studies of the impact of solar panels and wind turbines on residential property values.

Matched Pair Analysis

A matched pair analysis is a methodology which analyzes the importance of a selected characteristic, in this instance proximity to a photovoltaic panel, to the value of a property.[3] This technique compares the sale of a property in proximity to the selected characteristic to the sale of a similar property in the same market area and under similar market conditions but without the proximity to the selected characteristic.

It is difficult to find properties that are identical except for proximity to a photovoltaic panel, and which sales also occurred under substantially similar market conditions, especially in rural areas. The residences included in this study were discovered in private sources, including but not limited to Zillow.com and Realtor.com, then confirmed by the corresponding municipality/county public records.

Adjustment grids are included with each matched pair analysis to compare each variable of sale. The adjustment comparisons in the following analyses are qualitative. A qualitative analysis involves using quality ratings based on how the non-proximate sales compare to the proximate sales and does not require using dollar adjustments.[4] The non-proximate sales are adjusted with the notations of superior (-), similar (o), and inferior (+). The superior variables are given downward adjustments to meet the related variables of the proximate residences. The similar variables do not require adjustments. The inferior variables are given upward adjustments in order to meet the related variables of the proximate residences.

Due to the lack of larger solar farms in Illinois, a sales analysis of properties proximate to established solar farms in other states, specifically Wisconsin, Illinois, Indiana, Minnesota, and Arizona, was conducted to further analyze any potential impact on value to residential properties proximate to solar farms. The additional analysis of Minnesota and North Carolina solar farms is in the section following the matched pair analysis.

[3] *See the discussion "Paired Sales Analysis" and "Sale/Resale Analysis" in Bell, Randall, MAI, Real Estate Damages, Applied Economics and Detrimental Conditions, Second Edition, Appraisal Institute, 2008, pages 25-27. The ideal is to review a sale and resale of a property in proximity to a selected characteristic, to compare it to a sale and resale of a similar property without such proximity, and to then analyze whether the proximity to the selected characteristic influenced the change in value. However, in rural areas it usually is not possible to find data for this type of "pure pair" analysis.*

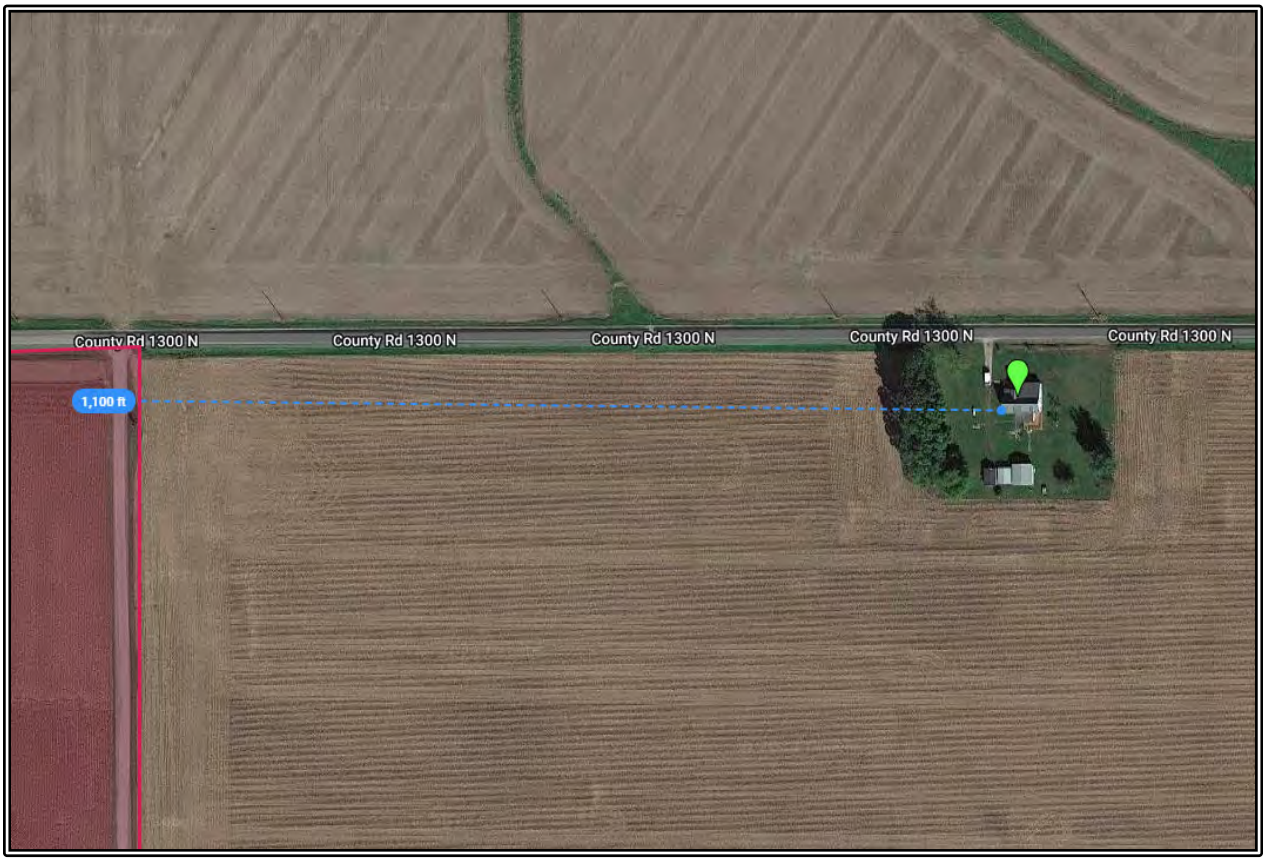
[4] *Horn, T. (2015, September 3). What qualitative analysis is and how agents can use it to price their listings • Birmingham Appraisal Blog. Retrieved from https://birminghamappraisalblog.com/appraisal/what-qualitative-analysis-is-and-how-agents-can-use-it-to-price-their-listings/*

Illinois Analysis - Logan County Matched Pair No. 1

Logan County, Illinois, is located in the central region of Illinois. Matched Pair #1 considers the sale of a property near the footprint of the Mulligan Solar in Logan County, which has been operational since 2022 and generates approximately 92 megawatts of power. A house located at 869 County Road 1300 N, Lincoln, Illinois, was sold in July 2020. This house is approximately 1,100 feet from the Mulligan Solar, and the existence of the project footprint was known at the time of the sale.

This sale is compared with a similar property located at 615 1200th Street, Middletown, Illinois, that sold in October 2021. It is not located near photovoltaic panels. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 869 County Road 1300 N property to the closest solar farm footprint.



LOGAN COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Solar Farm	**1B - Not Proximate to a Solar Farm**
Address	869 County Rd. 1300 N Lincoln, IL 62656	615 1200th St. Middletown, IL 62666
Distance from Solar Farm (Ft.)	1,100	N/A
Sale Date	July 21, 2020	October 4, 2021
Sale Price	$140,000	$138,500
Sale Price/Sq. Ft. (A.G.)	$65.18	$44.68
Year Built	1900	1969
Building Size (Sq. Ft.)	2,148	3,100
Lot Size (Acres)	1.00	1.46
Style	Two-story; frame (vinyl) 3 bedrooms, 2 bath	One-story; frame (stucco/metal/brick) 4 bedrooms, 3 bath
Basement	Partial, unfinished	N/A
Utilities	Central air Forced-air heat Well & septic	Central air, solar cooling Radiant, forced-air heat Well & septic
Other	2-car detached garage 1-car detached garage Carport Deck, 3-season porch	2-car attached garage Porch, patio

869 County Road 1300 N

615 1200th Street

Both properties have similar lot sizes, are similar in location, and have similar building styles. The 869 County Road 1300 N property is superior to the 615 1200th Street property in basement and outbuildings, yet the 615 1200th Street property has slightly superior market conditions, vintage, building size, and utilities to the 869 County Road 1300 N property.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	615 1200th St. Middletown, IL 62666	-	-	-	o	o	o	+	-	+

\+ Positive adjustment based on comparable being inferior in comparison to property #1A
\- Negative adjustment based on comparable being superior in comparison to property #1A
o No adjustment necessary

Upward adjustments are made to the 615 1200th Street property for superior basement and outbuildings of the 869 County Road 1300 N property. Downward adjustments are made for the superior market condition, vintage, building size, and utilities of the 615 1200th Street property compared to those features of the 869 County Road 1300 N property. The two properties are essentially similar lot sizes, are located in a similar area, and have similar building styles. Although the 615 1200th Street property gives the impression of being superior, the per square foot sale price for the 869 County Road 1300 N property appears to be higher than the per square foot sale of the 615 1200th Street property, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 869 County Road 1300 N property to a solar farm.

Illinois Analysis - LaSalle County Matched Pair No. 1

LaSalle County, Illinois, is located in the northeast region of Illinois. Matched Pair #1 considers the sale of a property in the footprint of the Grand Ridge Solar Farm in LaSalle County, which has been operational since 2012 and generates approximately 20 megawatts of power. A house located at 2098 North 15th Road, Streator, Illinois, sold in October 2016. This house is approximately 485 feet from the nearest photovoltaic panel.

This sale is compared with a similar property located at 1794 East 1391st Road, Streator, Illinois, that sold in October 2010. It is not located near photovoltaic panels. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 2098 North 15th Road property to the closest photovoltaic panels.

LaSALLE COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Photovoltaic Panel	**1B - Not Proximate to a Photovoltaic Panel**
Address	2098 N. 15th Rd. Streator, IL 61364	1794 E. 1391st Rd. Streator, IL 61365
Distance from P.V. Panel (Ft.)	485	N/A
Sale Date	October 31, 2016	October 21, 2010
Sale Price	$186,000	$151,000
Sale Price/Sq. Ft. (A.G.)	$79.90	$85.31
Year Built	1997	1994
Building Size (Sq. Ft.)	2,328	1,770
Lot Size (Acres)	2.00	0.76
Style	One-story; frame (vinyl) 3 bedrooms, 4 bath	One-story; frame (vinyl/metal/brick) 3 bedrooms, 2.5 bath
Basement	Full, unfinished, walkout	Crawlspace
Utilities	Central air forced-air heat well & septic	Central air propane, forced-air heat well & septic
Other	3-car attached garage three-season room corner lot	2-car attached garage above-ground pool deck

2098 North 15th Road

1794 East 1391st Road

Both the 15th Road property and the 1391st Road property are one-story ranch style houses however, the 15th Road property is superior to the 1391st Road property because it has a full, walkout basement. In the case of the outbuildings, the 15th Road property is superior with a three-car attached garage and a three-season room compared to the 1391st Road property with a two-car attached garage and an above-ground pool. The superiority of the 15th Road outbuildings requires an upward adjustment to the 1391st Road property. Both properties are considered to be of similar vintage, and both are considered to be in normal condition by the LaSalle County Assessor. An upward adjustment of 1391st Road is required for the superior market conditions of the 15th Road property. The 15th Road property is situated on a larger lot than that of the 1391st Road property requiring an upward adjustment; however, both lots are surrounded by agricultural and pastureland, which mitigates the size differential to some degree.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	1794 E. 1391st Road Streator, Illinois	+	o	+	+	o	o	+	o	+

\+ Positive adjustment based on comparable being inferior in comparison to property #1A
\- Negative adjustment based on comparable being superior in comparison to property #1A
o No adjustment necessary

Considering the adjustments noted in the above table for the inferior market conditions and outbuildings of the 1391st Road property, the difference in the sale price does not support the conclusion that proximity to the photovoltaic panels had a negative impact on the value of the 15th Road property.

Illinois Analysis - Perry County Matched Pair No. 1

Perry County, Illinois, is located in the southwest region of Illinois. Matched Pair #1 considers the sale of a property near the footprint of the Prairie State Solar Farm in Perry County, which has been operational since 2021 and generates approximately 99 megawatts of power. A house located at 955 Violet Road, Coulterville, Illinois, was sold in June 2020. This house is approximately 2,530 feet from the nearest photovoltaic panel of the Prairie State Solar Farm, and the existence of the project footprint was known at the time of the sale.

This sale is compared with a similar property located at 4632 Swanwick-Rice Road, Pinckneyville, Illinois, that was sold in July 2020. It is not located near photovoltaic panels. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 955 Violet Road property to the closest photovoltaic panels.

PERRY COUNTY MATCHED PAIR NO. 1

	1A - Proximate to a Photovoltaic Panel	1B - Not Proximate to a Photovoltaic Panel
Address	955 Violet Rd. Coulterville, IL 62237	4632 Swanwick-Rice Rd. Pinckneyville, IL 62274
Distance from P.V. Panel (Ft.)	2,530	N/A
Sale Date	June 30, 2020	July 24, 2020
Sale Price	$240,000	$230,000
Sale Price/Sq. Ft. (A.G.)	$84.54	$59.90
Year Built	1980	2004
Building Size (Sq. Ft.)	2,839	3,840
Lot Size (Acres)	2.01	7.00
Style	1.5-story; frame (vinyl) 4 bedrooms, 2.1 bath	One-story; frame (vinyl) 4 bedrooms, 2.2 bath
Basement	N/A	Full, partially finished, walkout
Utilities	Central air Forced-air heat Public water & septic	Central air Forced-air heat Well & septic
Other	4-car attached garage Machine shed, shed In-ground pool, pool house Patio, porch	2-car detached garage Machine shed Pond frontage, above-ground pool Porch, deck, patio

955 Violet Road

4632 Swanwick-Rice Road

Both properties were sold in similar market conditions, similar in location, similar building styles, and have similar utilities. The 4632 Swanwick-Rice Road property is superior to the 955 Violet Road property in vintage, in building size, lot size, and basement, yet the 955 Violet Road property has slightly superior outbuildings to the 4632 Swanwick-Rice Road property.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	4632 Swanwick-Rice Rd. Pinckneyville, IL 62274	o	-	-	-	o	o	-	o	+

\+ Positive adjustment based on comparable being inferior in comparison to property #1A
\- Negative adjustment based on comparable being superior in comparison to property #1A
o No adjustment necessary

Upward adjustments are made to the 4632 Swanwick-Rice Road property for superior outbuildings of the 955 Violet Road property. Downward adjustments are made for the superior vintage, building size, lot size, and basement of the 4632 Swanwick-Rice Road property compared to those features of the 955 Violet Road property. The two properties are essentially similar in market conditions, location, building style, and utilities. Although the 4632 Swanwick-Rice Road property gives the impression of being superior, the per square foot sale price for the 955 Violet Road property appears to be higher than the per square foot sale of the 4632 Swanwick-Rice Road property, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 955 Violet Road property to a photovoltaic panel.

Matched Pair Analysis- Wisconsin, Iowa, Indiana, Michigan, Minnesota, and Arizona

In addition to analyzing sales in the subject project area, we have researched sales in proximity to several existing solar farms in rural areas of Wisconsin, Iowa, Indiana, Michigan, Minnesota, and Arizona in order to discover whether residential property values in these areas were impacted by their locations. The following are the results of the most recent of these studies.

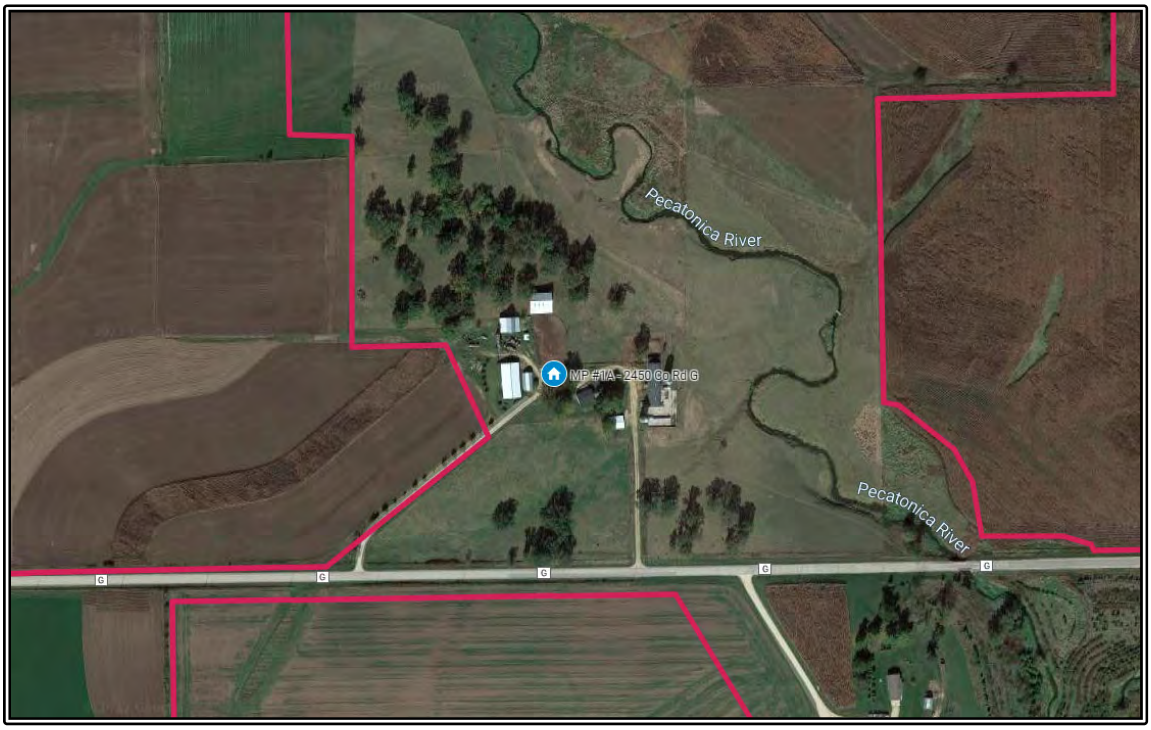
As with the research from Illinois, details of these sales are retained in our office files; maps in the addenda to this report illustrate the location of these matched pairs. Unless otherwise indicated, none of the purchasers in these transactions appear to own any other property in proximity, and none of the transactions appear to have a solar panel lease associated with the property.

Wisconsin Analysis - Iowa County Matched Pair No. 1

Matched Pair #1 considers the sale of a property near the footprint of Badger Hollow Solar in Iowa County, which has been operational since 2021 and generates approximately 300 megawatts of power. A house located at 2450 County Road G, Montfort, was sold in June 2021. This house is approximately 270 feet from the nearest photovoltaic panel.

This sale is compared to two prior sales of the property, that were sold in June 2018 and April 2010. The property was not located near photovoltaic panels at the time of either sales. The salient details of these three sales of the property are summarized in the table below.

The following aerial map illustrates the relationship of the 2450 County Road G property to the closest photovoltaic panels.



IOWA COUNTY MATCHED PAIR NO. 1

	1A - Proximate to a Photovoltaic Panel	1B – Prior Sale	1C – Prior Sale
Address	2450 County Road G Montfort, WI 53569	2450 County Road G Montfort, WI 53569	2450 County Road G Montfort, WI 53569
Distance from P.V. Panel (Ft.)	270	N/A	N/A
Sale Date	June 11, 2021	June 6, 2018	April 8, 2010
Sale Price	$493,000	$400,000	$255,000
Sale Price/Sq. Ft. (A.G.)	$152.35	$123.61	$78.80
Year Built	1962	1962	1962
Building Size (Sq. Ft.)	3,236	3,236	3,236
Lot Size (Acres)	52.25	52.25	52.25
Style	One-story; frame (vinyl) 3 bedrooms, 2.1 bath	One-story; frame (vinyl) 3 bedrooms, 2.1 bath	One-story; frame (vinyl) 3 bedrooms, 2.1 bath
Basement	Partial, partially finished, walkout	Partial, partially finished, walkout	Partial, partially finished, walkout
Utilities	Forced-air heat Propane heat Well and Septic	Forced-air heat Propane heat Well and Septic	Forced-air heat Propane heat Well and Septic
Other	2-Car Attached Garage Barns, Machine Shed, Silo Riverfront and Horse Pasture	2-Car Attached Garage Barns, Machine Shed, Silo Riverfront and Horse Pasture	2-Car Attached Garage Barns, Machine Shed, Silo Riverfront and Horse Pasture

2450 County Road G

The property is similar throughout each sale year in vintage, building size, lot size, location, building style, basement, utilities, and outbuildings. The 2021 sale was performed in superior market conditions to the 2018 and 2010 sales.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B/1C	2450 County Road G Montfort, WI 53569	+	o	o	o	o	o	o	o	o

\+ Positive adjustment based on comparable being inferior in comparison to property #1A
\- Negative adjustment based on comparable being superior in comparison to property #1A
o No adjustment necessary

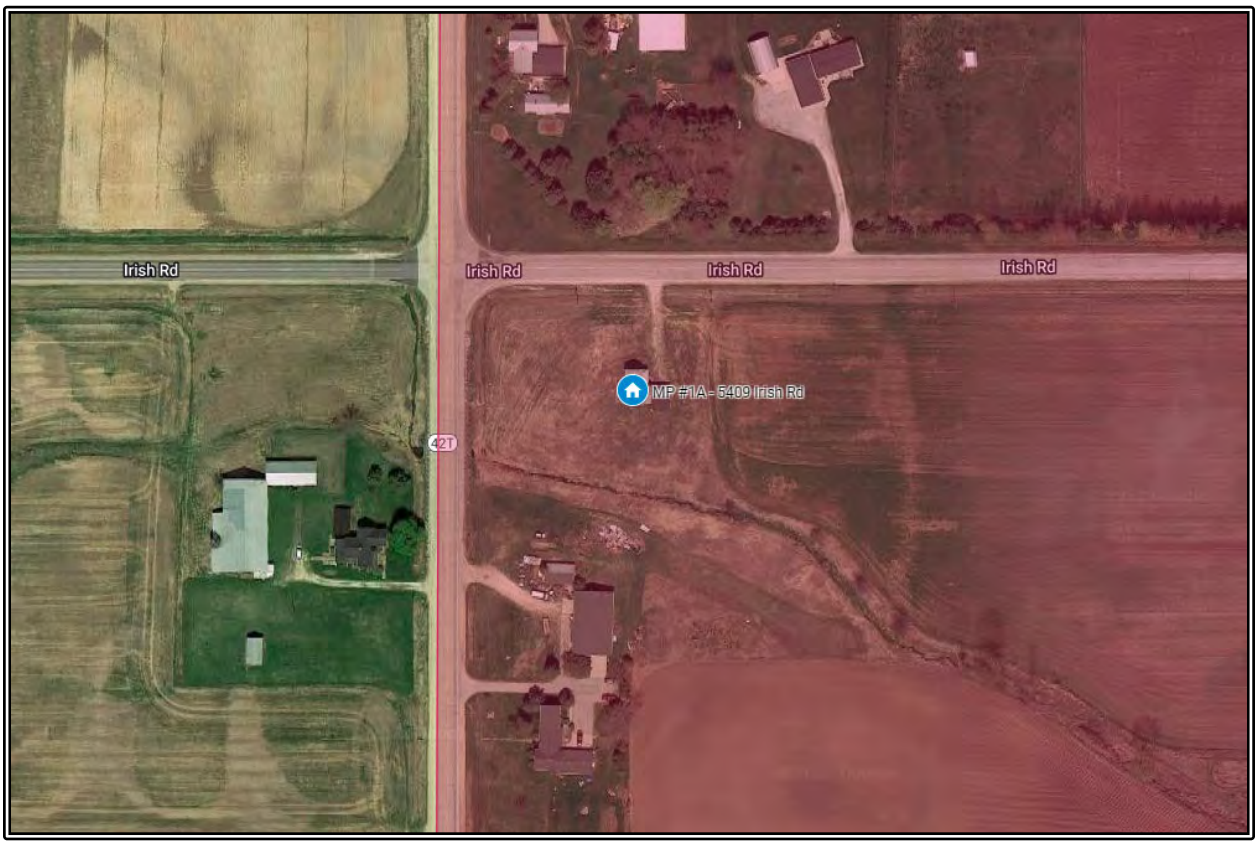
Upward adjustments are made to the 2018 and 2010 sales of the 2450 County Road G property for the slightly superior market conditions of the 2021 sale of the 2450 County Road G property. The three sales of the property have essentially the same sale date, building size, lot size, location, building style, basement, utilities, and outbuildings. The 2021 sale of the 2450 County Road G property gives the impression of being only slightly superior to the 2018 and 2010 sales of the 2450 County Road G property, however, the per square foot sale price for the 2021 sale of the 2450 County Road G property appears to be significantly higher than the per square foot sale price of the 2018 and 2010 sales of the 2450 County Road G property, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 2450 County Road G property to a photovoltaic panel.

Wisconsin Analysis - Manitowoc County Matched Pair No. 1

Matched Pair #1 considers the sale of a property within the footprint of Two Creeks Solar in Manitowoc County, which has been operational since 2020 and generates approximately 150 megawatts of power. A house located at 5409 Irish Road, Mishicot, sold in January 2021. This house is approximately 575 feet from the nearest photovoltaic panel.

This property is compared with a similar property located at 311 Cherokee Court, Mishicot, that was sold in July 2019, which is not located proximate to any photovoltaic panels. The salient details of these two properties are summarized in the following table.

The following aerial map illustrates the relationship of the 5409 Irish Road property to the closest photovoltaic panels.



MANITOWOC COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Photovoltaic Panel	**1B - Not Proximate to a Photovoltaic Panel**
Address	5409 Irish Rd. Mishicot, WI 54228	311 Cherokee Ct. Mishicot, WI 54228
Distance from P.V. Panel (Ft.)	575	N/A
Sale Date	January 29, 2021	July 8, 2019
Sale Price	$220,000	$210,000
Sale Price/Sq. Ft. (A.G.)	$110.00	$80.58
Year Built	1900	1999
Building Size (Sq. Ft.)	2,000	2,606
Lot Size (Acres)	1.30	0.34
Style	Two-story; frame (vinyl) 3 bedrooms, 2 bath	Two-story; frame (vinyl) 3 bedrooms, 3.1 bath
Basement	Full	Full, finished
Utilities	Central air Forced-air heat Well and Septic	Well and Septic
Other	4-car detached garage Porch, deck, and creek/stream Recently renovated	2-car attached garage Porch and Patio

5409 Irish Road

311 Cherokee Court

Both properties are similar in building size, similar in location, and have similar basements. The 311 Cherokee Court property is superior to the 5409 Irish Road property in vintage, and building style, yet the 5409 Irish Road property was sold in slightly superior market conditions, has a superior lot size, has central air making utilities superior, and superior outbuildings to the 311 Cherokee Court property.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	311 Cherokee Ct. Mishicot, WI 54228	+	-	-	+	o	-	o	+	+
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
o	No adjustment necessary									

Upward adjustments are made to the 311 Cherokee Court property for superior market conditions, lot size, utilities, and outbuildings of the 5409 Irish Road property. Downward adjustments are made for the superior vintage, building size, and building style of the 311 Cherokee Court property compared to those features of the 5409 Irish Road property. The two properties are essentially similar in location, and basement. Although the two properties give the impression of being similar, the per square foot sale price for the 5409 Irish Road property appears to be higher than the per square foot sale of the 311 Cherokee Court property, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 5409 Irish Road property to a photovoltaic panel.

Wisconsin Analysis - Manitowoc County Matched Pair No. 2

Matched Pair #2 considers the sale of a property within the footprint of Two Creeks Solar in Manitowoc County, which has been operational since 2020 and generates approximately 150 megawatts of power. A house located at 11916 Meyer Road, Two Rivers, was sold in July 2020. This house is approximately 325 feet from the nearest photovoltaic panel.

This property is compared with a similar property located at 311 Cherokee Court, Mishicot, that was sold in July 2019, which is not located proximate to any photovoltaic panels. The salient details of these two properties are summarized in the following table.

The following aerial map illustrates the relationship of the 11916 Meyer Road property to the closest photovoltaic panels.

MANITOWOC COUNTY MATCHED PAIR NO. 2

	2A - Proximate to a Photovoltaic Panel	2B - Not Proximate to a Photovoltaic Panel
Address	11916 Meyer Rd. Two Rivers, WI 54241	311 Cherokee Ct. Mishicot, WI 54228
Distance from P.V. Panel (Ft.)	325	N/A
Sale Date	July 28, 2020	July 8, 2019
Sale Price	$215,000	$210,000
Sale Price/Sq. Ft. (A.G.)	$97.73	$80.58
Year Built	2000	1999
Building Size (Sq. Ft.)	2,200	2,606
Lot Size (Acres)	9.00	0.34
Style	Two-story; frame (vinyl) 4 bedrooms, 2 bath	Two-story; frame (vinyl) 3 bedrooms, 3.1 bath
Basement	Full, unfinished	Full, finished
Utilities	Forced-air heat Propane/Butane heat Well and Septic	Well and Septic
Other	Machine Shed Deck and Patio	2-car attached garage Porch and Patio

11916 Meyer Road

311 Cherokee Court

Both properties are of similar vintage, similar in location, have similar building style, and have similar outbuildings. The 311 Cherokee Court property is superior to the 11916 Meyer Road property in market conditions, superior in building size, and has a superior basement, yet the 11916 Meyer Road property has a superior lot size and superior utilities to the 311 Cherokee Court property.

ADJUSTMENT GRID MATCHED PAIR NO. 2

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
2B	311 Cherokee Ct. Mishicot, WI 54228	-	o	-	+	o	o	-	+	o

\+ Positive adjustment based on comparable being inferior in comparison to property #2A
\- Negative adjustment based on comparable being superior in comparison to property #2A
o No adjustment necessary

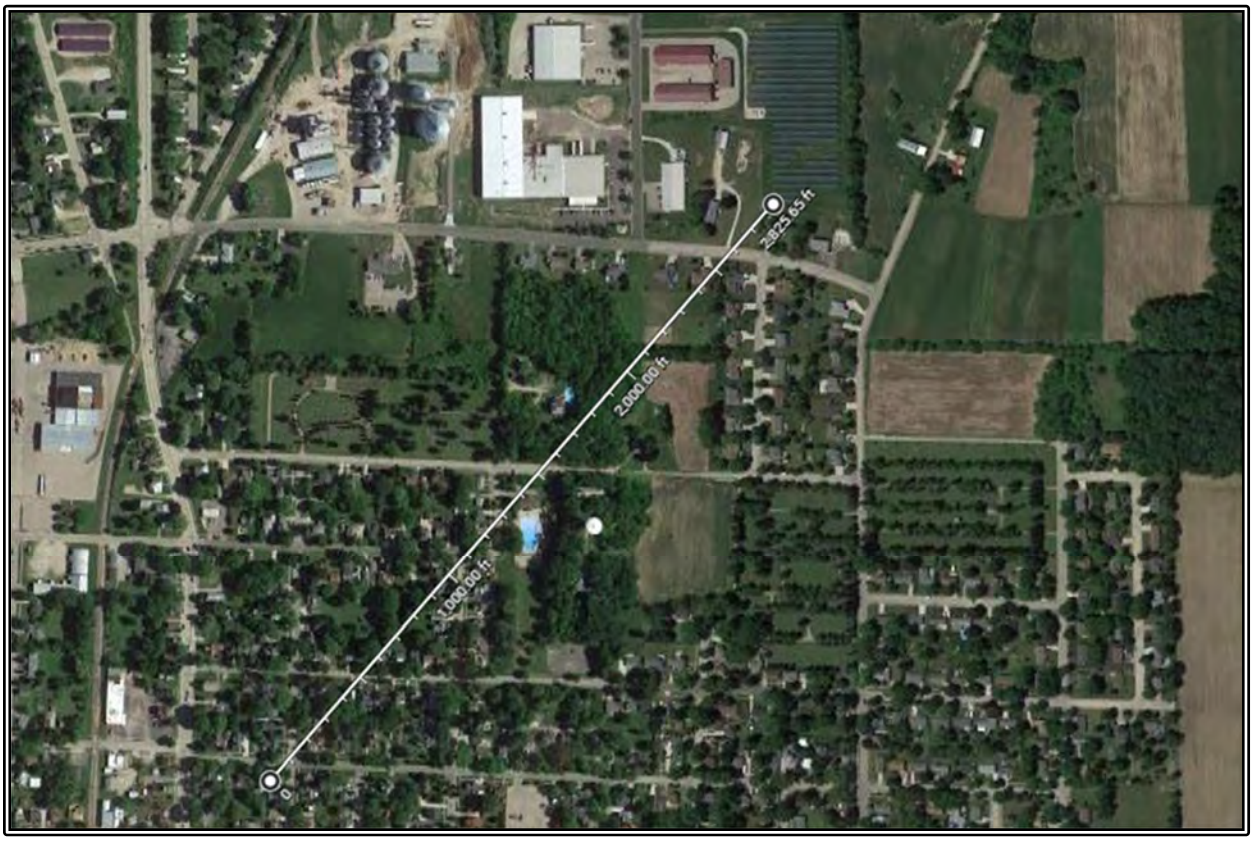
Upward adjustments are made to the 311 Cherokee Court property for the superior lot size and utilities of the 11916 Meyer Road property. Downward adjustments are made for the superior market conditions, building size, and basement of the 11916 Meyer Road property compared to those features of the 311 Cherokee Court property. The two properties are essentially similar vintage, location, building style, and similar outbuildings. Although the two properties give the impression of being somewhat similar, the per square foot sale price for the 11916 Meyer Road property appears to be higher than the per square foot sale of the 311 Cherokee Court property, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 11916 Meyer Road property to a photovoltaic panel.

Wisconsin Analysis - Jefferson County Matched Pair No. 1

Jefferson Solar Park is located in Jefferson County in the south-central region of Wisconsin. The solar farm was installed in 2013 and generates approximately 1 megawatt of power. A property located at 237 North Center Avenue, Jefferson, Wisconsin, sold in February 2015, for $160,000. The nearest photovoltaic panel is approximately 2,825 feet to the northeast of this property.

This property is compared with a similar property located at 810 Whitewater Avenue, Fort Atkinson, Wisconsin, that sold in August 2016, which is not located proximate to any photovoltaic panels. The salient details of these two properties are summarized in the following table.

The following aerial map illustrates the relationship of the 237 North Center Avenue property to the closest photovoltaic panels.



JEFFERSON COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Photovoltaic Panel	**1B - Not Proximate to a Photovoltaic Panel**
Address	237 N. Center Ave. Jefferson, WI 53549	810 Whitewater Ave. Fort Atkinson, WI 53538
Distance from P.V. Panel (Ft.)	2,825	N/A
Sale Date	February 12, 2015	August 26, 2016
Sale Price	$160,000	$164,000
Sale Price/Sq. Ft. (A.G.)	$65.36	$74.55
Year Built	1901	1920
Building Size (Sq. Ft.)	2,448	2,200
Lot Size (Acres)	0.16	0.45
Style	Two-story; frame (brick) 3 bedrooms, 2 bath	Two-story; frame (brick) 3 bedrooms, 1.1 bath
Basement	Full	Partial, Finished
Utilities	Central air forced-air heat electric heat	Central air forced-air heat baseboard heat
Other	2-car attached garage porch, deck, and corner lot recently renovated	2-car detached garage porch, deck, and patio

237 North Center Avenue

810 Whitewater Avenue

Both properties are older, farm-house style and of frame construction with brick. They are somewhat similar in size, similar in lot size, similar in access to utilities, and similar in exterior features. The 810 Whitewater Avenue property is superior to the 237 North Center Avenue property in vintage, lot size, and market conditions, yet the 237 North Center Avenue property has a full basement making it superior to the 810 Whitewater Avenue property. However, both houses have been recently renovated and both are in similar condition.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	810 Whitewater Avenue Fort Atkinson, WI 53538	-	-	o	-	o	o	+	o	o

\+ Positive adjustment based on comparable being inferior in comparison to property #1A
\- Negative adjustment based on comparable being superior in comparison to property #1A
o No adjustment necessary

Upward adjustments are made to the 810 Whitewater Avenue property for the superior basement of the 237 North Center Avenue property. Downward adjustments are made for the superior market conditions, vintage, and lot size of the 237 North Center Avenue property compared to those features of the 810 Whitewater Avenue property. The two properties have essentially the same building size, location, building style, utilities, and similar outbuildings. Therefore, although the 810 Whitewater Avenue property gives the impression of being superior in many categories, the per square foot sale price for the 810 Whitewater Avenue property appears to only be slightly higher than the per square foot sale of the 237 North Center Avenue property, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 237 North Center Avenue property to a photovoltaic panel.

Wisconsin Analysis - Vernon County Matched Pair No. 1

Liberty Pole DPC Solar Farm is located in Vernon County in the southwest region of Wisconsin, a location similar to the subject. The solar farm was installed in 2017 and generates approximately 1.1 megawatts of power. A property located at E7155 Traastad Road, Viroqua, Wisconsin, sold in May 2017 for $160,000. The nearest photovoltaic panel is approximately 2,931 feet to the west of this property.

This property is compared with a similar property located at S4425 Engh Lane, Viroqua, Wisconsin, that sold in July 2015, which is not located proximate to any photovoltaic panels. The salient details of these two properties are summarized in the following table.

The following aerial map illustrates the relationship of the E7155 Traastad Road property to the site of the Liberty Pole DPC Solar Farm.

VERNON COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Photovoltaic Panel	**1B - Not Proximate to a Photovoltaic Panel**
Address	E7155 Traastad Rd. Viroqua, WI 54665	S4425 Engh Ln. Viroqua, WI 54665
Distance from P.V. Panel (Ft.)	2,931	N/A
Sale Date	May 24, 2017	July 30, 2015
Sale Price	$160,000	$152,000
Sale Price/Sq. Ft. (A.G.)	$74.63	$75.06
Year Built	N/A	1998
Building Size (Sq. Ft.)	2,144	2,025
Lot Size (Acres)	4.00	2.00
Style	Two-story; frame (brick) 5 bedrooms, 1 bath	One-story; frame (vinyl) 3 bedrooms, 2.1 bath
Basement	N/A	Full, partially finished
Utilities	forced-air heat	Central air forced-air heat
Other	Storage Shed and barn patio updated utilities	2-car detached garage 1.5-car detached garage patio

E7155 Traastad Road

S4425 Engh Lane

Both properties are of similar size and have similar size lots, however the S4425 Engh Lane is superior to the E7155 Traastad Road property in quality and vintage. Although there is no data on the true age of the E7155 Traastad Road property, after a basic inspection and research of style and amenities, the property seems to be much older than the S4425 Engh Lane. Both have somewhat similar outbuildings on site; however, the buildings associated with the E7155 Traastad Road property appear to be much older than the S4425 Engh Lane. The S4425 Engh Lane is superior to the E7155 Traastad Road property in access to utilities; however, the E7155 Traastad Road property has two additional bedrooms.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	S4425 Engh Lane Viroqua, WI 54665	+	-	o	o	o	+	-	-	o

\+ Positive adjustment based on comparable being inferior in comparison to property #1A
\- Negative adjustment based on comparable being superior in comparison to property #1A
o No adjustment necessary

Upward adjustments were made for the superior market conditions and building style of the E7155 Traastad Road property compared to the S4425 Engh Lane property. Downward adjustments were made for the superior vintage, basement, and utilities of the E7155 Traastad Road property compared to those of the S4425 Engh Lane property. The two properties have essentially the same building size, lot size, location, and outbuildings. Therefore, the two properties give the impression of being physically similar in many categories as well as similar in per square foot sale price, thus appears to support the conclusion that there is not any negative impact in value resulting from the proximity of the E7155 Traastad Road property to a photovoltaic panel.

Wisconsin Analysis - Chippewa County Matched Pair No. 1

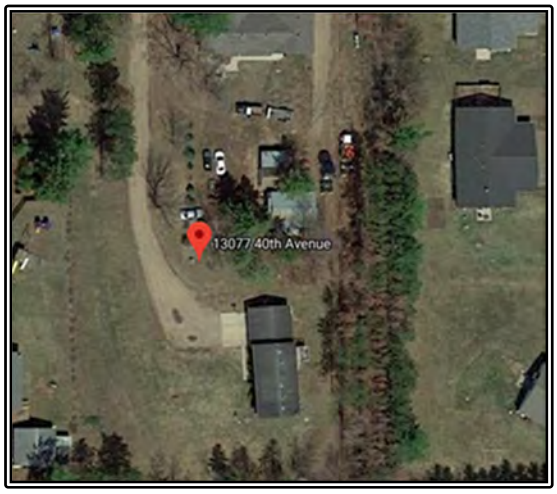
Lafayette DPC Solar Farm is located in Chippewa County in the northwest region of Wisconsin. The solar farm was installed in 2017 and generates approximately 1 megawatt of power. A property located at 3041 County Highway P, Chippewa Falls, Wisconsin, sold in April 2016, for $166,200. The nearest photovoltaic panel is approximately 7,710 feet to the east of this property.

This property is compared with a similar property located at 13077 40th Avenue, Chippewa Falls, Wisconsin, that sold in April 2015, which is not located proximate to any photovoltaic panels. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 3041 County Highway P property to the closest photovoltaic panels.

CHIPPEWA COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Photovoltaic Panel	**1B - Not Proximate to a Photovoltaic Panel**
Address	3041 County Highway P Chippewa Falls, WI 54729	13077 40th Ave. Chippewa Falls, WI 54729
Distance from P.V. Panel (Ft.)	7,710	N/A
Sale Date	April 20, 2016	April 2, 2015
Sale Price	$166,200	$155,000
Sale Price/Sq. Ft. (A.G.)	$75.55	$63.01
Year Built	1964	1995
Building Size (Sq. Ft.)	2,200	2,460
Lot Size (Acres)	2.37	1.50
Style	One-story; frame (brick) 3 bedrooms, 3 bath	Two-story; frame (vinyl) 4 bedrooms, 2 bath
Basement	Full, partially finished	Full, finished
Utilities	Central air forced-air heat	Central air forced-air heat
Other	2-car attached garage deck and patio storage shed	2-car attached garage deck and basketball court fenced-in dog kennel

3041 County Highway P



13077 40th Avenue

Both properties are somewhat similar in size, have similar access to utilities, and have similar exterior features. The 1307 40th Avenue property is superior to the 3041 County Highway P property in vintage, number of bedrooms, and a fully finished basement; however, the 3041 County Highway P property sits on a slightly larger lot and was sold during better market conditions.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	1307 40th Avenue Chippewa Falls, WI 54729	+	-	o	+	o	-	-	o	o
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
o	No adjustment necessary									

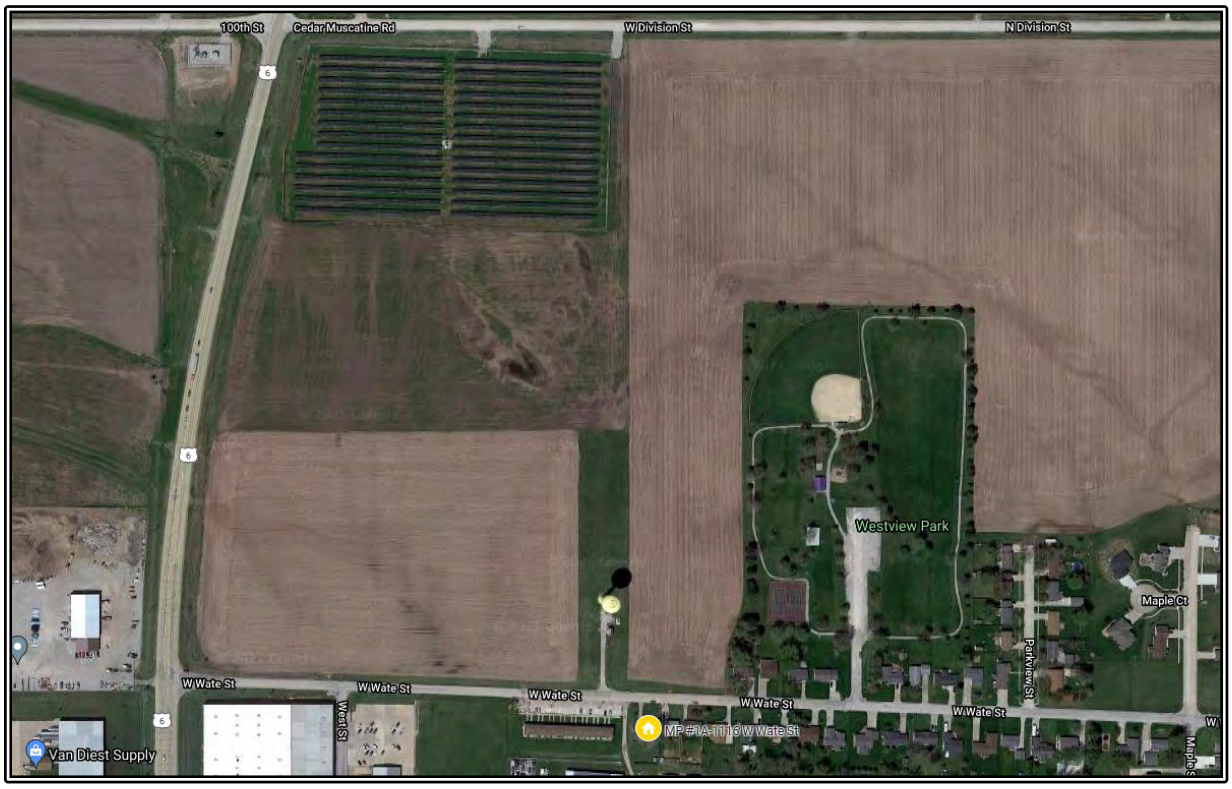
Upward adjustments are made to the 1307 40th Avenue property for the superior market conditions and larger lot size of the 3041 County Highway P property. Downward adjustments are made for the superior vintage, building style, and basement, of the 1307 40th Avenue property compared to those features of the 3041 County Highway P property. The two properties have essentially the same building size, location, utilities, and outbuildings. Therefore, although the 1307 40th Avenue property gives the impression of being superior in multiple categories, the higher per square foot sale price for the 3041 County Highway P property appears to not support a finding that there is a negative impact on value resulting from the proximity of the 3041 County Highway P property to a photovoltaic panel.

Iowa Analysis - Muscatine County Matched Pair No. 1

Matched Pair #1 considers the sale of a property near the footprint of Eastern Iowa Solar in Muscatine County, which has been operational since 2016 and generates approximately 1.8 megawatts of power. A house located at 1116 West Wate Street, Wilton, Iowa, sold in June 2020. This house is approximately 1,450 feet from the nearest photovoltaic panel.

This sale is compared with a similar property located at 1007 East Street, Wilton, Iowa, that sold in December 2020. It is not located near photovoltaic panels. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 1116 West Wate Street property to the closest photovoltaic panels.



MUSCATINE COUNTY MATCHED PAIR NO. 1

	1A - Proximate to a Photovoltaic Panel	1B - Not Proximate to a Photovoltaic Panel
Address	1116 W Wate St. Wilton, IA 52778	1007 East St. Wilton, IA 52778
Distance from P.V. Panel (Ft.)	1,450	N/A
Sale Date	June 19, 2020	December 1, 2020
Sale Price	$170,000	$150,000
Sale Price/Sq. Ft. (A.G.)	$89.10	$80.39
Year Built	1982	1971
Building Size (Sq. Ft.)	1,908	1,866
Lot Size (Acres)	0.24	0.19
Style	One-story; frame (vinyl) 3 bedrooms, 1.1 bath	One-story; frame (vinyl) 3 bedrooms, 2.1 bath
Basement	Full, finished	Full, finished
Utilities	Central air Forced-air heat Public sewer & water	Central air Electric heat Public sewer & water
Other	2-car detached garage Porch and patio	1-car attached garage Patio

1116 West Wate Street

1007 East Street

Both properties are similar in market conditions, building size, lot size, location, building style basements, and utilities. The 1116 West Wate Street property has slightly superior outbuildings to the 1007 East Street property. The 1007 East Street property has slightly superior vintage to the 1116 West Wate Street property.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	1007 East St. Wilton, IA 52778	o	–	o	o	o	o	o	o	+

\+ Positive adjustment based on comparable being inferior in comparison to property #1A
\- Negative adjustment based on comparable being superior in comparison to property #1A
o No adjustment necessary

Upward adjustments are made to the 1007 East Street property for the slightly superior outbuildings of the 1116 West Wate Street property. Downward adjustments are made for the superior vintage of the 1007 East Street property compared to those features of the 1116 West Wate Street property. The two properties have essentially the same sale date, building size, lot size, location, building style, basements, and utilities. The 1116 West Wate Street property gives the impression of being only slightly superior to the 1007 East Street property, however, the per square foot sale price for the 1116 West Wate Street property appears to be significantly higher than the per square foot sale of the 1007 East Street property, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 1116 West Wate Street property to a photovoltaic panel.

Iowa Analysis - Dubuque County Matched Pair No. 1

Matched Pair #1 considers the sale of a property near the footprint of West Dubuque Solar in Dubuque County, which has been operational since 2017 and generates approximately 3.8 megawatts of power. A house located at 16032 Humke Road, Dubuque, Iowa, was sold in October 2020. This house is approximately 1,900 feet from the nearest photovoltaic panel.

This sale is compared with a similar property located at 16575 Asbury Road, Dubuque, Iowa, that sold in September 2018. It is not located near photovoltaic panels. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 16032 Humke Road property to the closest photovoltaic panels.

DUBUQUE COUNTY MATCHED PAIR NO. 1

	1A - Proximate to a Photovoltaic Panel	1B - Not Proximate to a Photovoltaic Panel
Address	16032 Humke Rd. Dubuque, IA 52002	16575 Asbury Rd. Dubuque, IA 52002
Distance from P.V. Panel (Ft.)	1,900	N/A
Sale Date	September 15, 2020	September 6, 2018
Sale Price	$352,000	$354,000
Sale Price/Sq. Ft. (A.G.)	$89.98	$105.67
Year Built	2002	2006
Building Size (Sq. Ft.)	3,912	3,350
Lot Size (Acres)	1.33	1.02
Style	One-story; frame (brick) 4 bedrooms, 3 bath	One-story; frame (brick, vaulted ceilings) 4 bedrooms, 3.1 bath
Basement	Full, finished	Full, finished, walkout
Utilities	Central air Forced-air heat Public sewer & water	Central air Forced-air heat Public sewer & water
Other	3-car detached garage Deck and patio	3-car attached garage 2-car attached garage Patio, porch Wet bar, theater

16032 Humke Road

16575 Asbury Road

Both properties are similar in building size, lot size, location, and utilities. The 16032 Humke Road property has superior market conditions outbuildings to the 16575 Asbury Road property. The 16575 Asbury Road property has superior vintage, building style, basement, and outbuildings to the 16032 Humke Road property.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	16575 Asbury Rd. Dubuque, IA 52002	+	–	o	o	o	–	–	o	–

\+ Positive adjustment based on comparable being inferior in comparison to property #1A
\- Negative adjustment based on comparable being superior in comparison to property #1A
o No adjustment necessary

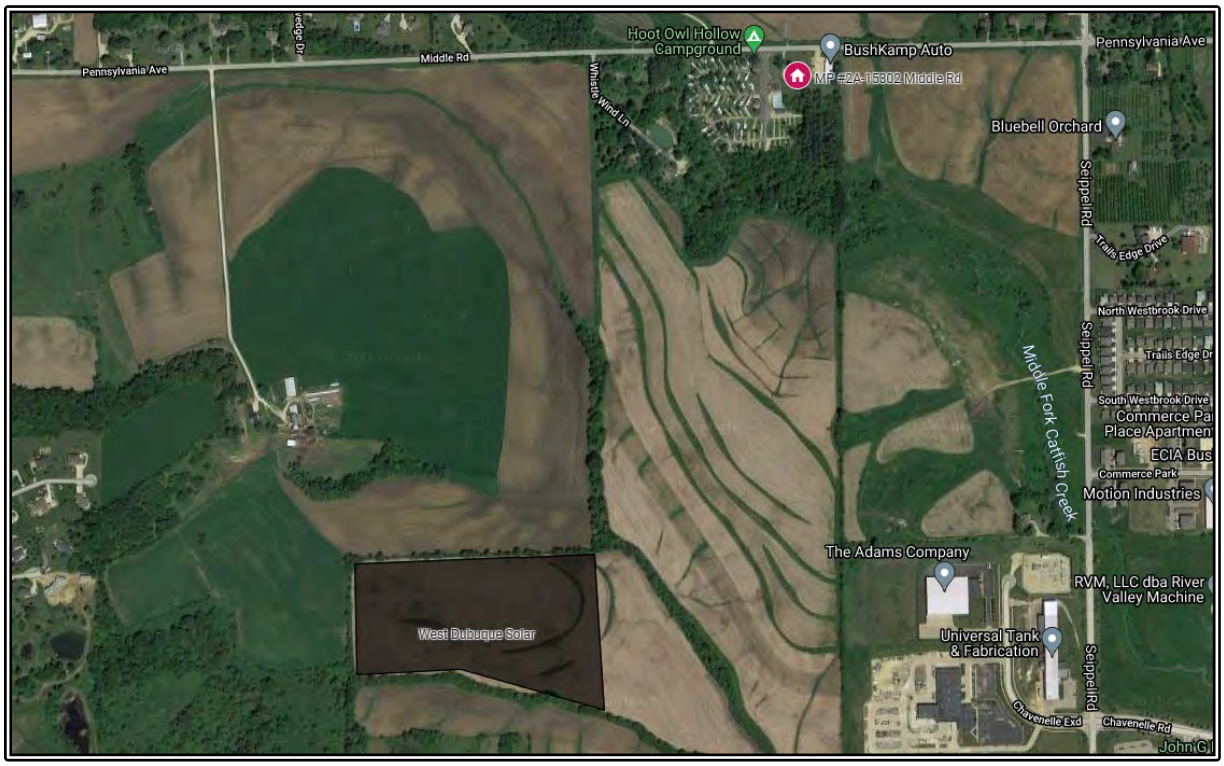
Upward adjustments are made to the 16575 Asbury Road property for the superior sale date of the 16032 Humke Road property. Downward adjustments are made for the superior vintage, building style, basement, and outbuildings of the 16575 Asbury Road property compared to those features of the 16032 Humke Road property. The two properties have essentially the same, building size, lot size, location, and utilities. The 16575 Asbury Road property gives the impression of being superior to the 16032 Humke Road property, therefore, the per square foot sale price for the 16575 Asbury Road property appears to be significantly higher than the per square foot sale of the 16032 Humke Road property, the result is that the adjusted sale does not support a finding that there is a negative impact on value resulting from the proximity of the 16032 Humke Road property to a photovoltaic panel.

Iowa Analysis - Dubuque County Matched Pair No. 2

Matched Pair #2 considers the sale of a property near the footprint of West Dubuque Solar in Dubuque County, which has been operational since 2017 and generates approximately 3.8 megawatts of power. A house located at 15302 Middle Road, Dubuque, Iowa, sold in June 2019. This house is approximately 2,750 feet from the nearest photovoltaic panel.

This sale is compared with a similar property located at 6066 Seven Springs Drive, Asbury, Iowa, that sold in December 2018. It is not located near photovoltaic panels. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 15302 Middle Road property to the closest photovoltaic panels.



DUBUQUE COUNTY MATCHED PAIR NO. 2		
	2A - Proximate to a Photovoltaic Panel	**2B - Not Proximate to a Photovoltaic Panel**
Address	15302 Middle Rd. Dubuque, IA 52002	6066 Seven Springs Dr. Asbury, IA 52002
Distance from P.V. Panel (Ft.)	2,750	N/A
Sale Date	June 6, 2019	December 1, 2018
Sale Price	$225,000	$228,000
Sale Price/Sq. Ft. (A.G.)	$121.75	$105.67
Year Built	1985	2018
Building Size (Sq. Ft.)	1,848	1,443
Lot Size (Acres)	0.84	1.02
Style	One-story; frame (vinyl) 3 bedrooms, 2 bath	One-story; frame (stone/vinyl, vaulted ceilings, new build) 4 bedrooms, 3.1 bath
Basement	Full, finished	Full, finished
Utilities	Central air Forced-air heat Public sewer & water	Central air Forced-air heat Public sewer & water
Other	2-car attached garage Deck	4-car attached garage Patio

15302 Middle Road

6066 Seven Springs Drive

Both properties are similar in building size, lot size, location, basements, and utilities. The 15302 Middle Road property has superior market conditions outbuildings to the 6066 Seven Springs Drive property. The 6066 Seven Springs Drive property has superior vintage, building style, and outbuildings to the 15302 Middle Road property.

ADJUSTMENT GRID MATCHED PAIR NO. 2

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
2B	6066 Seven Springs Dr. Asbury, IA 52002	+	–	o	o	o	–	o	o	–

\+ Positive adjustment based on comparable being inferior in comparison to property #2A
\- Negative adjustment based on comparable being superior in comparison to property #2A
o No adjustment necessary

Upward adjustments are made to the 6066 Seven Springs Drive property for the superior sale date of the 15302 Middle Road property. Downward adjustments are made for the superior vintage, building style, and outbuildings of the 6066 Seven Springs Drive property compared to those features of the 15302 Middle Road property. The two properties have essentially the same, building size, lot size, location, basements, and utilities. The 6066 Seven Springs Drive property gives the impression of being superior to the 15302 Middle Road property, however, the per square foot sale price for the 15302 Middle Road property appears to be significantly higher than the per square foot sale of the 6066 Seven Springs Drive property, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 15302 Middle Road property to a photovoltaic panel.

Indiana Analysis - Madison County Matched Pair No. 1

IMPA Frankton Solar Park is located in Madison County in Frankton, Indiana. The solar farm was installed in 2014 and generates approximately 1 megawatt of power. A property located at 711 South Lafayette Street, Frankton, Indiana, sold in June 2018, for $112,725. The nearest photovoltaic panel is approximately 425 feet to the west of this property.

This property is compared with a similar property located at 1006 Madison Street, Frankton, Indiana, that sold in November 2016, which is not located proximate to any photovoltaic panels. The salient details of these two properties are summarized in the following table.

The following aerial map illustrates the relationship of the 711 South Lafayette Street property to the closest photovoltaic panels.

MADISON COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Photovoltaic Panel	**1B - Not Proximate to a Photovoltaic Panel**
Address	711 S. Lafayette St. Frankton, IN 46044	1006 Madison St. Frankton, IN 46044
Distance from P.V. Panel (Ft.)	425	N/A
Sale Date	June 1, 2018	November 15, 2016
Sale Price	$112,725	$74,900
Sale Price/Sq. Ft. (A.G.)	$77.42	$53.12
Year Built	1992	1960
Building Size (Sq. Ft.)	1,456	1,410
Lot Size (Acres)	1.30	0.15
Style	One-story manufactured (vinyl) 3 bedrooms, 2.1 bath	One-story; frame (vinyl) 3 bedrooms, 1.1 bath
Basement	Crawlspace	Crawlspace
Utilities	Central electric air electric forced-air heat public sewer & water connections	Central air other heat well & septic
Other	2-car attached garage porch and patio	1-car attached garage porch

711 South Lafayette Street

1006 Madison Street

Both properties are similar in building size, outbuildings, and both have crawlspace style basements. The 711 South Lafayette Street property is superior to the 1006 Madison Street property in vintage, lot size, utilities, and market conditions. The 1006 Madison Street property has a substantially superior building style to the 711 South Lafayette Street property, which is a manufactured residence.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	1006 Madison St. Frankton, IN 46044	+	+	o	+	o	-	o	+	o

\+ Positive adjustment based on comparable being inferior in comparison to property #1A
\- Negative adjustment based on comparable being superior in comparison to property #1A
o No adjustment necessary

Upward adjustments are made to the 1006 Madison Street property for the superior sale date, vintage, lot size, and utilities of the 711 South Lafayette Street property. Downward adjustments are made for the superior building style of the 1006 Madison Street property compared to those features of the 711 South Lafayette Street property. The two properties have essentially the same building size, location, and similar basements. The 711 South Lafayette Street property gives the impression of being only slightly superior to the 1006 Madison Street property, however, the per square foot sale price for the 711 South Lafayette Street property appears to be significantly higher than the per square foot sale of the 1006 Madison Street property, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 711 South Lafayette Street property to a photovoltaic panel.

Indiana Analysis - Madison County Matched Pair No. 2

IMPA Frankton Solar Park is located in Madison County in Frankton, Indiana. The solar farm was installed in 2014 and generates approximately 1 megawatt of power. A property located at 713 South Lafayette Street, Frankton, Indiana, sold in October 2016, for $131,000. The nearest photovoltaic panel is approximately 415 feet to the west of this property.

This property is compared with a similar property located at 201 North Park Street, Frankton, Indiana, that sold in February 2018, which is not located proximate to any photovoltaic panels. The salient details of these two properties are summarized in the following table.

The following aerial map illustrates the relationship of the 713 South Lafayette Street property to the closest photovoltaic panels.

MADISON COUNTY MATCHED PAIR NO. 2		
	2A - Proximate to a Photovoltaic Panel	**2B - Not Proximate to a Photovoltaic Panel**
Address	713 S. Lafayette St. Frankton, IN 46044	201 N. Park St. Frankton, IN 46044
Distance from P.V. Panel (Ft.)	415	N/A
Sale Date	October 27, 2016	February 27, 2018
Sale Price	$131,000	$85,000
Sale Price/Sq. Ft. (A.G.)	$52.51	$40.48
Year Built	2003	1960
Building Size (Sq. Ft.)	2,495	2,100
Lot Size (Acres)	3.03	0.15
Style	One-story; manufactured (vinyl) 4 bedrooms, 2 bath	One-story; frame (vinyl) 4 bedrooms, 2 bath
Basement	Crawlspace	Crawlspace
Utilities	Central air forced-air heat public sewer & water connections	Central air other heat well & septic
Other	Pole Barn	N/A

713 South Lafayette Street

201 North Park Street

Both properties are similar in building size, location, utilities, and both have raised foundation crawlspace style basements. The 713 South Lafayette Street property is superior to the 201 North Park Street property in vintage, lot size, and outbuildings. The 201 North Park Street property is superior in market conditions and has a substantially superior building style to the 713 South Lafayette Street property, which is a manufactured residence.

ADJUSTMENT GRID MATCHED PAIR NO. 2

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
2B	201 N. Park St. Frankton, IN 46044	-	+	o	+	o	-	o	o	+

\+ Positive adjustment based on comparable being inferior in comparison to property #2A
\- Negative adjustment based on comparable being superior in comparison to property #2A
o No adjustment necessary

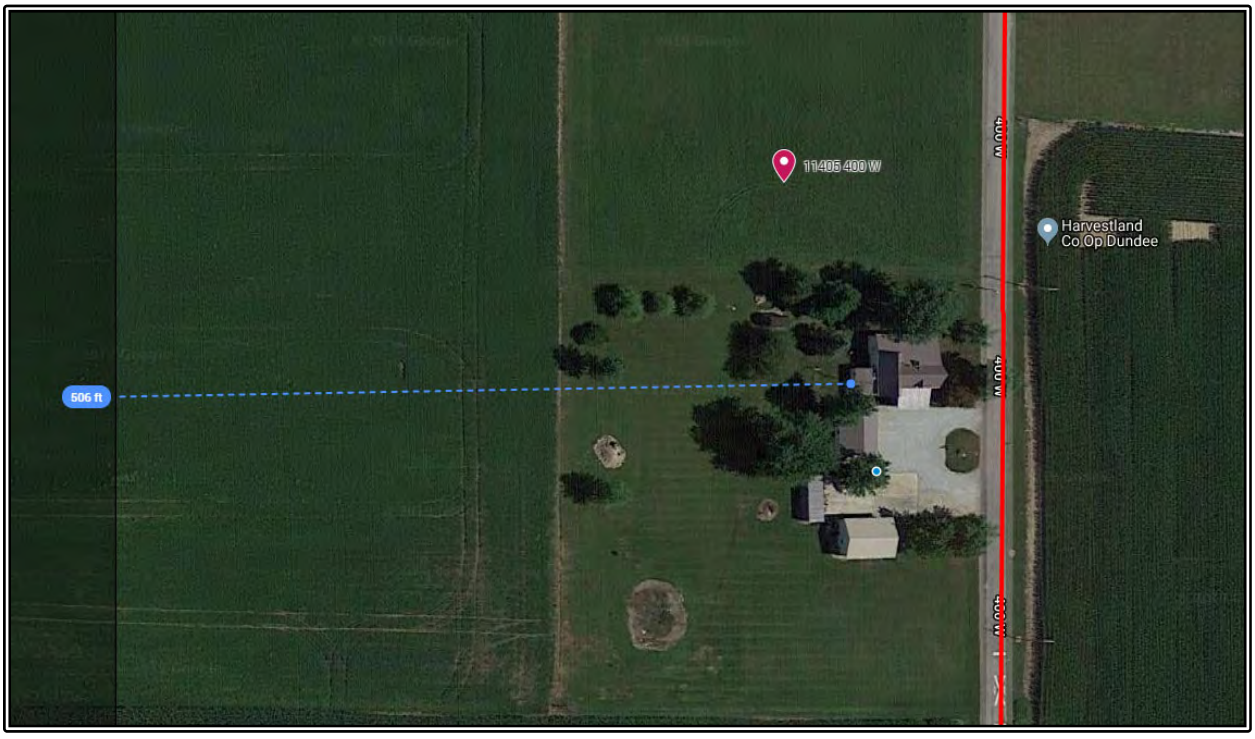
Upward adjustments are made to the 201 North Park Street property for the superior vintage, lot size, and outbuildings of the 713 South Lafayette Street property. Downward adjustments are made for the superior market conditions and building style of the 201 North Park Street property compared to those features of the 713 South Lafayette Street property. The two properties have essentially the same building size, location, utilities, and basements. The 713 South Lafayette Street property gives the impression of being only slightly superior to the 201 North Park Street property, however, the per square foot sale price for the 713 South Lafayette Street property appears to be significantly higher than the per square foot sale of the 201 North Park Street property, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 713 South Lafayette Street property to a photovoltaic panel.

Indiana Analysis - Madison County Matched Pair No. 3

Lone Oak Solar is located in Madison County in Alexandria, Indiana. The solar farm is currently under development and will generate approximately 120 megawatts of power. A property located at 11405 North 400 West, Alexandria, Indiana, sold in February 2019, for $199,000. The property sits within the footprint of the solar project; however, the nearest photovoltaic panel is approximately 500 feet to the west of this property.

This property is compared with a similar property located at 4950 East 700 North, Alexandria, Indiana, that sold in February 2019, which is not located proximate to any photovoltaic panels. The salient details of these two properties are summarized in the following table.

The following aerial map illustrates the relationship of the 11405 North 400 West property to the closest photovoltaic panels.



MADISON COUNTY MATCHED PAIR NO. 3		
	3A - Proximate to a Photovoltaic Panel	**3B - Not Proximate to a Photovoltaic Panel**
Address	11405 N 400 W Alexandria, IN 46001	4950 E 700 N Alexandria, IN 46001
Distance from P.V. Panel (Ft.)	500	N/A
Sale Date	February 12, 2019	February 15, 2019
Sale Price	$199,000	$180,000
Sale Price/Sq. Ft. (A.G.)	$92.17	$60.89
Year Built	1915	1972
Building Size (Sq. Ft.)	2,159	2,956
Lot Size (Acres)	5.15	4.00
Style	1.5-story; frame (vinyl) 4 bedrooms, 2 bath	One-story; frame (brick) 3 bedrooms, 2 bath
Basement	Crawlspace	Crawlspace
Utilities	Central air baseboard heat well & septic	Central air forced-air heat well & septic
Other	2-car attached garage pole barn, utility shed porch	2-car attached garage utility shed, patio above ground pool

11405 North 400 West

4950 East 700 North

Both properties have similar sale dates, lot size, location, basements, and outbuildings. The 11405 North 400 West property is superior to the 4950 East 700 North property in building style. The 4950 East 700 North is superior in vintage, building size, and utilities to the 11405 North 400 West property.

ADJUSTMENT GRID MATCHED PAIR NO. 3

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
3B	4950 E 700 N Alexandria, IN 46001	o	-	-	o	o	+	o	-	o

\+ Positive adjustment based on comparable being inferior in comparison to property #3A
\- Negative adjustment based on comparable being superior in comparison to property #3A
o No adjustment necessary

An Upward adjustment is made to the 4950 East 700 North property for the superior style of the 11405 North 400 West property. Downward adjustments are made for the superior vintage, building size, and utilities of the 4950 East 700 North property compared to those features of the 11405 North 400 West property. The two properties have essentially the same sale date, lot size, location, basements, and outbuildings. The 4950 East 700 North property gives the impression of being superior to the 11405 North 400 West property, however, the per square foot sale price for the 11405 North 400 West property appears to be significantly higher than the per square foot sale of the 4950 East 700 North property, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 11405 North 400 West property to the development of a solar farm.

Indiana Analysis - Grant County Matched Pair No. 1

Deer Creek P.V. is located in Grant County in Marion, Indiana. The solar farm was installed in 2016 and generates approximately 2.5 megawatts of power. A property located at 1211 East 49th Street, Marion, Indiana, sold in March 2017, for $77,000. The nearest photovoltaic panel is approximately 415 feet to the west of this property.

This property is compared with a similar property located at 5510 South Lincoln Boulevard, Marion, Indiana, that sold in May 2017, which is not located proximate to any photovoltaic panels. The salient details of these two properties are summarized in the following table.

The following aerial map illustrates the relationship of the 1211 East 49th Street property to the closest photovoltaic panels.

GRANT COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Photovoltaic Panel	**1B - Not Proximate to a Photovoltaic Panel**
Address	1211 E. 49th St. Marion, IN 46953	5510 S. Lincoln Blvd. Marion, IN 46953
Distance from P.V. Panel (Ft.)	915	N/A
Sale Date	March 24, 2017	May 31, 2017
Sale Price	$77,000	$70,000
Sale Price/Sq. Ft. (A.G.)	$52.88	$52.63
Year Built	1973	1931
Building Size (Sq. Ft.)	1,456	1,330
Lot Size (Acres)	0.47	4.79
Style	One-story; frame (brick) 3 bedrooms, 2 bath	Two-story; frame (wood) 3 bedrooms, 2 bath
Basement	Full, unfinished	Full, unfinished
Utilities	Central air heat pump well & septic	Central air forced-air heat well & septic
Other	2-car attached garage	3-car detached garage wrap around porch

1211 East 49th Street

5510 South Lincoln Boulevard

Both properties are similar in market conditions, building size, location, utilities, and basements. The 1211 East 49th Street property is superior to the 5510 South Lincoln Boulevard property in vintage, lot size, and outbuildings. The 5510 South Lincoln Boulevard property is superior in market conditions, building style, lot size, and outbuildings to the 1211 East 49th Street property.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
2B	5510 S. Lincoln Blvd. Marion, IN 46953	o	+	o	-	o	-	o	o	-

\+ Positive adjustment based on comparable being inferior in comparison to property #1A
\- Negative adjustment based on comparable being superior in comparison to property #1A
o No adjustment necessary

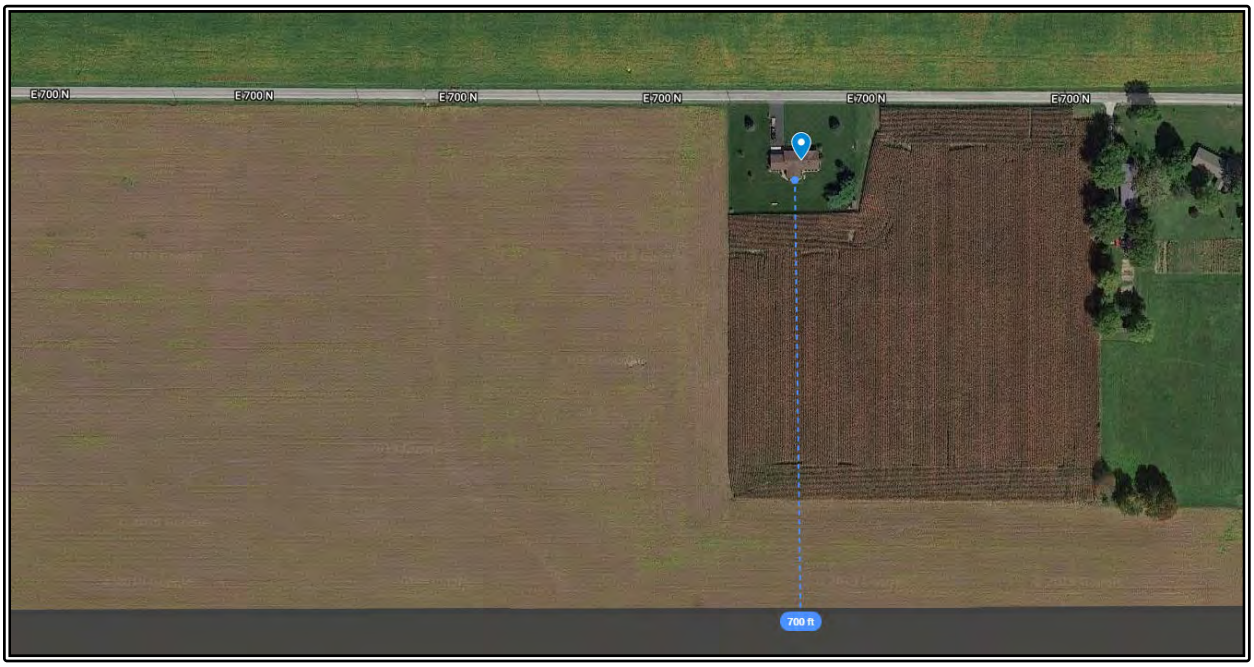
Upward adjustments are made to the 5510 South Lincoln Boulevard property for the superior market conditions of the 1211 East 49th Street property. Downward adjustments are made for the superior lot size, building style, and outbuildings of the 5510 South Lincoln Boulevard property compared to those features of the 1211 East 49th Street property. The two properties have essentially the same market conditions, building size, location, utilities, and basements. Although the 5510 South Lincoln Boulevard property gives the impression of being superior, the per square foot sale price for the two properties appears to be similar, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 1211 East 49th Street property to a photovoltaic panel.

Indiana Analysis - Shelby County Matched Pair No. 1

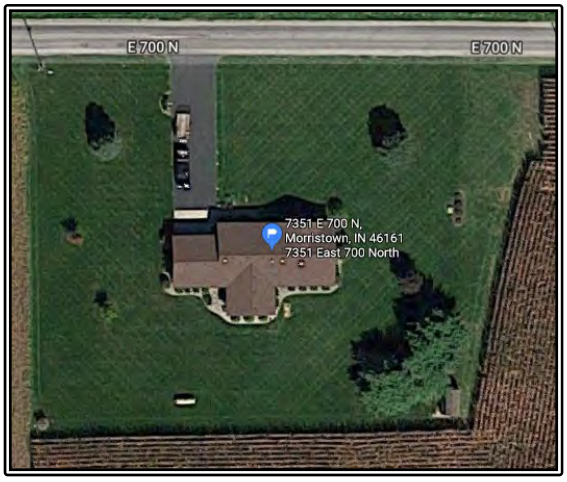
Speedway Solar is located in Shelby County adjacent to Shelbyville, Indiana. The solar farm is currently under development and will generate approximately 199 megawatts of power. A property located at 7351 East 700 North, Morristown, Indiana, sold in February 2019, for $246,000. The nearest future photovoltaic panel will be approximately 700 feet to the south of this property.

This property is compared with a similar property located at 7179 East 550 South, Morristown, Indiana, that sold in May 2017, which is not located proximate to any photovoltaic panels. The salient details of these two properties are summarized in the following table.

The following aerial map illustrates the relationship of the 7351 East 700 North property to the solar farm under development.



SHELBY COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Future Photovoltaic Panel	**1B - Not Proximate to a Photovoltaic Panel**
Address	7351 E 700 N Morristown, IN 46161	7179 E 550 S Morristown, IN 46161
Distance from P.V. Panel (Ft.)	700	N/A
Sale Date	February 28, 2019	May 16, 2017
Sale Price	$246,000	$265,000
Sale Price/Sq. Ft. (A.G.)	$131.48	$120.24
Year Built	1992	2005
Building Size (Sq. Ft.)	1,871	2,204
Lot Size (Acres)	9.25	4.87
Style	One-story; frame (vinyl) 3 bedrooms, 2 bath	One-story; frame (brick) 3 bedrooms, 2 bath
Basement	Crawlspace	Crawlspace
Utilities	Central air forced-air heat well & septic	Central air forced-air heat well & septic
Other	2-car attached garage	1-car attached garage porch covered deck



7351 East 700 North

7179 East 550 South

Both properties are similar in building style outbuildings, crawlspace style basements, utilities, and outbuildings. The 7351 East 700 North property is superior to the 7179 East 550 South property in lot size and market conditions. The 7179 East 550 South property is of superior vintage and building size to the 711 South Lafayette Street property.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	7179 E 550 S Morristown, IN 46161	+	-	-	+	o	o	o	o	o

\+ Positive adjustment based on comparable being inferior in comparison to property #1A
\- Negative adjustment based on comparable being superior in comparison to property #1A
o No adjustment necessary

Upward adjustments are made to the 7179 East 550 South property for the superior sale date and lot size of the 7351 East 700 North property. Downward adjustments are made for the superior vintage and building size of the 7179 East 550 South property compared to those features of the 7351 East 700 North property. The two properties have essentially the same location, building style, basements, utilities, and outbuildings. The two properties give the impression of being overall similar, however, the per square foot sale price for the 7351 East 700 North property appears to be higher than the per square foot sale of the 7179 East 550 South property, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 7351 East 700 North property to the development of a solar farm.

Michigan Analysis – Calhoun County Matched Pair No. 1

A property located at 18021 12 Mile Road, Battle Creek, Michigan, sold in August 2021, for $225,000. The property sits between the operating 13 Mile Solar, LLC, and the under-construction Calhoun Solar. 13 Mile Solar, LLC was installed in 2020, generates approximately 2 megawatts of power and is located in Calhoun County. Calhoun Solar was announced to the public in 2019, is to be operational in 2022, will generate approximately 200 megawatts of power and is located in Calhoun County. The nearest photovoltaic panel is sited at approximately 185 feet to the east of this property.

This sale is compared with the sale of the same property that sold in January 2014 for $108,400 and is not located proximate to any photovoltaic panels. The salient details of these two sales are summarized in the following table.

The following aerial map illustrates the relationship of the 18021 12 Mile Road property to the closest photovoltaic panels.

CALHOUN COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Photovoltaic Panel	**1B - Not Proximate to a Photovoltaic Panel**
Address	18021 12 Mile Rd. Battle Creek, MI 49014	18021 12 Mile Rd. Battle Creek, MI 49014
Distance from P.V. Panel (Ft.)	185	N/A
Sale Date	August 24, 2021	January 21, 2014
Sale Price	$225,000	$108,400
Sale Price/Sq. Ft. (A.G.)	$144.60	$69.67
Year Built	1901	1901
Building Size (Sq. Ft.)	1,556	1,556
Lot Size (Acres)	1.37	1.37
Style	Two-story; frame (vinyl) 3 bedrooms, 2 bath	Two-story; frame (vinyl) 3 bedrooms, 2 bath
Basement	N/A	N/A
Utilities	Well and Septic	Well and Septic
Other	Machine Shed Shed Porch	Machine Shed Shed Porch

18021 12 Mile Road

Both sales consider the same house in every physical aspect. The 2021 sale is slightly superior to the 2014 sale in market conditions.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	18021 12 Mile Rd. Battle Creek, MI 49014	-	o	o	o	o	o	o	o	o

\+ Positive adjustment based on comparable being inferior in comparison to property #1A
\- Negative adjustment based on comparable being superior in comparison to property #1A
o No adjustment necessary

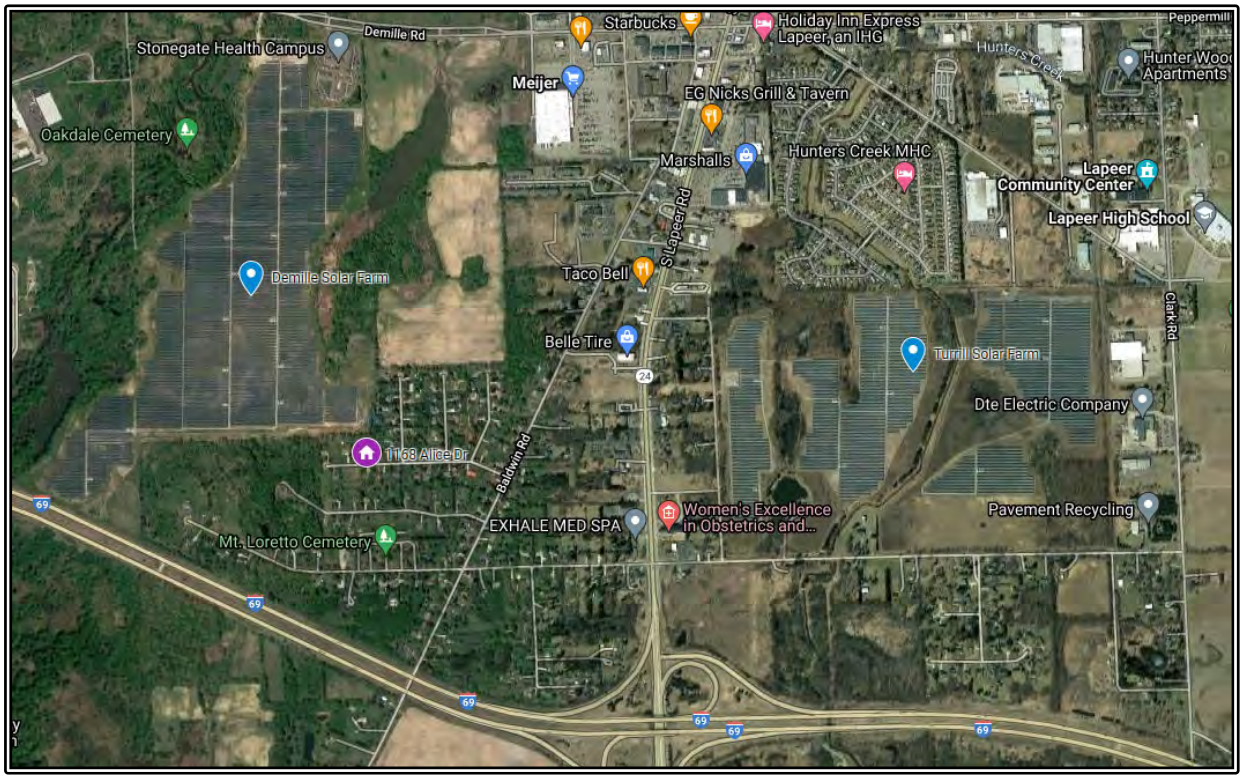
Downward adjustments are made for the superior market conditions of the 2021 sale of the 18021 12 Mile Road property compared to those features of the 2014 sale. The two properties have a similar vintage, the same building size, lot size, location, building style, basements, utilities, and outbuildings. Therefore, although the property was identical at the time of both sales except for the two solar farms in the area, the per square foot sale price for the 2021 sale appears to be significantly higher than the per square foot sale of the 2014 sale, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 18021 12 Mile Road property to a photovoltaic panel.

Michigan Analysis – Lapeer County Matched Pair No. 1

A property located at 1168 Alice Drive, Lapeer, Michigan, sold in October 2019, for $176,000. The property sits between the Demille Solar Farm, and the Turrill Solar Farm. The Demille Solar Farm came online in 2017, generates approximately 28.4 megawatts of power and is located in Lapeer County. The Turrill Solar Farm came online in 2017, generates approximately 19.6 megawatts of power and is located in Lapeer County. The nearest photovoltaic panel is approximately 275 feet to the west of this property.

This sale is compared with two sales of the same property. The first sold in December 2017 for $144,000 and is approximately 275 feet from the nearest panel. The second sold in August 2008 for $116,875 and is not located proximate to any photovoltaic panels. The salient details of these three sales are summarized in the following table.

The following aerial map illustrates the relationship of the 1168 Alice Drive property to the closest photovoltaic panels.



LAPEER COUNTY MATCHED PAIR NO. 1			
	1A - Proximate to a Photovoltaic Panel	**1B - Proximate to a Photovoltaic Panel**	**1C - Not Proximate to a Photovoltaic Panel**
Address	1168 Alice Dr. Lapeer, MI 48446	1168 Alice Dr. Lapeer, MI 48446	1168 Alice Dr. Lapeer, MI 48446
Distance from P.V. Panel (Ft.)	275	275	275
Sale Date	October 9, 2021	December 19, 2017	January 21, 2014
Sale Price	$176,000	$144,000	$116,875
Sale Price/Sq. Ft. (A.G.)	$144.60	$86.12	$69.90
Year Built	1975	1975	1975
Building Size (Sq. Ft.)	1,672	1,672	1,672
Lot Size (Acres)	0.46	0.46	0.46
Style	Two-story; frame (vinyl/brick) 3 bedrooms, 1.1 bath	Two-story; frame (vinyl/brick) 3 bedrooms, 1.1 bath	Two-story; frame (vinyl/brick) 3 bedrooms, 1.1 bath
Basement	Full, unfinished	Full, unfinished	Full, unfinished
Utilities	Central air Forced-air heat Well and Septic	Central air Forced-air heat Well and Septic	Central air Forced-air heat Well and Septic
Other	Attached Garage Deck, Porch Remodeled in 2018	Attached Garage Deck, Porch	Attached Garage Deck, Porch

1168 Alice Drive

All three sales consider the house similar in every physical aspect. The 2019 sale is slightly superior to the 2017 and 2008 sales in market conditions.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B/1C	1168 Alice Dr. Lapeer, MI 48446	-	o	o	o	o	o	o	o	o

\+ Positive adjustment based on comparable being inferior in comparison to property #1A
\- Negative adjustment based on comparable being superior in comparison to property #1A
o No adjustment necessary

Downward adjustments are made for the superior market conditions of the 2019 sale of the 1168 Alice Drive property compared to that of the 2017 and 2008 sales. The three sales have a similar vintage, the same building size, lot size, location, building style, basements, utilities, and outbuildings. Therefore, although the property was similar at the time of each sales except for the two solar farms in the area, the per square foot sale price for the 2019 sale appears to be significantly higher than the per square foot sale of both, the 2017 and 2008, sales, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 1168 Alice Drive property to a photovoltaic panel.

Minnesota Analysis - Wabasha County Matched Pair No. 1

Wabasha County is located in the southeast region of Minnesota. The county has one solar farm, the Wabasha Holdco Solar Farm.

Matched Pair No.1 considers the sale of a property in the footprint of the Wabasha Holdco Solar Farm in Wabasha County, which has been operational since 2017 and generates approximately 3 megawatts of power. A house located at 943 Freedom Avenue, Wabasha, Minnesota, sold in August 2017. This house is approximately 634 feet from the nearest photovoltaic panel.

This property is compared with a similar property located at 108 Skyline Drive, Wabasha, Minnesota, that sold in June 2015, which is not located proximate to any photovoltaic panels. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 943 Freedom Avenue property to the closest photovoltaic panels.

WABASHA COUNTY MATCHED PAIR NO. 1

	1A - Proximate to a Photovoltaic Panel	1B - Not Proximate to a Photovoltaic Panel
Address	943 Freedom Ave. Wabasha, MN 55981	108 Skyline Dr. Wabasha, MN 55981
Distance from P.V. Panel (Ft.)	634	N/A
Sale Date	August 28, 2017	June 8, 2015
Sale Price	$193,000	$185,000
Sale Price/Sq. Ft. (A.G.)	$71.48	$80.43
Year Built	2008	1992
Building Size (Sq. Ft.)	2,700	2,300
Lot Size (Acres)	0.16	0.78
Style	One-story; frame (vinyl) 4 bedrooms, 3 bath	Two-story; frame (metal) 3 bedrooms, 3 bath
Basement	Full, finished	Full, finished
Utilities	Central air/fresh-air exchange forced-air heat public water & sewer	Central air forced-air heat public water & sewer
Other	2-car attached garage Porch	2-car attached garage deck and patio

943 Freedom Avenue

108 Skyline Drive

Both properties have similar basements and similar amenities. The 943 Freedom Avenue property is superior to the 108 Skyline Drive property in vintage, building size, utilities, and was sold during a superior market condition. The Skyline house offsets this by having a superior building style and a larger lot.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	108 Skyline Drive Wabasha, Minnesota	+	+	+	-	o	-	o	+	o

\+ Positive adjustment based on comparable being inferior in comparison to property #1A
\- Negative adjustment based on comparable being superior in comparison to property #1A
o No adjustment necessary

Upward adjustments are made to the 108 Skyline Drive property for the superior market conditions, vintage, building, and utilities of the 943 Freedom Avenue property. Downward adjustments were made for the superior lot size and building style of the 108 Skyline Drive property compared to the 943 Freedom Avenue property. The two properties have essentially the same location, basement, and outbuildings. Therefore, the comparison of the two properties the 943 Freedom Avenue property appears to support the conclusion that there is not any viable impact in value resulting from the proximity of the 943 Freedom Avenue property to a photovoltaic panel.

Arizona Analysis - Matched Pair No. 1

Mesquite Solar 3, LLC, a subset of the overall Mesquite Solar Project, is located in Arlington, Arizona. The solar farm was installed in December 2016 and generates approximately 154 megawatts of power. A property located at 40610 West Elliot Road, Tonopah, Arizona, sold in October 2018 for $300,000. The nearest solar panel is approximately 915 feet to the south of this property. The residence appears to have a direct view of the solar panels at the time of the sale without any obstruction from buildings, landscape, or natural screening.

This property is compared with a similar property located at 4621 South 357th Avenue, Tonopah, Arizona, that sold in March 2019 for $278,000, and is not located proximate to any solar panels. The salient details of these two properties are summarized in the following table.

The following aerial map illustrates the relationship of the 40610 West Elliot Road property to the closest solar panels.

ARIZONA MATCHED PAIR NO. 1		
	1A - Proximate to a Solar Panel	**1B - Not Proximate to a Solar Panel**
Address	40610 W. Elliot Rd. Tonopah, AZ 85354	4621 S. 357th Ave. Tonopah, AZ 85354
Distance from P.V. Panel (Ft.)	915	N/A
Sale Date	October 30, 2018	March 15, 2019
Sale Price	$300,000	$278,000
Sale Price/Sq. Ft. (A.G.)	$151.21	$148.82
Year Built	1996	2007
Building Size (Sq. Ft.)	1,984	1,868
Lot Size (Acres)	19.95	5.27
Style	One-story; manufactured (steel) 3 bedrooms, 2 bath	One-story; frame (stucco) 4 bedrooms, 2 bath
Basement	N/A	N/A
Utilities	Refrigeration cooling Electric heat Well & septic	Refrigeration cooling Electric heat Well & septic
Other	Patio Porch	2-car attached garage Patio

40610 West Elliot Road

4621 South 357th Avenue

The house at 40610 West Elliot Road, is located approximately 915 feet away from the nearest solar panel, in a rural area. Both houses are of similar building size, are located in a similar rural location with paved roads, have similar basements, and have similar utilities. The 40610 West Elliot Road property has a superior lot size. The 4621 South 357th Avenue property was sold in superior market conditions, is of a superior vintage, is superior in building style, and has superior outbuildings.

ADJUSTMENT GRID - ARIZONA MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	4621 S. 357th Ave. Tonopah, AZ 85354	-	-	o	+	o	-	o	o	-
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
o	No adjustment necessary									

Upward adjustments are made to the 4621 South 357th Avenue property for the superior lot size of the 40610 West Elliot Road property. Downward adjustments are made for the superior market conditions, vintage, style, and outbuildings of the 4621 South 357th Avenue property compared to those features of the 40610 West Elliot Road property. The two properties have essentially the same building size, location, basement, and utilities. Therefore, although the 4621 South 357th Avenue property gives the impression of being superior in many categories, the per square foot sale price for the 40610 West Elliot Road property appears to be higher than the per square foot sale price of the 4621 South 357th Avenue property, thus does not support a finding that there is a negative impact on value resulting from the proximity of the 40610 West Elliot Road property to a solar panel.

Arizona Analysis - Matched Pair No. 2

Mesquite Solar 3, LLC, a subset of the overall Mesquite Solar Project, is located in Arlington, Arizona. The solar farm was installed in December 2016 and generates approximately 154 megawatts of power. A property located at 40512 West Elliot Road, Tonopah, Arizona, sold in March 2019 for $192,000. The property was previously sold in January 2012 for $198,000. The nearest solar panel is approximately 775 feet to the south of this property. The residence appears to have a direct view of the solar panels at the time of the sale without any obstruction from buildings, landscape, or natural screening.

This property is compared with a similar property located at 1309 South 393rd Avenue, Tonopah, Arizona, that sold in April 2019 for $215,000, and is not located proximate to any solar panels. The salient details of these two properties are summarized in the following table.

The following aerial map illustrates the relationship of the 40512 West Elliot Road property to the closest solar panels.

ARIZONA MATCHED PAIR NO. 2

	2A - Proximate to a Solar Panel	2A - Prior Sale	2B - Not Proximate to a Solar Panel
Address	40512 W. Elliot Rd. Tonopah, AZ 85354	40512 W. Elliot Rd. Tonopah, AZ 85354	1309 S. 393rd Ave. Tonopah, AZ 85354
Distance from P.V. Panel (Ft.)	775	N/A	N/A
Sale Date	March 8, 2019	January 31, 2012	April 23, 2019
Sale Price	$192,000	198,000	$215,000
Sale Price/Sq. Ft. (A.G.)	$122.45	$126.28	$126.47
Year Built	1999	1999	2001
Building Size (Sq. Ft.)	1,568	1,568	1,700
Lot Size (Acres)	5.00	5.00	4.00
Style	One-story; manufactured (steel) 3 bedrooms, 2 bath	One-story; manufactured (steel) 3 bedrooms, 2 bath	One-story; manufactured (steel) 4 bedrooms, 2 bath
Basement	N/A	N/A	N/A
Utilities	Refrigeration cooling Electric heat Well & septic	Refrigeration cooling Electric heat Well & septic	Refrigeration cooling Electric heat Well & septic
Other	Porch	Porch	Corral Tack room, barn, and stall Horse arena

40512 West Elliot Road

1309 South 393rd Avenue

The house at 40512 West Elliot Road, is located approximately 775 feet away from the nearest solar panel, in a rural area. Both houses sold during similar market conditions, are of similar vintage, have a similar lot size, located in a similar rural location, have similar basements, and have similar utilities. The 1309 South 393rd Avenue property is of superior building size, has superior style, and has superior outbuildings.

ADJUSTMENT GRID - ARIZONA MATCHED PAIR NO. 2

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
2B	1309 S. 393rd Ave. Tonopah, AZ 85354	o	o	-	o	o	-	o	o	-

\+ Positive adjustment based on comparable being inferior in comparison to property #2A
\- Negative adjustment based on comparable being superior in comparison to property #2A
o No adjustment necessary

Downward adjustments are made for the superior building size, style, and outbuildings of the 1309 South 393rd Avenue property compared to those features of the 40512 West Elliot Road property. The two properties sold during essentially the same market conditions, and have similar vintage, lot size, location, basement, and utilities. Therefore, although the 1309 South 393rd Avenue property gives the impression of being superior in many categories, the per square foot sale price for the 40512 West Elliot Road property appears to have sold slightly lower than the per square foot sale price of the 1309 South 393rd Avenue property. An interview with the listing real estate broker stated that the adjacent solar farm was not a factor in the sale, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 40512 West Elliot Road property to a solar panel.

Matched Pair Analysis Conclusions

Studies in Illinois counties, as well as studies in similar market areas of other states, comparing the sale of properties proximate to photovoltaic panels to similar properties selling under similar market conditions without proximity to photovoltaic panels have not discovered any sales in which proximity to photovoltaic panels appears to have had a negative impact on property values. Therefore, the conclusion is that there does not appear to have been any measurable negative impact on surrounding residential property values due to the proximity of a solar farm.

Property Value Analysis Near Solar Energy in other States

In addition to analyzing recent single-family residential sales in the area of the Mural Energy Facility Project, other areas in Iowa, Illinois, Indiana, Minnesota, and Arizona, research has been conducted on improved residential sales in proximity to other separate solar projects in various states in order to discover whether residential property values in these areas were impacted by their location.

The solar projects being discussed start with the Badger Hollow Solar Farm in Iowa County, Wisconsin, which is proposed to have a total capacity of approximately 300 megawatts and was made known to the public in 2018. Phase one is planned to be completed and come online in 2021. Two Creeks Solar in Manitowoc County, Wisconsin which is proposed to have a total capacity of approximately 150 megawatts and came online in 2020. The North Star Solar Project in North Branch, Minnesota, which went online in 2017 with a capacity of 100 megawatts. Morgan's Corner Solar Farm in Elizabeth City, North Carolina, which went online in 2015 with a capacity of 20 megawatts. The AM Best Solar Farm in Goldsboro, North Carolina, which went online in 2013 with a capacity of 6.7 megawatts. The research performed around Goldsboro, North Carolina was based on the *Edgecombe Solar Impact Study* conducted by Richard C. Kirkland, Jr., MAI of Kirkland Appraisal, LLC. The recent single-family residential sales and the matched pairs that follow are recreations of Kirkland Appraisal, LLC's Matched Pair #1 with updated information provided by MaRous & Company. The following are the results of this research.[5]

[5] *As with the Illinois research, details of these sales are retained in my office files; maps in the addenda to this report illustrate the location of these matched pairs. Unless otherwise indicated, none of the purchasers in these transactions appear to own any other property in proximity, and none of the transactions appear to have a photovoltaic panel lease associated with the property.*

RECENT SINGLE-FAMILY RESIDENTIAL SALES SUMMARY
IN THE AREA NEAREST TO THE PROPOSED BADGER HOLLOW SOLAR FARM
IN IOWA COUNTY, WISCONSIN
ONLINE IN 2021

No.	Location	Sale Price	Sale Date	Proposed Distance from Solar Farm (Ft.)	Site Size (Acres)	Year Built	Building Size (Sq. Ft.)	Sale Price Per Sq. Ft. of Bldg. Area Incl. Land
1	891 County Road Ig Livingston, Wisconsin	$166,500	5/29/20	498	N/A	N/A	1,500	$111.00
2	2450 County Road G Montfort, Wisconsin	$400,000	6/5/18	544	53.60	2015	2,000	$200.00
3	514 Marilyn Drive Cobb, Wisconsin	$267,500	12/30/18	2,000	0.60	2015	2,258	$118.47
4	12227 Laplatte Road Montfort, Wisconsin	$260,000	10/1/19	10,000	2.00	2000	2,434	$106.82
5	11117 Hickory Grove Road Livingston, Wisconsin	$220,000	10/9/19	20,031	5.76	N/A	2,334	$94.26

The table above illustrates the relationship between proximity to a solar panel and the sale price per square foot of building area including land for the properties nearest to the proposed Badger Hollow Solar Farm. The price per square foot appears to become larger as the properties grow closer to the project border, although, accounting for an adjustment made for the lot size, outbuildings, and other property factors the 2450 County Road G property possesses, the price per square foot can be assumed to be only slightly lower than the price per square foot of the 514 Marilyn Drive property. Therefore, the properties nearest to the proposed Badger Hollow Solar Farm provide evidence of no negative impact.

RECENT SINGLE-FAMILY RESIDENTIAL SALES SUMMARY IN THE AREA NEAREST TO THE PROPOSED TWO CREEKS SOLAR IN MANITOWOC COUNTY, WISCONSIN

ONLINE IN 2020

No.	Location	Sale Price	Sale Date	Proposed Distance from Solar Farm (Ft.)	Site Size (Acres)	Year Built	Building Size (Sq. Ft.)	Sale Price Per Sq. Ft. of Bldg. Area Incl. Land
1[A*]	6506 County Road V Two Rivers, Wisconsin	$145,000	4/30/19	370	5.00	2009	1,280	$113.28
1[B*]	6506 County Road V Two Rivers, Wisconsin	$33,000	6/9/17	Prior to Project Announcement	5.00	2009	1,280	$25.78
2	5409 Irish Road Mishicot, Wisconsin	$220,000	1/29/21	970	1.30	1900	2,000	$110.00
3	13504 Lakeshore Road Two Rivers, Wisconsin	$102,500	7/15/18	1,230	1.70	2007	1,821	$56.29
4	12395 Sandy Bay Road Two Rivers, Wisconsin	$179,900	7/22/19	2,090	2.75	1967	1,352	$133.06
5	5701 Two Creeks Road Two Rivers, Wisconsin	$99,400	9/10/17	12,000	1.21	N/A	1,440	$69.03

*Manufactured Home

The table above illustrates the relationship between proximity to a solar panel and the sale price per square foot of building area including land for the properties nearest to the proposed Two Creeks Solar. The prices per square foot appear to have no pattern in relation to their proximation to the project border. However, when comparing the most recent sale and the prior sale of the 6506 County Road V property, it appears that the only differing factor upon the sale was the announcement of the Two Creeks Solar project, and the sale price of the property substantially grew in value. Therefore, the properties nearest to the proposed Two Creeks Solar provide evidence of no negative impact.

RECENT SINGLE-FAMILY RESIDENTIAL SALES SUMMARY IN THE AREA NEAREST TO THE NORTH STAR SOLAR FARM IN NORTH BRANCH, MINNESOTA

ONLINE IN 2017

No.	Location	Sale Price	Sale Date	Distance from Solar Farm (Ft.)	Site Size (Acres)	Year Built	Building Size (Sq. Ft.)	Sale Price Per Sq. Ft. of Bldg. Area Incl. Land
1	10270 380th St. North Branch, Minnesota	$163,800	11/29/18	230	3.00	2004	2,200	$74.45
2	10009 375th St. North Branch, Minnesota	$260,000	7/12/19	200	5.05	1980	1,548	$167.96
3	37096 Little Oak Ln. North Branch, Minnesota	$289,000	4/17/17	230	2.07	2001	2,684	$107.68
4	37056 Little Oak Ln. North Branch, Minnesota	$208,000	7/8/13	280	2.40	2001	2,196	$94.72
5	10505 367th St. North Branch, Minnesota	$260,500	9/8/16	360	5.00	1999	1,930	$134.97
6	10132 367th St. North Branch, Minnesota	$415,000	12/23/20	320	9.31	2001	2,376	$174.66
7	11210 367th St. North Branch, Minnesota	$430,000	4/30/21	400	5.34	2004	3,756	$114.48
8	10655 367th St. North Branch, Minnesota	$304,900	10/1/18	290	5.00	1998	1,560	$195.45
9	37081 Little Oak Ln. North Branch, Minnesota	$310,000	5/24/17	540	2.71	2003	2,790	$111.11
10	36438 July Ave. North Branch, Minnesota	$225,000	10/1/15	910	10.00	1985	2,130	$105.63
11	37101 Kost Trl. North Branch, Minnesota	$154,900	11/23/16	2,350	8.95	1970	1,044	$148.37
12	10000 Saint Croix Trl. North Branch, Minnesota	$210,000	7/28/17	4,675	9.91	1988	1,272	$165.09
13	10467 Saint Croix Trl. North Branch, Minnesota	$250,000	1/2/18	5,544	5.55	1980	2,132	$117.26

Based on the data shown in the above improved sales table, and the location to photovoltaic panels at 230 feet to 5,544 feet, there does not appear to have been any measurable negative impact on surrounding property values due to the proximity of a solar farm. The sales furthest from the photovoltaic panels do show a higher price per square foot, however, these superior prices can be attributed significantly to the larger land sizes of the properties.

Before and After Sales Comparison Analysis – North Branch, Minnesota

Along with research of sales near the footprint, a study was performed on some homes that were purchased within the footprint during the development of the North Star project. These sales were not purchased at arm's length, or in a way that the buyers and sellers act independently and do not have any relationship or influence with each other, but then were subsequently sold at market value. What follows is an analysis of those second sales. The sales information for the non-arm's length transactions is maintained in our files.

NORTH STAR SOLAR FARM SALE COMPARISON NO. 1

	Proximate to a Photovoltaic Panel	Prior Sale
Address	10090 367th St. North Branch, MN 55056	10090 367th St. North Branch, MN 55056
Distance from P.V. Panel (Ft.)	165	N/A
Sale Date	March 22, 2018	May 14, 2010
Sale Price	$302,500	$219,900
Sale Price/Sq. Ft. (A.G.)	$108.42	$78.82
Year Built	2000	2000
Building Size (Sq. Ft.)	2,790	2,790
Lot Size (Acres)	10.00	10.00
Style	Two-story; frame (vinyl) 4 bedrooms, 3 bath	Two-story; frame (vinyl) 4 bedrooms, 3 bath
Basement	Full, finished	Full, finished
Utilities	Central air other heat well & septic	Central air other heat well & septic
Other	2.5-car attached garage patio renovated in 2008	2.5-car attached garage patio renovated in 2008

Based on the data shown in the above comparison sales table, and the location to photovoltaic panels at 165 feet to the proximate property, there does not appear to have been any measurable negative impact on property values due to the proximity of a solar farm.

NORTH STAR SOLAR FARM SALE COMPARISON NO. 2		
	Proximate to a Photovoltaic Panel	**Prior Sale**
Address	10095 367th St. North Branch, MN 55056	10095 367th St. North Branch, MN 55056
Distance from P.V. Panel (Ft.)	175	N/A
Sale Date	June 16, 2017	July 9, 2010
Sale Price	$336,667	$299,000
Sale Price/Sq. Ft. (A.G.)	$125.76	$111.69
Year Built	2002	2002
Building Size (Sq. Ft.)	2,677	2,677
Lot Size (Acres)	10.00	10.00
Style	Two-story; frame (vinyl) 4 bedrooms, 2.1 bath	Two-story; frame (vinyl) 4 bedrooms, 2.1 bath
Basement	Full, finished	Full, finished
Utilities	Central air other heat well & septic	Central air other heat well & septic
Other	2-car attached & 2-car detached garage deck, patio renovated in 2010	2-car attached & 2-car detached garage deck, patio renovated in 2010

Based on the data shown in the above comparison sales table, and the location to photovoltaic panels at 175 feet to the proximate property, there does not appear to have been any measurable negative impact on property values due to the proximity of a solar farm.

NORTH STAR SOLAR FARM SALE COMPARISON NO. 3		
	Proximate to a Photovoltaic Panel	**Prior Sale**
Address	37083 Keystone Ave. North Branch, MN 55056	37083 Keystone Ave. North Branch, MN 55056
Distance from P.V. Panel (Ft.)	300	N/A
Sale Date	August 28, 2017	August 8, 2000
Sale Price	$252,290	$100,000
Sale Price/Sq. Ft. (A.G.)	$151.07	$59.88
Year Built	1964	1964
Building Size (Sq. Ft.)	1,670	1,670
Lot Size (Acres)	6.00	6.00
Style	One-story; frame (wood) 3 bedrooms, 2.0 bath	One-story; frame (wood) 3 bedrooms, 2.0 bath
Basement	N/A	N/A
Utilities	Central air forced-air heat well & septic	Central air forced-air heat well & septic
Other	2 pole barns, shed, and lean-to covered patio renovated in 1984	2 pole barns, shed, and lean-to covered patio renovated in 1984

Based on the data shown in the above comparison sales table, and the location to photovoltaic panels at 300 feet to the proximate property, there does not appear to have been any measurable negative impact on property values due to the proximity of a solar farm.

NORTH STAR SOLAR FARM SALE COMPARISON NO. 4		
	Proximate to a Photovoltaic Panel	**Prior Sale**
Address	10254 367th St. North Branch, MN 55056	10254 367th St. North Branch, MN 55056
Distance from P.V. Panel (Ft.)	330	N/A
Sale Date	October 27, 2017	December 16, 2005
Sale Price	$335,000	$373,000
Sale Price/Sq. Ft. (A.G.)	$144.02	$160.36
Year Built	2005	2005
Building Size (Sq. Ft.)	2,326	2,326
Lot Size (Acres)	9.28	9.28
Style	Two-story; frame (vinyl) 3 bedrooms, 3.0 bath	Two-story; frame (vinyl) 3 bedrooms, 3.0 bath
Basement	N/A	N/A
Utilities	Central air forced-air heat well & septic	Central air forced-air heat well & septic
Other	3-car attached garage 48x72 aluminum workshop renovated in 2009	3-car attached garage 48x72 aluminum workshop

Based on the data shown in the above comparison sales table, and the location to photovoltaic panels at 330 feet to the proximate property, there does not appear to have been any measurable negative impact on surrounding property values due to the proximity of a solar farm. The prior sale does show a higher price per square foot; however, these superior prices can be significantly attributed to the superior market conditions in which the year 2005 reflected prices at the top of the residential market. A downward market condition adjustment is necessary for the December 16, 2005, sale.

NORTH STAR SOLAR FARM SALE COMPARISON NO. 5			
	Proximate to a Photovoltaic Panel	**Prior Sale - Proximate to a Photovoltaic Panel**	**Prior Sale**
Address	10132 367th St. North Branch, MN 55056	10132 367th St. North Branch, MN 55056	10132 367th St. North Branch, MN 55056
Distance from P.V. Panel (Ft.)	340	340	N/A
Sale Date	December 23, 2020	October 20, 2017	July 3, 2001
Sale Price	$415,000	$333,000	$226,800
Sale Price/Sq. Ft. (A.G.)	$193.02	$154.88	$105.49
Year Built	2001	2001	2001
Building Size (Sq. Ft.)	2,150	2,150	2,150
Lot Size (Acres)	10.00	10.00	10.00
Style	Two-story; frame (vinyl) 4 bedrooms, 2.5 bath	Two-story; frame (vinyl) 4 bedrooms, 2.5 bath	Two-story; frame (vinyl) 4 bedrooms, 2.5 bath
Basement	Full, finished, walkout	Full, finished, walkout	Full, finished, walkout
Utilities	Central air forced-air heat well & septic	Central air forced-air heat well & septic	Central air forced-air heat well & septic
Other	3-car attached garage 48x28 pole barn renovated in 2008	3-car attached garage 48x28 pole barn renovated in 2008	3-car attached garage 48x28 pole barn

Based on the data shown in the above comparison sales table, and the location to photovoltaic panels at 340 feet to the proximate property, there does not appear to have been any measurable negative impact on property values due to the proximity of a solar farm.

NORTH STAR SOLAR FARM SALE COMPARISON NO. 6

	Proximate to a Photovoltaic Panel	Prior Sale
Address	10200 367th St. North Branch, MN 55056	10200 367th St. North Branch, MN 55056
Distance from P.V. Panel (Ft.)	400	N/A
Sale Date	November 28, 2017	November 8, 2004
Sale Price	$322,938	$309,900
Sale Price/Sq. Ft. (A.G.)	$137.42	$131.87
Year Built	2003	2003
Building Size (Sq. Ft.)	2,350	2,350
Lot Size (Acres)	9.30	9.30
Style	Two-story; frame (vinyl) 4 bedrooms, 2.5 bath	Two-story; frame (vinyl) 4 bedrooms, 2.5 bath
Basement	Full, finished, walkout	Full, finished, walkout
Utilities	Central air forced-air heat well & septic	Central air forced-air heat well & septic
Other	2.5-car attached garage 42x60 pole barn, porch, deck renovated in 2009	2.5-car attached garage porch, deck 42x60 pole barn

Based on the data shown in the above comparison sales table, and the location to photovoltaic panels at 400 feet to the proximate property, there does not appear to have been any measurable negative impact on property values due to the proximity of a solar farm.

RECENT SINGLE-FAMILY RESIDENTIAL SALES SUMMARY IN THE AREA NEAREST TO THE MORGAN'S CORNER SOLAR FARM IN ELIZABETH CITY, NORTH CAROLINA

ONLINE IN 2015

No.	Location	Sale Price	Sale Date	Distance from Solar Farm (Ft.)	Site Size (Acres)	Year Built	Building Size (Sq. Ft.)	Sale Price Per Sq. Ft. of Bldg. Area Incl. Land
1	1364 Blindman Rd. Elizabeth City, North Carolina	$175,000	2/28/17	640	1.00	2013	1,762	$99.32
2	1363 Blindman Rd. Elizabeth City, North Carolina	$160,900	5/4/18	830	10.01	2004	1,820	$88.41
3	1493 Millpond Rd. Elizabeth City, North Carolina	$204,000	10/19/21	1,720	2.20	2004	2,110	$96.68
4[A]	1461 Millpond Rd. Elizabeth City, North Carolina	$180,000	6/25/15	1,893	0.99	1994	2,517	$71.51
4[B]	1461 Millpond Rd. Elizabeth City, North Carolina	$216,900	9/1/20	1,893	0.99	1994	2,517	$86.17
5	974 U.S Hwy. 158 Elizabeth City, North Carolina	$162,000	9/28/16	1,955	0.96	2001	1,848	$87.66
6	740 Firetower Rd. Elizabeth City, North Carolina	$144,000	6/26/15	3,770	0.89	1976	1,701	$84.66
7	214 Linwood Dr. Elizabeth City, North Carolina	$197,250	4/9/18	4,400	0.69	2006	2,100	$93.93
8	773 U.S Hwy. 158 Elizabeth City, North Carolina	$290,000	2/26/16	4,645	4.41	2008	2,460	$117.89
9	1401 Brothers Ln. Elizabeth City, North Carolina	$100,000	12/4/15	5,597	0.30	2012	1,344	$74.40

Based on the data shown in the above improved sales table, and the location to photovoltaic panels at 640 feet to 5,597 feet, there does not appear to have been any measurable negative impact on surrounding property values due to the proximity of a solar farm. The sale of the 773 U.S. Highway 158 property does show a higher price per square foot; however, these superior prices can be significantly attributed to the larger land size of the property. Also, in comparison, the 1401 Brothers Lane sale is furthest from the solar farm and sold at the second lowest price per square foot.

SINGLE-FAMILY RESIDENTIAL SALES SUMMARY
IN THE AREA NEAREST TO THE AM BEST SOLAR FARM
IN GOLDSBORO, NORTH CAROLINA

ONLINE IN 2013

(BASED ON MATCHED PAIR #1 FROM KIRKLAND APPRAISAL, LLC)

No.	Location	Sale Price	Sale Date	Distance from Solar Farm (Ft.)	Site Size (Acres)	Year Built	Building Size (Sq. Ft.)	Sale Price Per Sq. Ft. of Bldg. Area Incl. Land
1	103 Erin Pl. Goldsboro, North Carolina	$250,000	3/31/14	450	0.93	2014	3,492	$71.59
2	2400 Granville Dr. Goldsboro, North Carolina	$224,000	6/19/14	560	0.81	2014	2,464	$90.91
3	2311 Granville Dr. Goldsboro, North Carolina	$248,000	10/22/13	630	1.12	2013	3,400	$72.94
4	2309 Granville Dr. Goldsboro, North Carolina	$238,000	10/25/13	635	1.12	2013	3,194	$75.51
4A	2309 Granville Dr.* Goldsboro, North Carolina	$258,000	6/8/17	635	1.12	2013	3,194	$80.78
4B	2309 Granville Dr.* Goldsboro, North Carolina	$279,900	2/7/20	635	1.12	2013	3,194	$87.63
5	2401 Granville Dr. Goldsboro, North Carolina	$258,000	4/7/14	650	0.91	2013	3,511	$73.48
5A	2401 Granville Dr. Goldsboro, North Carolina	$292,000	12/17/20	650	0.91	2013	3,511	$83.17
6	2402 Granville Dr. Goldsboro, North Carolina	$253,000	12/3/13	715	0.95	2013	3,400	$74.41
7	2403 Granville Dr. Goldsboro, North Carolina	$242,000	6/3/14	845	0.67	2014	2,388	$101.34
7A	2403 Granville Dr.* Goldsboro, North Carolina	$265,000	4/24/19	845	0.67	2014	2,388	$110.97
8	2404 Granville Dr. Goldsboro, North Carolina	$255,000	4/17/14	875	0.73	2014	3,643	$70.00
	RECENT SINGLE-FAMILY RESIDENTIAL SALES *(NOT FROM REPORT BY KIRKLAND APPRAISAL, LLC)*							
9	2312 Granville Dr. Goldsboro, North Carolina	$357,000	9/24/21	400	0.75	2013	3,453	$103.39
10	2310 Granville Dr. Goldsboro, North Carolina	$280,000	5/15/19	410	0.76	2013	3,292	$85.05
11	2308 Granville Dr. Goldsboro, North Carolina	$345,000	4/1/21	420	1.49	2013	3,596	$95.94
12	2304 Granville Dr. Goldsboro, North Carolina	$277,000	5/5/21	465	1.61	2012	2,434	$113.80

** - Updated resale of the property found in Kirland Appraisals, LLC's Matched Pair #1*

The data used is based on the Matched Pair #1 from the report *Edgecombe Solar Impact Study* performed by Richard C. Kirkland, Jr., MAI of Kirkland Appraisals, LLC. The data in the above improved sales table, and the location to photovoltaic panels at 450 feet to 875 feet, shows there does not appear to have been any measurable negative impact on surrounding property values due to the proximity of a solar farm. The table shows that the 2404 Granville Drive sale is furthest from the solar farm and sold at the lowest price per square foot.

Before and After Sales Comparison Analysis – Goldsboro, North Carolina

Along with research of sales near the footprint a before and after sales comparison analysis was performed on the homes that were most proximate and were originally analyzed by Richard C. Kirkland, Jr., MAI of Kirkland Appraisals, LLC. These sales comparisons include the sales research performed by Kirkland Appraisals, LLC, and the updated sales information of their research.

AM BEST SOLAR FARM SALE COMPARISON NO. 1

	Proximate to a Photovoltaic Panel	Prior Sale (Kirkland Appraisals, LLC)
Address	102 Erin Pl. Goldsboro, NC 27530	102 Erin Pl. Goldsboro, NC 27530
Distance from P.V. Panel (Ft.)	300	300
Sale Date	November 28, 2016	August 12, 2014
Sale Price	$270,000	$253,000
Sale Price/Sq. Ft. (A.G.)	$79.41	$74.41
Year Built	2014	2014
Building Size (Sq. Ft.)	3,400	3,400
Lot Size (Acres)	1.13	1.13
Style	Two-story; frame (vinyl) 4 bedrooms, 3 bath	Two-story; frame (vinyl) 4 bedrooms, 3 bath
Basement	N/A	N/A
Utilities	Central air electric/forced-air heat well & septic	Central air electric/forced-air heat well & septic
Other	2-car attached garage shed pool	2-car attached garage shed pool

The more current sale reflects a superior price per square foot than the previous sale. Based on the data shown in the above comparison sales table, and the location to photovoltaic panels at 300 feet to the proximate property, there does not appear to have been any measurable negative impact on property values due to the proximity of a solar farm.

AM BEST SOLAR FARM SALE COMPARISON NO. 2		
	Proximate to a Photovoltaic Panel	**Prior Sale (Kirkland Appraisals, LLC)**
Address	104 Erin Pl. Goldsboro, NC 27530	104 Erin Pl. Goldsboro, NC 27530
Distance from P.V. Panel (Ft.)	300	300
Sale Date	June 19, 2017	July 30, 2014
Sale Price	$280,000	$250,000
Sale Price/Sq. Ft. (A.G.)	$82.35	$73.53
Year Built	2014	2014
Building Size (Sq. Ft.)	3,400	3,400
Lot Size (Acres)	2.24	2.24
Style	Two-story; frame (vinyl) 5 bedrooms, 3.5 bath	Two-story; frame (vinyl) 5 bedrooms, 3.5 bath
Basement	N/A	N/A
Utilities	Central air heat pump well & septic	Central air heat pump well & septic
Other	2-car attached garage	2-car attached garage

The more current sale reflects a superior price per square foot than the previous sale. Based on the data shown in the above comparison sales table, and the location to photovoltaic panels at 300 feet to the proximate property, there does not appear to have been any measurable negative impact on property values due to the proximity of a solar farm.

AM BEST SOLAR FARM SALE COMPARISON NO. 3		
	Proximate to a Photovoltaic Panel	**Prior Sale (Kirkland Appraisals, LLC)**
Address	2312 Granville Dr. Goldsboro, NC 27530	2312 Granville Dr. Goldsboro, NC 27530
Distance from P.V. Panel (Ft.)	400	400
Sale Date	May 1, 2018	December 16, 2013
Sale Price	$285,000	$255,000
Sale Price/Sq. Ft. (A.G.)	$82.54	$73.85
Year Built	2013	2013
Building Size (Sq. Ft.)	3,453	3,453
Lot Size (Acres)	0.75	0.75
Style	Two-story; frame (vinyl) 5 bedrooms, 4 bath	Two-story; frame (vinyl) 5 bedrooms, 4 bath
Basement	N/A	N/A
Utilities	Central air heat pump well & septic	Central air heat pump well & septic
Other	2-car attached garage above-ground pool	2-car attached garage

The more current sale reflects a superior price per square foot than the previous sale. Based on the data shown in the above before and after sales table, and the location to photovoltaic panels at 400 feet to the proximate property, there does not appear to have been any measurable negative impact on property values due to the proximity of a solar farm.

AM BEST SOLAR FARM SALE COMPARISON NO. 4		
	Proximate to a Photovoltaic Panel	**Prior Sale (Kirkland Appraisals, LLC)**
Address	2308 Granville Dr. Goldsboro, NC 27530	2308 Granville Dr. Goldsboro, NC 27530
Distance from P.V. Panel (Ft.)	415	415
Sale Date	November 15, 2015	September 15, 2013
Sale Price	$267,500	$260,000
Sale Price/Sq. Ft. (A.G.)	$74.39	$72.30
Year Built	2013	2013
Building Size (Sq. Ft.)	3,596	3,596
Lot Size (Acres)	1.49	1.49
Style	Two-story; frame (vinyl) 6 bedrooms, 4 bath	Two-story; frame (vinyl) 6 bedrooms, 4 bath
Basement	N/A	N/A
Utilities	Central air heat pump well & septic	Central air heat pump well & septic
Other	2-car attached garage covered patio	2-car attached garage covered patio

The more current sale reflects a superior price per square foot than the previous sale. Based on the data shown in the above before and after sales table, and the location to photovoltaic panels at 415 feet to the proximate property, there does not appear to have been any measurable negative impact on property values due to the proximity of a solar farm.

Overall, the improved sales of properties, the before and after sales comparisons, and the proximation to photovoltaic panels at 165 feet to 5,597 feet from each property, shows that there does not appear to have been any measurable negative impact on surrounding property values due to the proximity of a solar farm. This conclusion is based on proximity to the photovoltaic panels, price per square foot, condition based on year built, and if the property was sold before or after the construction of the solar farm.

Solar Farm Assessor Surveys

Surveys and interviews were conducted with supervisors of assessments or staff members of counties that host solar farms that include a total capacity of 5 megawatts or more. The surveys and interviews were intended to allow the assessment officials to share their experience regarding the solar farm(s) impact upon the market values and/or assessed values of surrounding properties. The surveys and interviews were intended to be conversational, however they thoroughly discussed residential and agricultural values and impacts. The following sections summarize each of the surveys and interviews performed.

Illinois Assessors Survey – July 2019

In July 2019, MaRous & Company conducted a survey of the supervisor of assessments or a staff member in 6 counties in Illinois in which solar farms with more than 1.0 megawatts of capacity are currently in operation. As of the date of this report, there are more than 10 utility-scale solar farms with a total capacity of greater than 50.7 megawatts within these counties, with additional farms being added each year. An updated study performed by the Solar Energy Industries Association (SEIA) in Q1 of 2019 states that, in total, Illinois has 119.7 megawatts of solar energy installed. The total capacity reported in the study includes utility, residential, and nonresidential scale solar farms. The interviews were intended to allow the assessment officials to share their experience regarding the solar farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a solar farm facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based upon solar farm-related concerns. There have been no reductions in assessed valuations related to photovoltaic panels.
- As the available market data does not support the claim of a negative impact upon residential values, residential assessed values have fluctuated consistently within counties as influenced by market conditions, with no regard for proximity to a solar farm.
- Agricultural properties are taxed based upon a productivity formula that is not impacted by market data and external influences.

Wisconsin Assessors Survey - April 2018

In April 2018, MaRous & Company conducted a survey of the supervisor of assessments or a staff member in 11 counties in Wisconsin in which solar farms with more than 0.9 megawatt of capacity are currently in operation. As of the date of this report, there are more than 13 solar farms with a total capacity of greater than 18 megawatts within these counties, with additional farms being added each year. An updated study performed by the Solar Energy Industries Association (SEIA) in March 2021 states that, in total, Wisconsin has 442.03 megawatts of solar energy installed. The total capacity reported in the study includes utility, residential, and nonresidential scale solar farms. The interviews were intended to allow the assessment officials to share their experience regarding the solar farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of, and the proximity to, a solar farm facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- There have been no tax appeals in any county based upon solar farm-related concerns.
- In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based upon solar farm-related concerns. There have been no reductions in assessed valuations related to solar panels.
- Residential assessed values have fluctuated consistently countywide as influenced by market conditions, with no regard for proximity to a solar farm.
- Agricultural property assessed values have fluctuated consistently countywide as influenced by market conditions, with no regard for proximity to a solar farm.

Michigan Assessors Survey - December 2021

In December 2021, MaRous & Company conducted a survey of the township supervisor of assessments or a staff member in 20 counties in Michigan in which solar farms with more than 10 megawatts of capacity are currently in operation. As of the date of this report, there are more than 30 solar farms with a total capacity of greater than 173 megawatts within these counties, with additional farms being added each year. An updated study performed by the Solar Energy Industries Association (SEIA) in March 2021 states that, in total, Michigan has 599.4 megawatts of solar energy installed. The total capacity reported in the study includes utility, residential, and nonresidential scale solar farms. The interviews were intended to allow the assessment officials to share their experience regarding the solar farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of, and the proximity to, a solar farm facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- There have been no tax appeals in any county based upon solar farm-related concerns.
- In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based upon solar farm-related concerns. There have been no reductions in assessed valuations related to solar panels.
- Residential assessed values have fluctuated consistently countywide as influenced by market conditions, with no regard for proximity to a solar farm.
- Agricultural property assessed values have fluctuated consistently countywide as influenced by market conditions, with no regard for proximity to a solar farm.

Indiana Assessors Survey – February & March 2019

In February & March 2019, MaRous & Company conducted a survey of the supervisor of assessments or a staff member in 9 counties in Indiana in which solar farms with more than 3 megawatts of capacity are currently in operation. As of the date of this report, there are more than 16 solar farms with a total capacity of greater than 111 megawatts within these counties, with additional farms being added each year. An updated study performed by the Solar Energy Industries Association (SEIA) in Q4 of 2018 states that, in total, Indiana has 331.19 megawatts of solar energy installed. The total capacity reported in the study includes utility, residential, and nonresidential scale solar farms. The interviews were intended to allow the assessment officials to share their experience regarding the solar farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a solar farm facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based upon solar farm-related concerns. There have been no reductions in assessed valuations related to photovoltaic panels.
- As the available market data does not support the claim of a negative impact upon residential values, residential assessed values have fluctuated consistently within counties as influenced by market conditions, with no regard for proximity to a solar farm.
- Agricultural properties are taxed based upon a productivity formula that is not impacted by market data and external influences.

Iowa Assessors Survey – July 2021

In July 2021, MaRous & Company conducted a survey of the supervisor of assessments or a staff member in 7 counties in Iowa in which solar farms with more than 1.0 megawatts of capacity are currently in operation. As of the date of this report, there are approximately 8 utility-scale solar farms with a total capacity of approximately 18.0 megawatts within these counties, with additional farms being added each year. A study performed by the Solar Energy Industries Association (SEIA) on June 15, 2021, states that, in total, Iowa has 423.71 megawatts of solar energy installed. The total capacity reported in the study includes utility, residential, and nonresidential scale solar farms. The interviews were intended to allow the assessment officials to share their experience regarding the solar farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a solar farm facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based upon solar farm-related concerns. There have been no reductions in assessed valuations related to photovoltaic panels.
- As the available market data does not support the claim of a negative impact upon residential values, residential assessed values have fluctuated consistently within counties as influenced by market conditions, with no regard for proximity to a solar farm.
- Agricultural properties are taxed based upon a productivity formula that is not impacted by market data and external influences.

North Carolina Assessors Solar Farm Survey (Partial) - July 2018

In July 2018, MaRous & Company conducted a partial survey of the supervisor of assessments or a staff member in 5 counties in North Carolina that, as of the date of this report, have more than 44 solar farms with a total capacity of over 645 megawatts within those solar farms. A study performed by the Solar Energy Industries Association (SEIA) in June 2018 states that, in total, North Carolina has 4,411.65 megawatts of solar energy installed within 7,527 installations and is ranked second in the country for solar generation. The total capacity reported in the study includes utility, residential, and nonresidential scale solar farms. The interviews were intended to allow the assessment officials to share their experience regarding the solar farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of, and the proximity to, a solar farm facility. In some counties, this results from the very rural nature of the area in which the projects are located.

- There have been no tax appeals in any county based upon solar farm-related concerns.
- In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based upon solar farm-related concerns. There have been no reductions in assessed valuations related to solar panels.
- Residential assessed values have fluctuated consistently countywide as influenced by market conditions, with no regard for proximity to a solar farm.
- Agricultural property assessed values have fluctuated consistently countywide as influenced by market conditions, with no regard for proximity to a solar farm.

Maryland Assessors Solar Farm Survey - October 2017

In October 2017, MaRous & Company conducted a survey of the supervisor of assessments or a staff member in 13 counties in Maryland in which solar farms with more than 0.9 megawatts currently in operation. As of the date of this report, there are more than 25 solar farms with a total capacity of greater than 60 megawatts within these counties, with additional farms being added each year. An updated study performed by the Solar Energy Industries Association (SEIA) in June 2018 states that, in total, Maryland has 932.7 megawatts of solar energy installed. The total capacity reported in the study includes utility, residential, and nonresidential scale solar farms. The interviews were intended to allow the assessment officials to share their experience regarding the solar farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of, and the proximity to, a solar farm facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- There have been no tax appeals in any county based upon solar farm-related concerns.
- In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based upon solar farm-related concerns. There have been no reductions in assessed valuations related to solar panels.
- Residential assessed values have fluctuated consistently countywide as influenced by market conditions, with no regard for proximity to a solar farm.
- Agricultural property assessed values have fluctuated consistently countywide as influenced by market conditions, with no regard for proximity to a solar farm.

Real Estate Professionals

Midwestern real estate professionals were contacted to discuss market conditions, specific market transactions, and to investigate whether they had experience with, or knowledge of any impact of solar farms on residential property values.

Some interviews have been conducted with market participants, real estate brokers, and real estate professionals in the Midwest that have had experience with residential properties proximate to solar farms, however, they wish to remain anonymous. The interviewees indicated that there have not been any negative impacts to residential property values due to the proximity to solar farms.

Dustin Dolezalek of Scott Appraisal in Madison, Wisconsin, has observed positive feedback from residents proximate to other solar farms throughout southern Wisconsin. He also notes that the solar farms he has witnessed have a somewhat rolling topography in which the land acts as a natural view shield to any major road.

Jeff Thomas of Mineral Point Real Estate, the highest selling broker in Iowa County, Wisconsin, states that he is very cognizant of all of the activity in the Iowa County market. He is aware that the Montfort housing market is stable, however, it is not in strong demand because the purchasing trend is typically between family members and parties looking to get housing from $100,000 up to $200,000. Mr. Thomas has observed patterns of no impact or no negative impact from alternative energy in the area, however, there is a concern about the nearby power lines developed by American Transmission Company.

Anne Larson of True-Blue Real Estate located near Barneveld, Wisconsin, states that in her opinion, minimal transactional activity is happening in or around Montfort, Wisconsin. Typical buyers are interested in properties that have values under $200,000. Basically, purchasing demand for the area is only driven by affordability. In her opinion, there is no negative impact based on the proposed solar farm.

Prior to the approval of the Badger Hollow Solar Farm in Iowa County, Wisconsin, interveners, Brenda and Casey Kite, requested appraisal services for their property at 2680 County Road G #80, from Kurt Kielisch of Forensic Appraisal Group. The residence is a 1,987-square-foot farmhouse with a 5,040-square-foot pole barn and grain bin that sits on 3.73 acres of land. The Kite property is located in an area that is surrounded by tall crops, such as corn, and Badger Hollow Solar Farm agreed to an appropriate 500-foot setback from the residence. Within the immediate view of the property is a small wind farm, the Montfort Wind that came online in 2001, which the Kites were aware of at the time that they purchased the property in 2005.

The Kites purchased the property December 5, 2005, for $179,999, which is understood to be near the top of the local residential real estate market up to the year 2015. There is limited information that indicates that significant improvements were made between 2005 and the eventual 2019 sale.

The Kites listed the property as “For Sale by Owner”, which implies that the sale was substantially under exposed to the market. Due to the Kites not using a broker for the listing, the sale price did not factor in the market broker commission. Also, throughout the marketing period the Kites had a large anti-solar sign posted on the front of their property which used tactical scare verbiage in an attempt to persuade their neighbors, however, the sign acted as a disservice to them by deterring potential buyers from their property. The property sold on August 1, 2019, for $253,700. Therefore, by adding a market commission of 5.5%, the sale price of the property is adjusted to $267,600. Another adjustment of 5% should be added to the property’s selling price for the lack of market exposure and the anti-solar sign, to create a final adjusted sale price of $281,000.

Kurt Kielisch appraised the property with an effective date of November 14, 2019, with a before solar development value of $298,500 and an after solar development value of $179,000. The adjusted August 1, 2019, sale price of $281,000, which occurred with the knowledge of the solar development, reflects a difference of $102,000 or a 57% increase compared to Kielisch’s after solar development value estimate of $179,000. Utilizing the unadjusted Kite sale price of $253,700 with the Kielisch after solar value of $179,000, reflects an overall price increase of $74,700 or 41.7% price increase.

Joy Boyd, a local Illinois licensed broker in Christian County, Illinois has observed rural residential property values near existing energy facilities, such as wind farms, have not been negatively impacted due to the proximity to a wind turbine. Ms. Boyd also states that during peak farming season, systems such as solar panels essentially disappear behind the crops on the land. Ms. Boyd also reported that rural residential properties in the general area are overall accepting of alternative uses for the land due to the proximity of existing intense agricultural uses, agricultural and industrial type buildings, gravel roads, and other intrusive uses of the land. It has been observed that the residents within Christian County and the general project area have consistently agree that the only negative land use possibly impacting property values and buyers’ decisions are the existing hog containment facilities within the county.

Agricultural Land Values

Agricultural land values are typically tied to the productivity of the land and to the commodity prices of crops like corn and soybeans. Other factors include favorable interest rates and the supply of land compared to the number of buyers. The May 2023 edition of the *AgLetter*, published by the Federal Reserve Bank of Chicago from the Federal Reserve 7th District[6], which includes Vermilion County, stated that "[i]n the first quarter of 2023, the Seventh Federal Reserve District's farmland values saw a 10 percent increase from a year ago, marking the eighth consecutive quarter of double-digit year-over-year growth. In addition, "good" farmland values in the District rose 2 percent from the fourth quarter of 2022 to the first quarter of 2023, according to the survey responses of 148 District agricultural bankers. Despite demand to purchase farmland still being up, there was a smaller amount of farmland for sale in the three- to six-month period ending with March 2023 than in the same period ending with March 2022. Moreover, the number of farms and the amount of acreage sold were down somewhat during the winter and early spring of 2023 compared with a year earlier. Annual cash rental rates for District farmland saw an increase of 8 percent in 2023—down from their gain of 11 percent in 2022. The vast majority of responding bankers (78 percent) forecasted District farmland values to be stable during the second quarter of 2023, while 15 percent forecasted them to be higher and 7 percent forecasted them to be lower."

"Despite experiencing its smallest year-over-year gain (10 percent) in agricultural land values since the second quarter of 2021, the District still extended its streak of double-digit farmland value increases to eight quarters in the first quarter of 2023. Farmland values rose 2 percent in the first quarter of this year from the fourth quarter of last year (see table and map below). After being adjusted for inflation with the Personal Consumption Expenditures Price Index (PCEPI), the year-over-year gain in District farmland values for the first quarter of 2023 was 5 percent (the tenth consecutive quarter of real increases that were at least as large)."

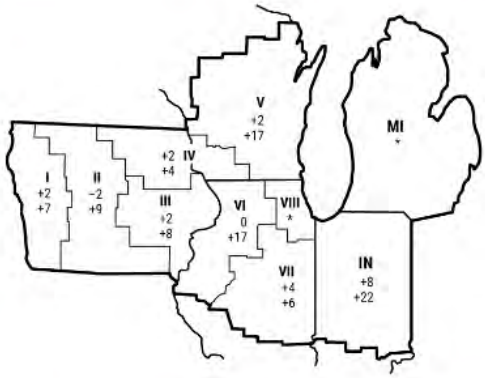
The following charts from the 2022 edition of the annual publication of *Illinois Land Values and Lease Trends* illustrate the prices of agricultural land sold in the eastern region of Illinois, or Region 5, and includes Vermilion County. In 2021, average-productivity agricultural land sales were between $7,000 per acre and $9,000 per acre. These values were an increase from 2020 by 20%. The average prices of excellent-productivity agricultural land sold in 2021 were between $13,000 per acre and $16,000 per acre. These values were an increase from 2020 by 23.2%. "Total number of cropland sales reported jumped 22 percent from 2020, on top of a 52 percent increase the prior year. Statistically, overall weighted average sale price per acre and sale price per tillable PI both jumped 22 percent this year. However, the typical value range reported above reflects a much stronger 35-40 percent increase. The difference is likely attributable to many sales that occurred without advertising or public exposure to the market and thus often sold at lower values."[7]

[6] *https://www.chicagofed.org/publications/agletter/2020-2024/may-2023*
[7] *Region 5 – Eastern. (2022). 2022 Illinois Land Values and Lease Trends. https://ispfmra.org/category/land-values/2022*

Percent change in dollar value of "good" farmland

	January 1, 2023 to April 1, 2023	April 1, 2022 to April 1, 2023
Illinois	+2	+11
Indiana	+8	+22
Iowa	+1	+7
Michigan	*	*
Wisconsin	+2	+15
Seventh District	+2	+10

*Insufficient response.



Top: January 1, 2023 to April 1, 2023

Bottom: April 1, 2022 to April 1, 2023

Land Value and Cash Rent Trends
Overall Summary

Farm Classification	Total Value Per Acre (Typical)	% Change in $/Acre from prior year	Change in rate of land turnover	Avg. Cash Rent Per Acre typical in region	% Change from prior year	Avg. Cash Rent/Ac. on recently negotiated leases
Excellent Productivity	$13,000-$16,000	up 23.2%	up 20%-25%	$350-$385	up 7%-20%	$360-$400
Good Productivity	$9,500-$12,500	up 21.5%	up 20%-25%	$290-$330	up 7%-20%	$300-$350
Average Productivity	$7,000-$9,000	up 20%	up 30%	$250-$300	up 7%-20%	$250-$275
Recreational Land	$4,000-$8,000	Unch to up 10%	Steady			

SUMMARY OF RECENT LAND SALES
NEAREST TO MURAL ENERGY FACILITY PROJECT

No.	Owner Mailing Address & Parcel Identification	Sale Price	Sale Date	Land Area (Acres)	Productivity Index	Sale Price Per Acre
1	105 W. Briarcliff Dr. St. Joseph, IL 61873 Vermilion County, IL 19N 14W – 27 APN: 20-27-200-009					
	Land Sale #1 - 1 Parcel	**$109,000**	**1/31/22**	**12.96**	**141.1**	**$8,410.49**
2	8460 Camargo Rd. Cincinnati, OH 45243 Vermilion County, IL 18N 13W – 23, 26 APN: 26-26-20-000-007, -008					
	Land Sale #2 - 2 Parcels	**$194,600**	**8/4/20**	**20.00**	**143.8**	**$9,730.00**
3	Gregory R. Verderber Vermilion County, IL 18N 13W – 23, 26 APN: 26-26-100-006					
	Land Sale #3 - 1 Parcel	**$300,000**	**12/15/21**	**40.11**	**144.0**	**$7,479.43**
4	8460 Fox Club Ln. Cincinnati, OH 45243 Vermilion County, IL 17N 13W – 5, 8 APN: 31-08-200-011, -012					
	Land Sale #4 - 3 Parcels	**$337,000**	**4/8/20**	**54.10**	**141.5**	**$6,229.21**
5	P.O. Box 55 Allerton, IL 61810 Vermilion County, IL 18N 13W – 29, 32 APN: 26-32-200-003					
	Land Sale #5 - 1 Parcel	**$400,000**	**11/1/19**	**40.59**	**144.0**	**$9,854.64**
6	62 Ramblewood Dr. Chatham, IL 62629 Vermilion County, IL 18N 13W – 28, 33 APN: 26-33-20-000-005					
	Land Sale #6 - 1 Parcel	**$405,000**	**12/28/20**	**40.50**	**142.8**	**$10,000.00**
	Summary Averages:				**142.9**	**$8,617.30**
	Vermilion County Averages:				**125.2**	**$7,835.00**

The above analysis includes land sales that are nearest to the project footprint in Vermilion County, Illinois.[8] The above summary of land sales in Vermilion County reveal that the agricultural land nearest to the area of the project footprint is of above average quality for the county, with an average Productivity Index of 142.9 compared to the county's overall average Productivity Index 125.2. The land value of the above summary of land sales is above average with an average value of $8,617.30 per acre compared to the county's average value of $7,835.00 per acre. Adding wind turbines and land leases should only add value to the land prices and farm revenue benefit of the above-average land, and then benefit the land prices and farm revenue of the parcels with below-average land by adding an extra steady income stream.

[8] *AcreValue Pro - https://www.acrevalue.com/*

Agricultural Land Sales: Solar Farms and Wind Farms

Over the past 10-20 years, wind energy has grown rapidly across the Midwest in agricultural communities similar to the project area. Solar energy is increasingly being installed in this region as well. This is driven by several factors, including steep cost declines primarily from decreases in inverter and module prices, and utility and other customers' interest in affordable, low-carbon energy. Although wind and solar energy projects have varying reasons for being placed in the Midwest and other similar locations, their sites have notable attributes in common, including access to an available energy resource, access to the electrical grid, and predominantly agricultural economies in which solar or wind can be located along with other productive uses of the land.

MaRous and Company has extensively researched the question of property value impacts by wind farms and our findings show that responsibly sited wind farms do not have any negative impacts on neighboring property values. Solar farms are significantly lower profile, thus have reduced if not eliminated, visual concerns with negligible, if any, sound emissions. Therefore, it is our observation that if wind farms do not negatively impact property values, solar farms will not either. This is confirmed by the market research presented earlier in this report. The following is a brief summary of a portion of our research into wind farm property values, along with the summaries of the county assessors' surveys conducted in 60 counties within the states of Indiana, South Dakota, Iowa, Michigan, Minnesota, Kansas, and Illinois in which wind farms are located.

We have compiled research for wind farms and have summarized our findings. The research was not exhaustive, however, in Illinois there was one reported sale of agricultural land close to wind turbines located in McLean County, Illinois, in March 2013. The farm, comprised of two tracts, was considered "highly desirable" with a productivity rating of 135 and 132 respectively (the low end of the excellent range.) The report commented, "...the wind turbine lanes were not a nuisance as they ran the same direction as the farm is planted (north–south.)" In 2014, there were three sales of farms with wind turbines in Region 4, which includes the counties of Marshall, Woodford, Mason, Putnam, Livingston, McLean, and Tazewell. The report stated, "In general, investors may have paid a premium for the wind turbine. High quality farmland with wind turbines is stable."

Another reported sale in November 2017 was to be associated with wind turbines within Jerauld County, South Dakota, which is home to the Wessington Springs Wind Farm and has similar demographics as the project area. The property is situated on pastureland of poor quality with significant topography issues, which would reflect a lower price per acre than the region's average price of $2,011 per acre. However, the sale included multiple wind turbine leases, and sold with an above average price per acre of $2,800, which signifies a direct correlation to the benefit associated with the turbines on the land.

Overall, it appears that there is little or no relationship between agricultural land values and the location of wind farms, with productivity being the driving force behind land values. However, wind farm lease revenue appears to add to the marketability and value.

An article titled *Solar and Wind Contracts Add to Land Value: Illinois Survey*[9], published in the *Illinois Farmer Today*, describes the benefits wind turbines had given to land prices in the area of two land sales in Macon County, Illinois with and without turbines on the land. The article used a report published in the *2019 Illinois Land Values and Lease Trends*[10]; the report stated "Both tracts brought a premium to farms in the market without wind towers. The estimated increase was roughly $750 per acre for each tract when factoring out all the other variables. Both properties were on highly productive Macon County land. The larger tract, with 97.6 percent tillable acres, sold for $11,000 per acre. The 114-acre tract, with 87.1 percent tillable acres and some CRP land, sold for $10,721"

Wind turbines typically are considered to be of significant benefit to farmers; Iowa farmers interviewed by the *Omaha World Herald*, were positive about the stable income as opposed to the vicissitudes of commodity prices.[11] Franklin County, Iowa, reported lowering real estate taxes for the county as a whole because of the taxes generated by the wind turbines in that county. Support for good prices comes from the lack of land for sale, stable commodity prices, and low interest rates. Marginal land in areas where wind turbines are located or proposed is popular with investors.[12]

A report in the *2016 Illinois Land Values and Lease Trends*, indicated that the impact of wind turbine leases is being felt in McLean, Livingston, and Woodford counties, where turbine leases have provided "income diversification, beyond agriculture, which makes these tracts more attractive to an outside investor."[13] Further, they noted that "investors are still paying a little more of a premium for the wind turbines just as they had in the past few years."[14] The report notes that the premium is related directly to the number of years left on the lease.

Overall, it appears that there is little or no relationship between agricultural land values and the location of wind farms, with productivity being the driving force behind land values. Wind farm lease revenue, however, does appear to add to the marketability and value.

Wind Farm - Real Estate Professionals & Assessor Surveys 2016-2019

Real estate professionals from the surrounding market areas and in the Midwest were contacted to discuss market conditions, specific market transactions, and to investigate whether they had experience with or knowledge of any impact of wind farms on residential property values.

Joy Boyd, a local Illinois licensed real estate broker active in Christian and Macon Counties and the surrounding area, has observed rural residential property values near the existing wind farm, Radford's Run, have not been negatively impacted due to the proximity to a wind turbine Ms. Boyd also reported that rural residential properties in the general area overall are accepting of alternative uses for the land

[9] *Solar and Wind Contracts Add to Land Value: Illinois Survey.* https://www.agupdate.com/illinoisfarmertoday/news/state-and-regional/solar-and-wind-contracts-add-to-land-value-illinois-survey/article_61f2d45c-5643-11e9-a283-c78a49e3fa2e.html
[10] *Klein, David E., 2019 Illinois Land Values and Lease Trends, Illinois Society of Professional Farm Managers and Rural Appraisers*
[11] *http://www.omaha.com/money/turning-to-turbines-as-commodity-prices-remain-low-wind-energy/article_2814e2cf-83a3-5 47d-a09e-f039e935f399.html Accessed September 18, 2107.*
[12] *http://www.agriculture.com/farm-management/farm-land/farmland-sales-hard-to-find-as-growers-hold-tight-keeping-land-value Accessed September 18, 2017.*
[13] *Klein, David E., and Schnitkey, Gary, 2016 Illinois Land Values and Lease Trends, Illinois Society of Professional Farm Managers and Rural Appraisers*
[14] *Ibid.*

due to the proximity of existing intense agricultural uses: agricultural and industrial type buildings, gravel roads, and other intrusive uses of the land. It has been observed that the residents within Christian County and the surrounding counties have consistently agree that the only negative land use possibly impacting property values and buyers' decisions are the existing hog containment facilities within the county.

Real estate professional, Joseph M. Webster, MAI, of Webster & Associates, Inc., Decatur, Illinois, was previously consulted within 2016 and 2017 for his extensive experience with agricultural, commercial, and residential values in the Decatur, and Macon County area, as well as the broader market area. Mr. Webster provided background information on the economic conditions as well as information on agricultural and residential values of the central Illinois area.

Michael Crowley, Sr., SRA of Real Estate Consultants, Ltd., Spring Valley, Illinois was consulted. Mr. Crowley has had extensive experience with wind farm development in Central Illinois, including projects in counties with similar demographics and character, such as Bureau, Whiteside, and Lee counties. Mr. Crowley has been unable to document any loss in property values attributable to the proximity of wind turbines.

Kansas broker, Mandy Collum of United Country Real Estate Professionals, states that the Neosho County residential market is very stable and has been stable over the past couple years. She also states that the county is very rural; therefore, residential sales are limited. Her view on the market indicates that the highest end for the residential market values range is typically $250,000 and the highest end for the agricultural land values is typically $3,300 per acre. Ms. Collum also pointed out that the market is demanding residential properties that are modern (which include modern energy sources, such as wind), well maintained, and show well to potential buyers. Properties with these features can be typically valued greater than $100,000.

Kansas broker Stephanie Tuggle of Keller Williams Realty Select, states that Neosho County's residential market was affected heavily by the housing crisis that began in 2008 and continued through 2012; however, since 2012 the Neosho market has been slowly recovering and appears to be stable and at the peak of its market potential due to the discovery of some declining values throughout the county and due to values in the state trending downwards. Ms. Tuggle did not comment on her opinion of the range of values for residential properties; however, her opinion of the highest end for the agricultural land values is typically $3,000 per acre.

David Engelman, Kansas General Certified Appraiser, Wilson County, Kansas, was consulted. Mr. Engelman has had extensive experience with agricultural, commercial, and residential values in the Neosho County area, as well as the broader southeast Kansas market area.

Jim Aesoph of Aesoph Real Estate, Inc. is a broker with 27 years of experience in northeast South Dakota. MaRous and Company contacted Mr. Aesoph due to his highly regarded reputation in the region. He stated that he contacted the assessors of the adjacent Codington, Grant, and Roberts counties to discuss land prices in each respective county, and each of them informed Mr. Aesoph that they are not

aware of any effect on land prices due to new wind projects in the area. He also stated that 5 years ago land prices were roughly $6,000 per acre, and now the average acre price is approximately $4,000. The reduction in land prices, he mentioned, is not due to the wind project, but due to the production of corn on the land.

Interviews were conducted with six auctioneers throughout South Dakota. Marshall Hansen of Bob Hansen Auction stated that while turbines closer to home could possibly keep a buyer away, in areas of low population the development of turbines has a positive effect on the area. Mr. Hansen also stated that chemicals, such as insecticides, pose a larger impact on wildlife and game birds than turbines. Lenny Burlage of Burlage-Peterson Auctions stated that turbines do not negatively affect residential values but can affect each individual person differently. Jackson Hagerfeld of Advantage Land Company stated that he does see any impact on land from wind turbines, and the recent land sale prices are driven up by the limited number of properties on the market. Jim Thorpe of Thorpe Realty & Auction stated that turbine leases have positively impacted landowners with turbines on their land. Mr. Thorpe also stated that he had noticed a movement of buyers from larger cities buying properties that are being sold off by the aging population that is moving out of the area. Jeff Juffer of Juffer Incorporated stated that from the existing turbines within the Beethoven Wind Farm footprint have not had any effect, positive or negative, on the local market. Mr. Juffer also states that Avon and the immediate surrounding area is lacking in industry and would benefit from an outside influence to attract businesses to the area. Lastly, Glen Peterson of Peterson Auctioneers states that in the past two years there has been a demand for land that is not dependent on if a turbine is on the land or not, which can be assumed that turbines do not affect land sales in any way, positively or negatively.

Rick Mummert of Ron Holton Real Estate reported that residential conditions in both Freeborn and Mower counties in Minnesota had been stable through the last 3 years, primarily due to the very rural nature of the area; however, the area is benefitting from the low-interest rates. He reported that the Highway 14 corridor had experienced increases in residential values; in his opinion, the difference was due to the more developed nature of the area and the availability of jobs.

Interviews with brokers proximate to wind farms in Illinois yielded similar results. Although a number of them wished to remain anonymous, they stated that they did not believe that the proximity to wind turbines had any bearing on the sale prices of residential properties in the area.

Illinois Assessors Survey - Updated October 2020

In March 2015, then updated in October 2016, as well as, in October 2020, MaRous & Company conducted a survey of the supervisor of assessments or a staff member in 20 counties in Illinois in which wind farms currently are operational. As of the second quarter of 2020, the AWEA reported there were 55 wind projects online with 3,035 wind turbines in the state with additional farms being added each year. The interviews were intended to allow the assessment officials to share their experience regarding the wind farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a wind farm facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based on wind farm-related concerns. There have been no reductions in assessed valuations related to wind turbines.[15]
- As the available market data do not support the claim of a negative impact upon residential values, residential assessed values have fluctuated consistently within counties as influenced by market conditions, with no regard for proximity to a wind farm.
- Agricultural properties are taxed based upon a productivity formula that is not impacted by market data and external influences.

Michigan Assessors Survey – October 2021

In October 2021, MaRous & Company conducted a survey of the supervisor of assessments or a staff member in the townships of 7 counties in Michigan in which wind farms with more than 25 turbines currently are operational. As of the July 2021, The Wind Power database reported there were 44 wind projects online with 1,260 wind turbines in the state with additional farms being added each year. The interviews were intended to allow the assessment officials to share their experience regarding the wind farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of, and the proximity to, a wind project facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- There have been no successful tax appeals in any county based upon wind project-related concerns.
- In the past 18 months, the assessor's offices have not experienced successful real estate tax appeals based upon wind project-related concerns. There have been no reductions in assessed valuations related to wind turbines.
- Residential assessed values have fluctuated consistently countywide as influenced by market conditions, with no regard for proximity to a wind project.
- Agricultural properties are taxed based upon a productivity formula that is not impacted by market data and by external influences.

[15] *A lawsuit was apparently filed in 2013 against the Supervisor of Assessments in Vermilion County by a homeowner proximate to wind turbines; however, there has been no further action on the matter.*

Minnesota Assessors Survey – October 2021

In October 2021, MaRous & Company conducted a survey of the supervisor of assessments or a staff member in 11 counties in Minnesota in which wind farms with more than 25 turbines currently are operational. As of the July 2021, The Wind Power database reported there were 137 wind projects online with 2,819 wind turbines in the state with additional farms being added each year. The interviews were intended to allow the assessment officials to share their experience regarding the wind farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of, and the proximity to, a wind project facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- There have been no successful tax appeals in any county based upon wind project-related concerns.
- In the past 18 months, the assessor's offices have not experienced successful real estate tax appeals based upon wind project-related concerns. There have been no reductions in assessed valuations related to wind turbines.
- Residential assessed values have fluctuated consistently countywide as influenced by market conditions, with no regard for proximity to a wind project.
- Agricultural properties are taxed based upon a productivity formula that is not impacted by market data and by external influences.

Iowa Assessors Survey - September 2021

In September 2021, MaRous & Company conducted a survey of the supervisor of assessments or a staff member in 41 counties in Iowa in which wind farms with more than 25 turbines currently are operational. As of the July 2021, The Wind Power database reported there were a total of 67 wind projects online with 5,122 wind turbines in the state with additional farms being added each year. The interviews were intended to allow the assessment officials to share their experience regarding the wind farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a wind farm facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- In the past 18 months, the assessor's offices have not experienced successful real estate tax appeals based upon wind project-related concerns. There have been no reductions in assessed valuations related to wind turbines.

- As the available market data do not support the claim of a negative impact upon residential values, residential assessed values have fluctuated consistently within counties as influenced by market conditions, with no regard for proximity to a wind farm.
- Virtually all assessors volunteered that the wind farms provided positive economic benefits to their counties and, in fact, had a positive impact on real estate values.
- Agricultural properties are taxed based upon a productivity formula that is not impacted by market data and external influences.

Indiana Assessors Survey – January 2019

In January 2019, MaRous & Company conducted a survey of the supervisor of assessments or a staff member in 5 counties in Indiana in which wind farms with more than 25 turbines currently are operational. Of the wind farms with more than 25 turbines, Indiana contains more than 14 wind farms with more than 1,190 wind turbines. As of 2018, the AWEA reported there were approximately 16 wind projects with approximately 1,203 wind turbines in the state with additional farms being added each year. The interviews were intended to allow the assessment officials to share their experience regarding the wind farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a wind farm facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based upon wind farm-related concerns. There have been no reductions in assessed valuations related to wind turbines.
- As the available market data does not support the claim of a negative impact upon residential values, residential assessed values have fluctuated consistently within counties as influenced by market conditions, with no regard for proximity to a wind farm.
- Agricultural properties are taxed based upon a productivity formula that is not impacted by market data and external influences.

Kansas Appraiser Survey – January 2019

In January 2019, MaRous & Company conducted a survey of the county appraiser or a staff member in 21 counties in Kansas in which wind farms with more than 25 turbines currently are operational. Of the wind farms with more than 25 turbines, Kansas contains more than 29 wind farms with more than 2,856 wind turbines. As of 2018, the AWEA reported there were approximately 37 wind projects with approximately 2,996 wind turbines in the state with additional farms being added each year. The interviews were intended to allow the assessment officials to share their experience regarding the wind farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a wind farm facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based upon wind farm-related concerns. There have been no reductions in assessed valuations related to wind turbines.
- As the available market data does not support the claim of a negative impact upon residential values, residential assessed values have fluctuated consistently within counties as influenced by market conditions, with no regard for proximity to a wind farm.
- Agricultural properties are taxed based upon a productivity formula that is not impacted by market data and external influences.

South Dakota Assessors Survey - November 2017, Updated April 2018

In November 2017 MaRous & Company conducted a survey of the supervisor of assessments or a deputy supervisor in eight counties in South Dakota, then two additional counties in April 2018, in which wind farms with more than 25 turbines currently are operational, and South Dakota has more than nine wind farms with more than 510 wind turbines. As of the third quarter of 2018, the AWEA reported there were 14 wind projects online with 583 wind turbines in the state with additional farms being added each year. The interviews were intended to allow the assessment officials to share their experience regarding the wind farm(s) impact upon the market values and/or assessed values of surrounding properties. The detailed analysis is attached in the addenda at the end of this report. The following is a summary of the results of that survey:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a wind farm facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- In the past 5 years, the only assessor's office to have experienced a real estate tax appeal based upon wind farm-related concerns was Aurora County, but the appeal was denied by the county. There have been no reductions in assessed valuations related to wind turbines.
- As the available market data does not support the claim of a negative impact upon residential or agricultural values, residential and agricultural assessed values have fluctuated consistently within counties as influenced by market conditions, with no regard for proximity to a wind farm.
- Virtually all assessors volunteered that the wind farms provided positive economic benefits to their counties and, in fact, had a positive impact on real estate values.

Ohio Auditors Survey – July 2019

In July 2019, MaRous & Company conducted a survey of the County Auditors or a deputy auditor in 3 counties in which wind farms with more than 25 turbines currently are operational. Of the wind farms with more than 25 turbines, Ohio has more than 5 wind farms with more than 327 wind turbines. As of April 2019, the AWEA reported there were approximately 38 wind projects with approximately 382 wind turbines in the state with additional farms being added each year. The interviews were intended to allow the assessment officials to share their experience regarding the wind farm(s) impact upon the market values and/or assessed values of surrounding properties. The detailed analysis is attached in the addenda at the end of this report. The following is a summary of the results of that survey:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a wind farm facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based on wind farm-related concerns. There have been no reductions in assessed valuations related to wind turbines.
- As the available market data do not support the claim of a negative impact upon residential values, residential assessed values have fluctuated consistently within counties as influenced by market conditions, with no regard for proximity to a wind farm.
- Agricultural properties are taxed based upon a productivity formula that is not impacted by market data and external influences.

Solar Energy Peer-Reviewed Literature Review

MaRous & Company is familiar with one academic and peer-reviewed study on the impact of solar energy facilities on residential property values. There are no peer-reviewed studies specific to the state of Illinois. However, the following study is consistent with our findings in Illinois. This study is summarized below:

The University of Texas at Austin, 2018

Nationwide

This study's purpose was to investigate any possible amenities, disadvantages, or potential impact a residential property may acquire from the presence of a proximate utility-scale solar facility. To analyze these factors, the study anticipated to determine the scope in which residential properties could potentially be impacted, the scale of the potential impact, and if the value of the potential impact were to be positive or negative by analyzing 956 unique solar sites completed in 2016 or prior across the United States. The conclusions of the study are based on surveys of residential home assessors and in-depth regression analysis. "Results from [the] survey of residential home assessors show that the majority of respondents believe that proximity to a solar installation has either no impact or a positive impact on home values." (Conclusion, Page 23). However, some of these results varied due to some assessors' previous experience with solar installations, the size of the solar facilities, and distances from residences. "Regression analyses suggest that closer proximity to an installation is associated with more negative estimates of property value impacts, as is larger installation size. Prior experience assessing near a solar installation, by contrast, was associated with more conservative estimates of impact. Meanwhile, the median and mode of all estimates of impact was zero, suggesting negative estimates from a few respondents were pulling down the [average]." (Conclusion, Page 23). The study goes on to suggest that in some markets solar developers could possibly benefit from incorporating ancillary items such as vegetation as a view shield, keeping panels lower to the ground, and, in limited cases, siting the facility on land with a use that was previously unappealing.

University of Rhode Island, 2020
Rhode Island and Massachusetts

While utility-scale solar energy is important for reducing dependence on fossil fuels, solar arrays use significant amounts of land (about 5 acres per MW of capacity) and may create local land use disamenities. This paper seeks to quantify the externalities from nearby solar arrays using the hedonic method. This paper study the states of Massachusetts and Rhode Island, which have high population densities and ambitious renewable energy goals. Over 400,000 transactions within three miles of a solar site are observe. Using a difference-in-differences, repeat sales identification strategy, results suggest that houses within one mile depreciate 1.7% following construction of a solar array, which translates into an annual willingness to pay of $279. Additional results indicate that the negative externalities are primarily driven by solar developments on farm and forest lands in non-rural areas. For these states, our findings indicate that the global benefits of solar energy in terms of abated carbon emissions are outweighed by the local disamenities.[16]

This study focuses primarily on residential properties within suburban areas. Therefore, these results are skewed negatively due to the populated nature of the areas. The focus was on populated areas with a density of over 850 persons per square mile, and states that no impact was studied for rural impacts similar to the subject. The subject density is far less than 100 persons per square mile, as a result it is the opinion of MaRous & Company that this study does not effectively show the benefits that solar energy provides the properties and municipalities in rural area and is not relevant to the proposed subject solar farm.

[16] *Gaur, V. and C. Lang. (2020). Property Value Impacts of Commercial-Scale Solar Energy in Massachusetts and Rhode Island. Submitted to University of Rhode Island Cooperative Extension on September 29, 2020. Accessed at https://web.uri.edu/coopext/valuing-siting-options-for-commercial-scale-solar-energy-in-rhode-island/.*

Wind Energy Peer-Reviewed Literature Review

MaRous & Company is familiar with several academic and peer-reviewed studies on the impact of wind turbines on residential property values. There are no peer-reviewed studies for the state of Illinois. However the following studies are consistent with our findings in Illinois. These are summarized below:

Municipal Property Assessment Corporation (MPAC) Study - 2008, 2012, and 2016

Ontario, Canada

This study was originally conducted in 2008 and was updated in 2012 and 2016. The conclusions in all three studies are similar: "there is *no statistically significant impact on sale prices* of residential properties in these market areas resulting from proximity to an IWT [Industrial Wind Turbine] when analyzing sale prices." (2012 Study, Page 5; emphasis in original) Using 2,051 properties and generally accepted time adjustment techniques, MPAC "cannot conclude any loss in price due to the proximity of an IWT." (2012 Study, Page 29) Further, Appendix G of the 2012 MPAC report "Re-sale Analysis" states in the "Summary of Findings" "MPAC's own re-sale analysis using a generally accepted methodology for time adjustment factors indicates no loss in price based on proximity to the nearest IWT."

Lawrence Berkeley National Laboratory (LBNL) Studies - 2009, 2010, 2013, and 2014

Nationwide

The 2009 LBNL study included analysis of 7,489 sales within 10 miles of 11 wind farms and 125 post-construction sales within 1 mile of a wind turbine. The study used rural settings and wind farms of more than 50 turbines, and considered area stigma, scenic vista sigma, and nuisance stigma in varying distances from a wind turbine. The 2010 LBNL study included 7,500 single-family residential sales located in nine states and proximate to 24 wind farms, and 4,937 post-construction sales within 10 miles of a wind turbine. The 2013 LBNL study included 51,276 sales located in nine states and proximate to 67 wind farms, and 376 post-construction sales within 1 mile of a wind turbine. The 2014 LBNL study included over 50,000 sales located in nine states and proximate to 67 wind farms, and 1,198 post-construction sales within 1 mile of a wind turbine. All were located in rural settings and near wind farms of more than 0.5 megawatts. Theses study concentrated on nuisance stigma in varying distances from a wind turbine. The study found no statistically significant evidence that turbines affect sale prices. Neither study found statistical evidence that home values near turbines were affected.

University of Rhode Island - 2013

Rhode Island

Structured similarly to the LBNL studies, this study included 48,554 total sales proximate to 10 wind farms, and 412 post-construction sales within 1 mile of a turbine. These wind farms were mostly small facilities in urban settings. The study included nuisance and scenic vista stigmas. Page 421 of the report stated, "Both the whole sample analysis and the repeat sales analysis indicate that houses within a half mile had essentially no price change ..." after the turbines were erected.

The University of Guelph, Melancthon Township - 2013

Ontario, Canada

This study analyzed two wind farms in the township, using 5,414 total sales and 18 post-construction sales within 1 kilometer of a wind turbine. The study included nuisance and scenic vista stigmas. Page 365 of the study stated that "These results do not corroborate the concerns regarding potential negative impacts of turbines on property values."

University of Connecticut/LBNL - 2014

Massachusetts

This study included 312,677 total sales proximate to 26 wind farms, and 1,503 post-construction sales within 1 mile of a wind turbine. These wind farms were located in urban settings and primarily were proximate to small wind farms. The study included wind turbines and other environmental amenities/disamenities (including beaches and open spaces/landfills, prisons, highways, major road, and transmission lines) together, for nuisance stigma. "Although the study found the effects from a variety of negative features ... and positive features ... the study found no net effects due to the arrival of turbines."

Wichita State University - 2019

Kansas

This study strived to decipher and develop a better understanding of wind projects and their effect on rural properties in Kansas. The study's data is based on 23 operational wind projects in Kansas which came online between 2005 to 2015. The properties and their values, which were appraised at the county level, have sale dates ranging from 2002 to 2018. The study and its results suggest that property values do not spike once the project is completed. Rather, it was noted that they have a more "modest" growth, and that the three-year average for property value growth was 0.3% after a project had been completed and operational.

Windfall revenues from windfarms: How do county governments respond to increases in the local tax base induced by wind energy installations? - 2022

Nationwide

Abstract: [This study] examine[d] how county governments respond to plausibly random increases in the local tax base generated by wind energy installations using data on the universe of U.S. installations from 1995 through 2017. Wind energy installation led to large increases in county revenue and expenditures, with county governments using this revenue to prioritize spending on highways and hospitals. We also find that wind energy installation led to increases in county property values, suggesting that residents value the enhancements to local public services, property tax reductions, or other changes to local amenities that accompany wind energy installation.[17]

[17] *Eric J. Brunner, David J. Schwegman, Commercial wind energy installations and local economic development: Evidence from U.S. counties, Energy Policy, 10.1016/j.enpol.2022.112993, 165, (112993), (2022).*

Commercial wind energy installations and local economic development: Evidence from U.S. counties - 2022

Nationwide

Abstract: [This study] examine[d] the impact of wind energy installation on the local economies of counties in the United States. Using data on the universe of commercial wind energy installations from 1995 to 2018, we find that wind energy installation led to economically meaningful increases in county GDP per-capita, income per-capita, median household income, and median home values. We also find evidence that while wind energy installation has little effect on total employment, the composition of local employment shifts away from farm towards non-farm employment, notably leading to an increase in construction and manufacturing employment. Finally, we show that the impact of wind energy installation on local economic development varies significantly by installed capacity and by county urban/rural status. For policymakers, our results have three important implications: (1) wind energy increases the size of the local economy and increases local incomes, but it does not stop population decline; (2) the size of these benefits increase at an increasing rate with the amount of installed generating capacity per-capita; and (3) rural communities with multiple installations and a greater amount of wind energy capacity benefit the most economically from these installations.[18]

These studies had a combined number of over 3,700 transactions within 1 mile of operating turbines and found no evidence of value impact. [19]

[18] *Brunner, E. J., Schwegman, D. J., Slattery, M. C., Shoeib, E. A. H., Munday, M., Mauritzen, J., Lang, C., Kahn, M. E., Jensen, C. U., Hartley, P. R., Goodman-Bacon, A., Faturay, F., & Brown, J. P. (2022, April 28). Commercial wind energy installations and local economic development: Evidence from U.S. counties. Energy Policy. Retrieved November 18, 2022, from https://www.sciencedirect.com/science/article/abs/pii/S030142152200218X?via%3Dihub#preview-section-abstract*

[19] *Although I have read these studies, the substance of these summaries was taken from a seminar conducted by the Appraisal Institute on March 5, 2015.*

Conclusions

As a result of the market impact analysis undertaken, MaRous & Company has concluded that there is no market data indicating the project will have a negative impact on either rural residential or agricultural property values in the surrounding area. Further, market data from Illinois, as well as from other states, supports the conclusion that the project will not have a negative impact on rural residential or agricultural property values in the surrounding area. Finally, for agricultural properties that host photovoltaic panels, the additional income from the solar lease may increase the value and marketability of those properties. These conclusions are based on the following:

- There are significant financial benefits to the local economy and to the local taxing bodies from the development of the solar farm.
- The solar farm will create well-paid jobs in the area which will benefit overall market demand.
- An analysis of recent residential sales proximate to existing solar farms did not support any finding that proximity to a photovoltaic panel had a negative impact on property values.
- An analysis of agricultural land values in Illinois did not support any finding that agricultural land values are negatively impacted by the proximity to photovoltaic panels.
- Reports from Illinois, Michigan, Wisconsin, Indiana, Minnesota, North Carolina, and Iowa indicate that photovoltaic panels leases add value to agricultural land.
- A survey of County or Township Assessors in 6 Illinois counties, 20 Michigan counties, 11 Wisconsin counties, 9 Indiana counties, 7 Iowa counties, 5 North Carolina counties, and 13 Maryland counties in which solar farms with more than 1.0 megawatt of nameplate capacity are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a solar farm, and that there were no reductions in assessed valuation.

This report is based on market conditions existing as of March 12, 2023. This market impact study has been prepared specifically for the use of the client to gain information in relation to the development of the proposed Mural Energy Facility Project, in Vermilion County, Illinois. Any other use or user of this report is considered to be unintended.

Respectfully submitted,

MaRous & Company

Michael S. MaRous, MAI, CRE
Illinois Certified General - #553.000141 (9/23 expiration)

CERTIFICATE OF REPORT

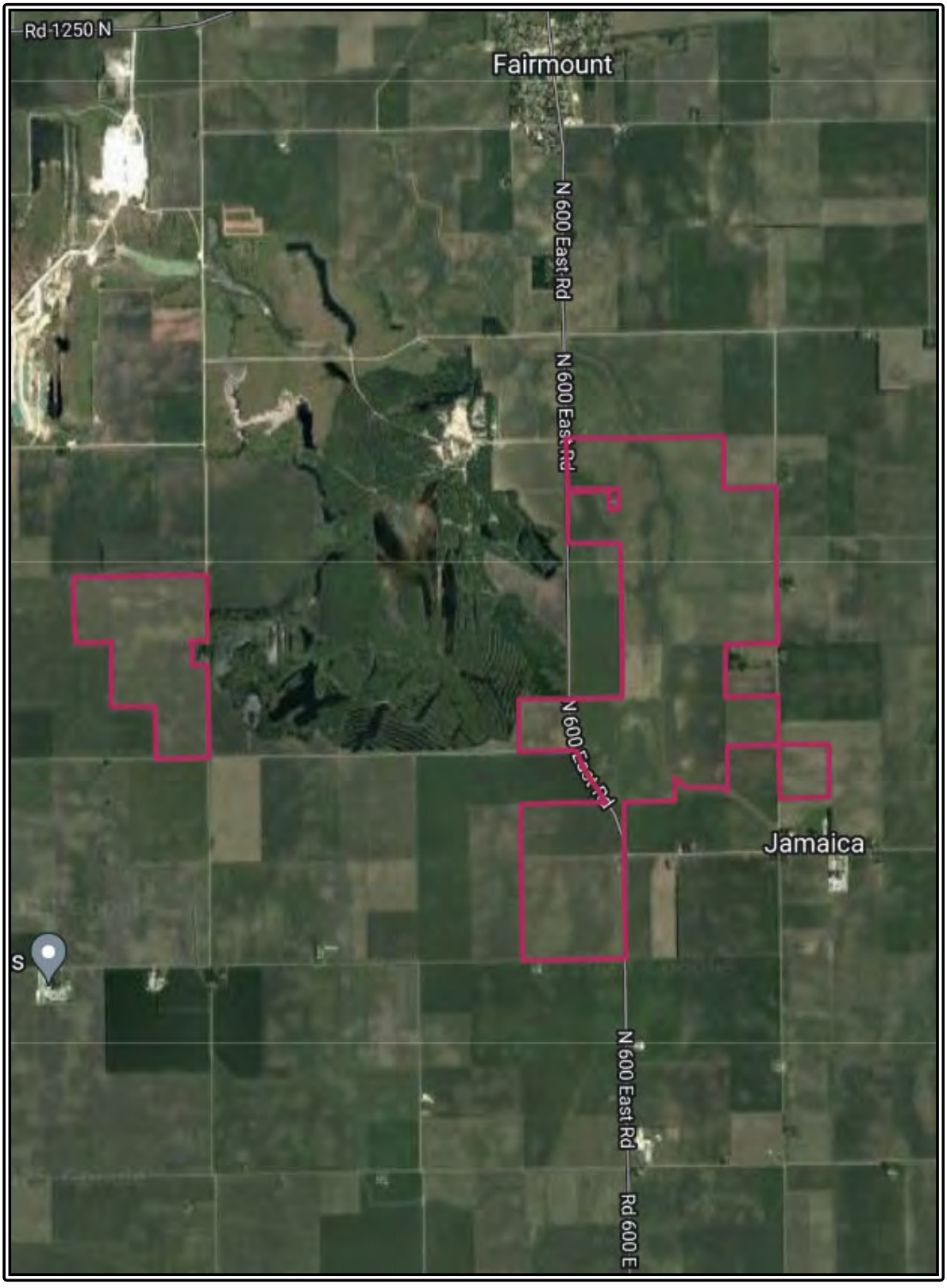
I do hereby certify that:

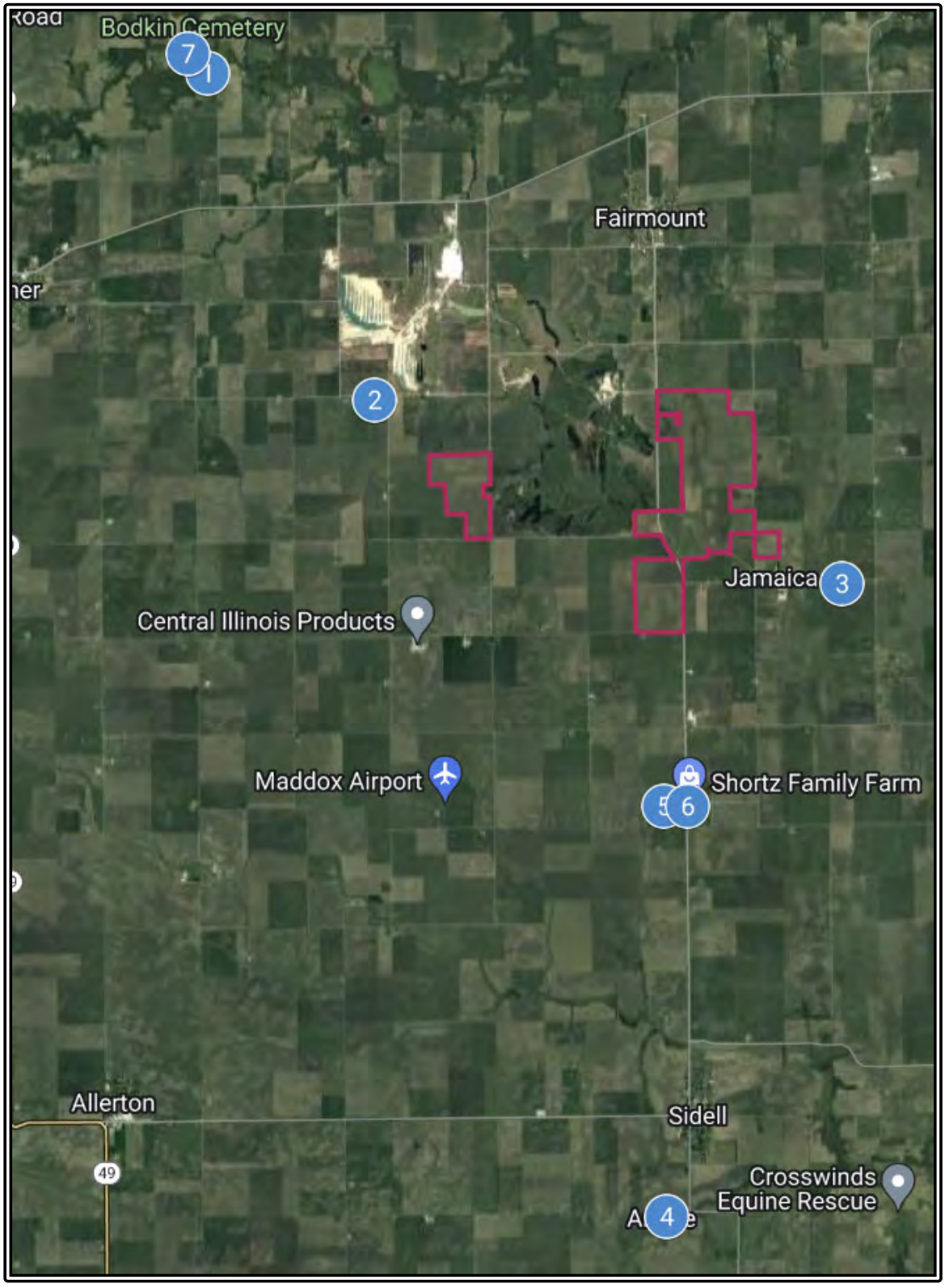
1. The statements of fact contained in this report are true and correct.
2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, impartial, and unbiased professional analyses, opinions, conclusions, and recommendations:
3. I have no present or prospective personal interest in the property that is the subject of this report and no personal interest with respect to the parties involved.
4. I have performed no services, as an appraiser or in any other capacity, regarding the property that is the subject of this report within the three-year period immediately preceding acceptance of this assignment.
5. I have no bias with respect to the property that is the subject of the work under review or to the parties involved with this assignment.
6. My engagement in this assignment was not contingent upon developing or reporting predetermined results.
7. My compensation for completing this assignment is not contingent upon the development or reporting of predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal consulting assignment.
9. My analyses, opinions, and conclusions were developed, and this report has been prepared in conformity with the *Uniform Standards of Professional Appraisal Practice.*
10. I have made a personal inspection of the subject of the work under review.
11. Joseph M. MaRous provided significant appraisal review assistance to the person signing this certification.
12. The reported analysis, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Foundation.
12. The use of the report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
13. As of the date of this report, Michael S. MaRous, MAI, CRE, has completed the continuing education requirements for Designated Members of the Appraisal Institute.

Respectfully submitted,
MaRous & Company

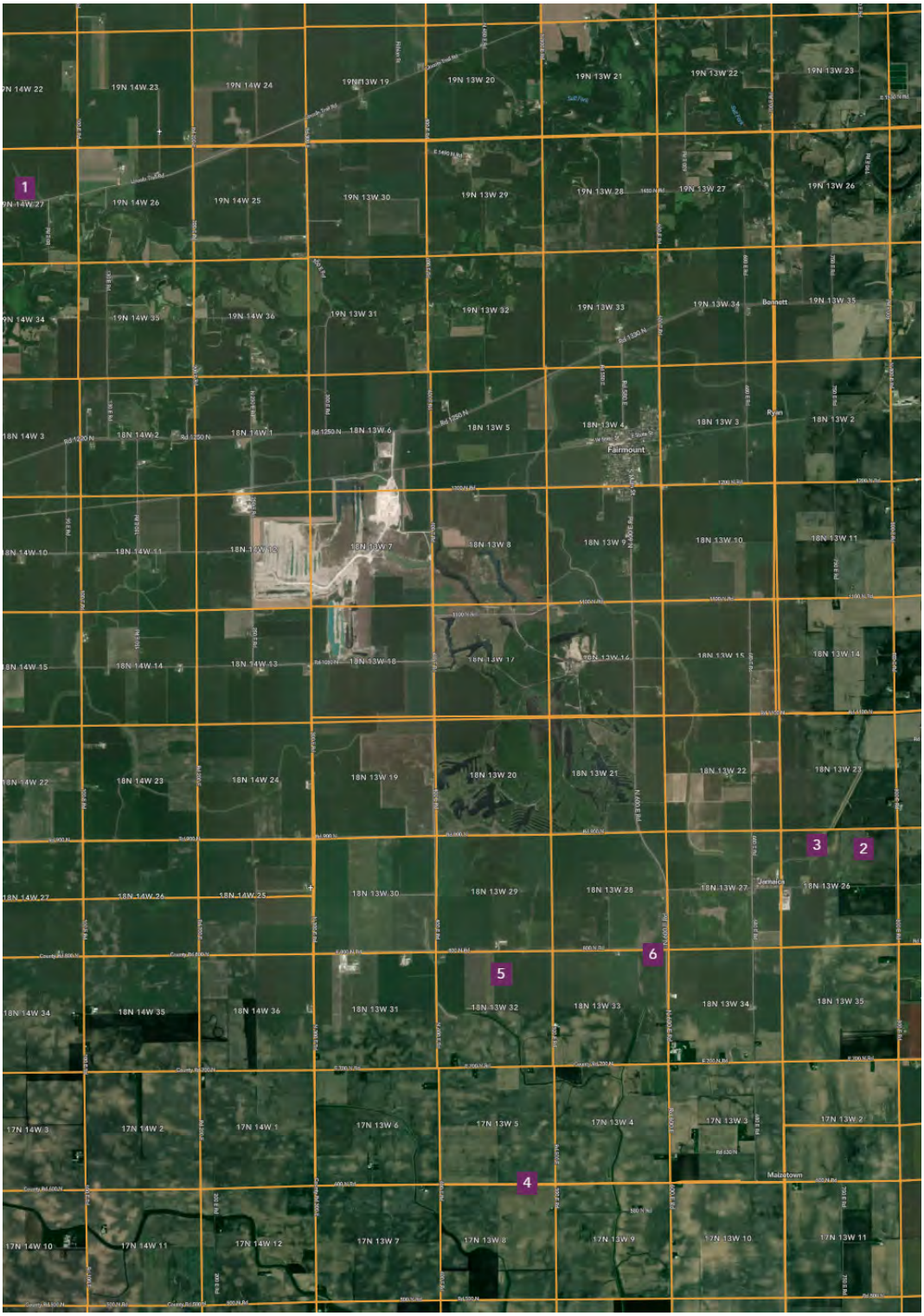
Michael S. MaRous, MAI, CRE
Illinois Certified General - #553.000141 (9/23 expiration)

ADDENDA

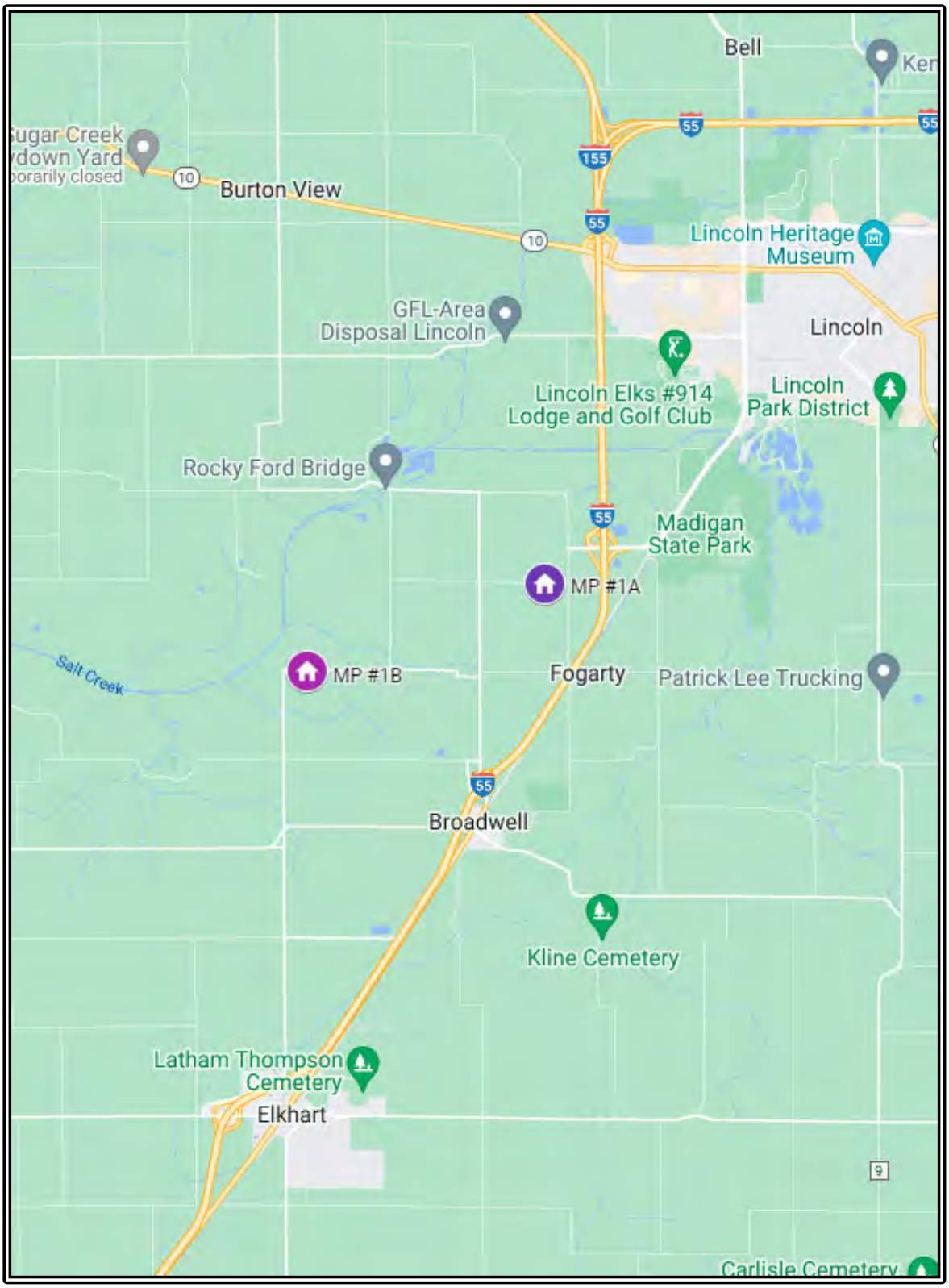

Rd 1250 N
Fairmount
N 600 East Rd
N 600 East Rd
Jamaica
N 600 East Rd
Rd 600 E



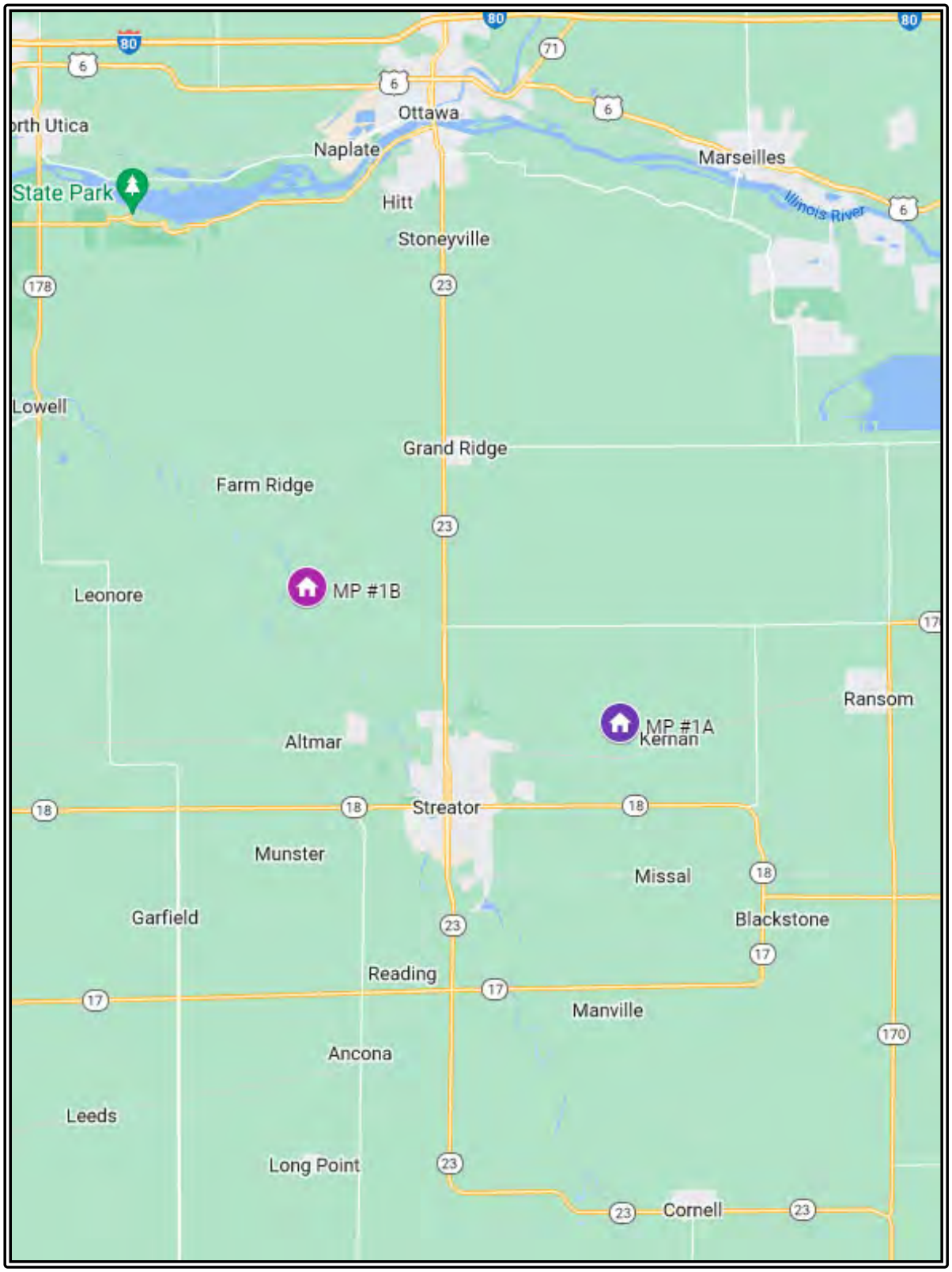
RECENT SINGLE-FAMILY HOUSE SALES LOCATION MAP



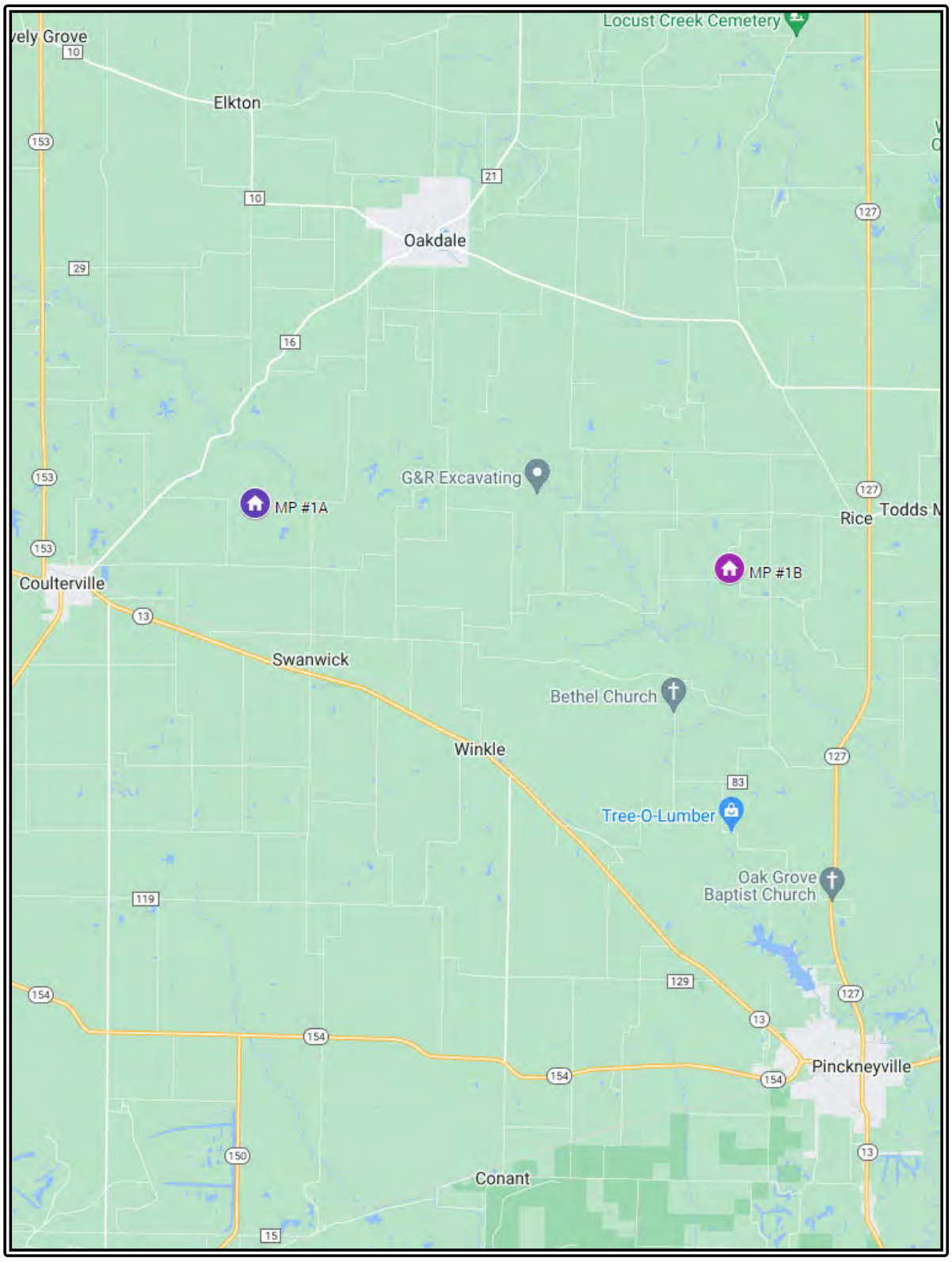
LAND SALES LOCATION MAP



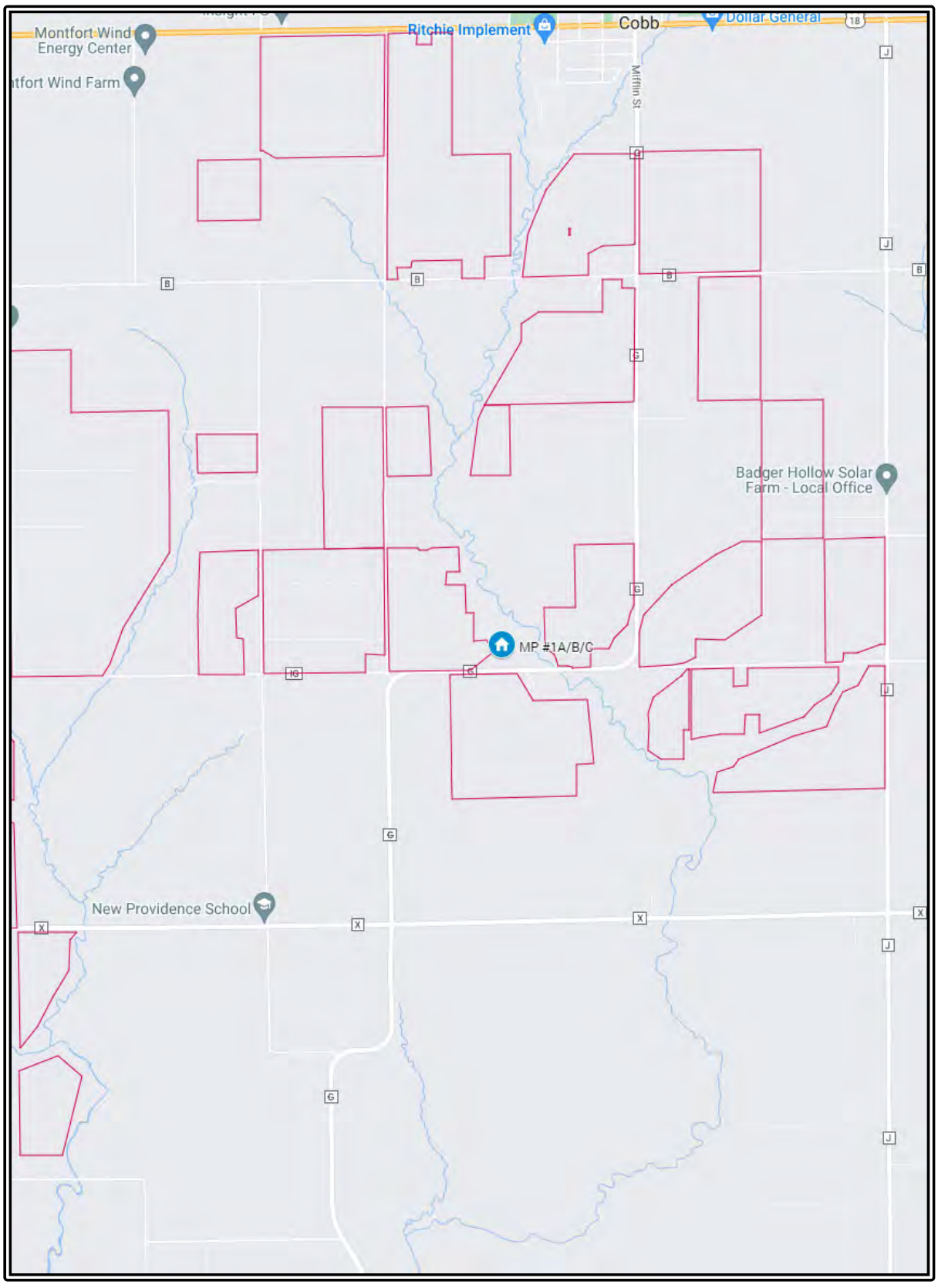
LOGAN COUNTY, ILLINOIS MATCHED PAIR LOCATION MAP



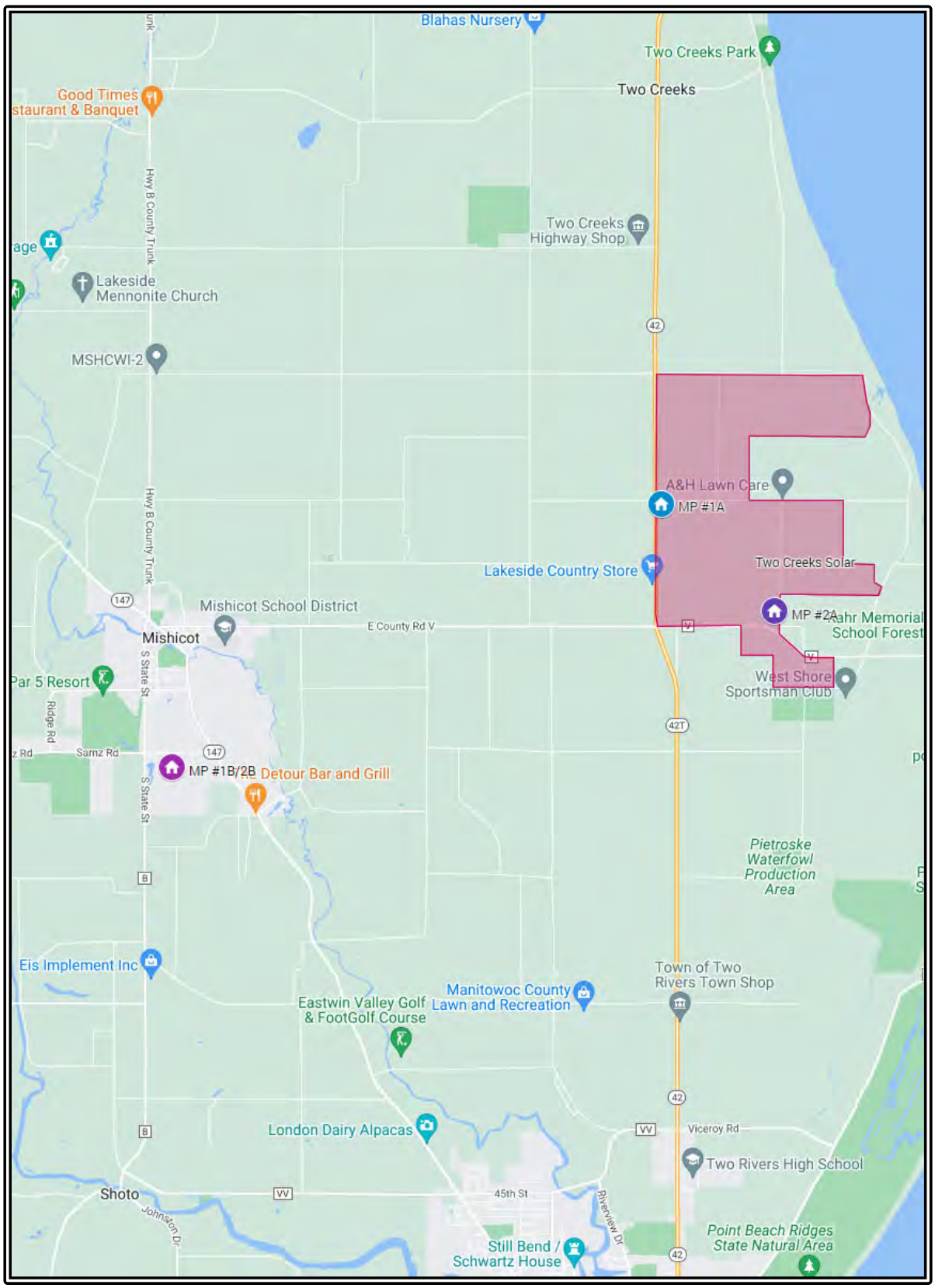
LASALLE COUNTY, ILLINOIS MATCHED PAIR LOCATION MAP



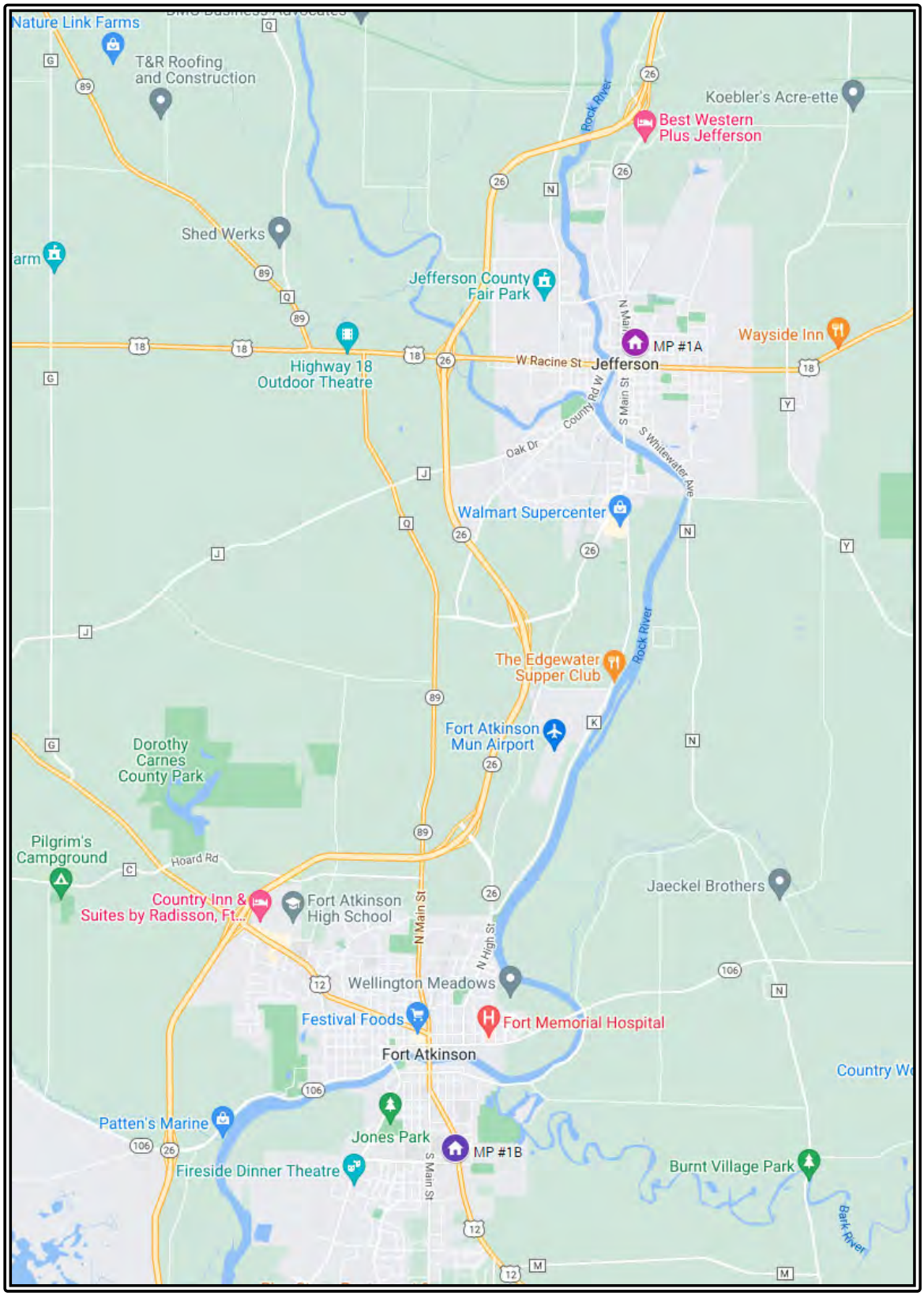
PERRY COUNTY, ILLINOIS MATCHED PAIR LOCATION MAP



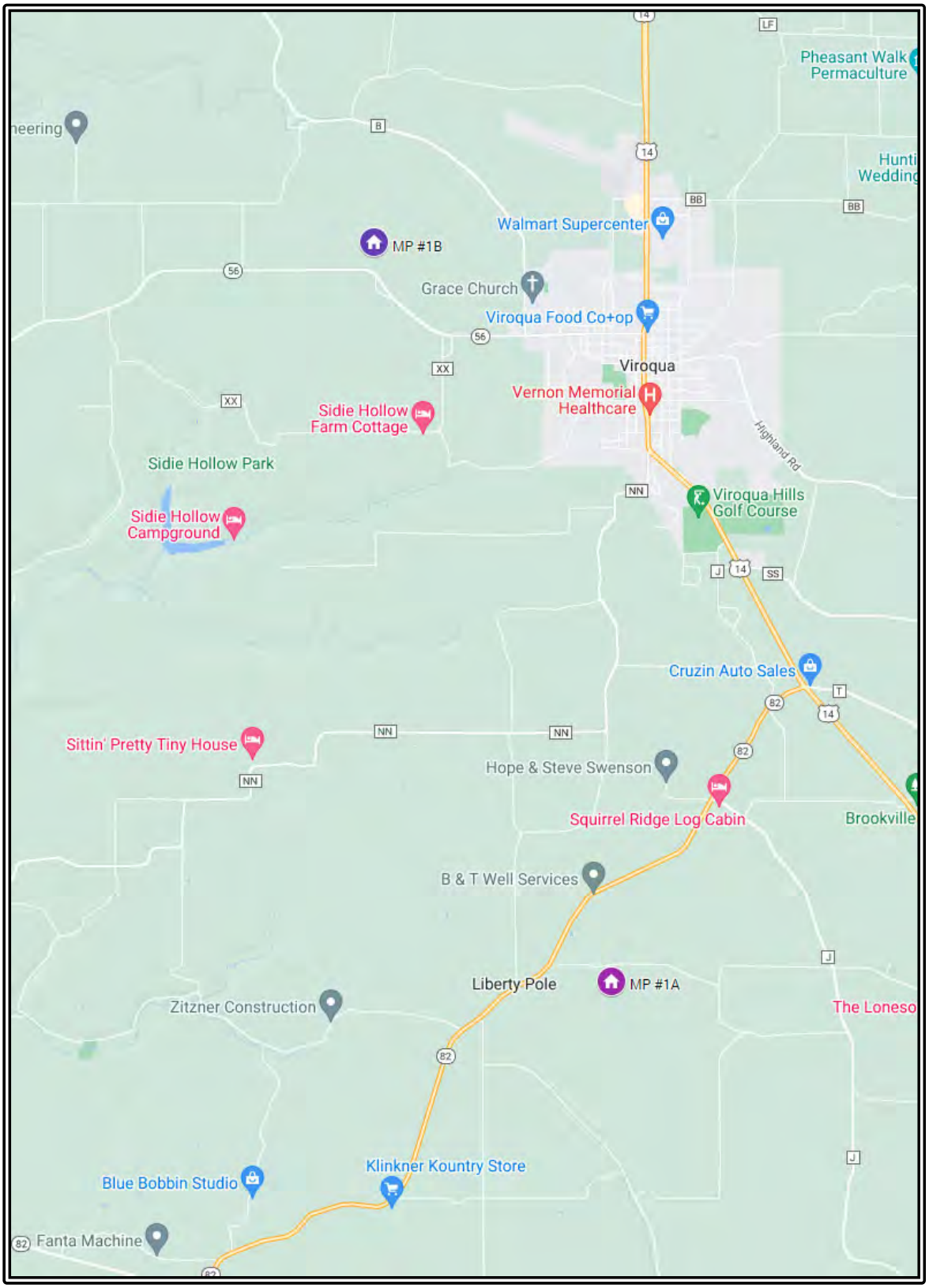
IOWA COUNTY, WISCONSIN MATCHED PAIR LOCATION MAP



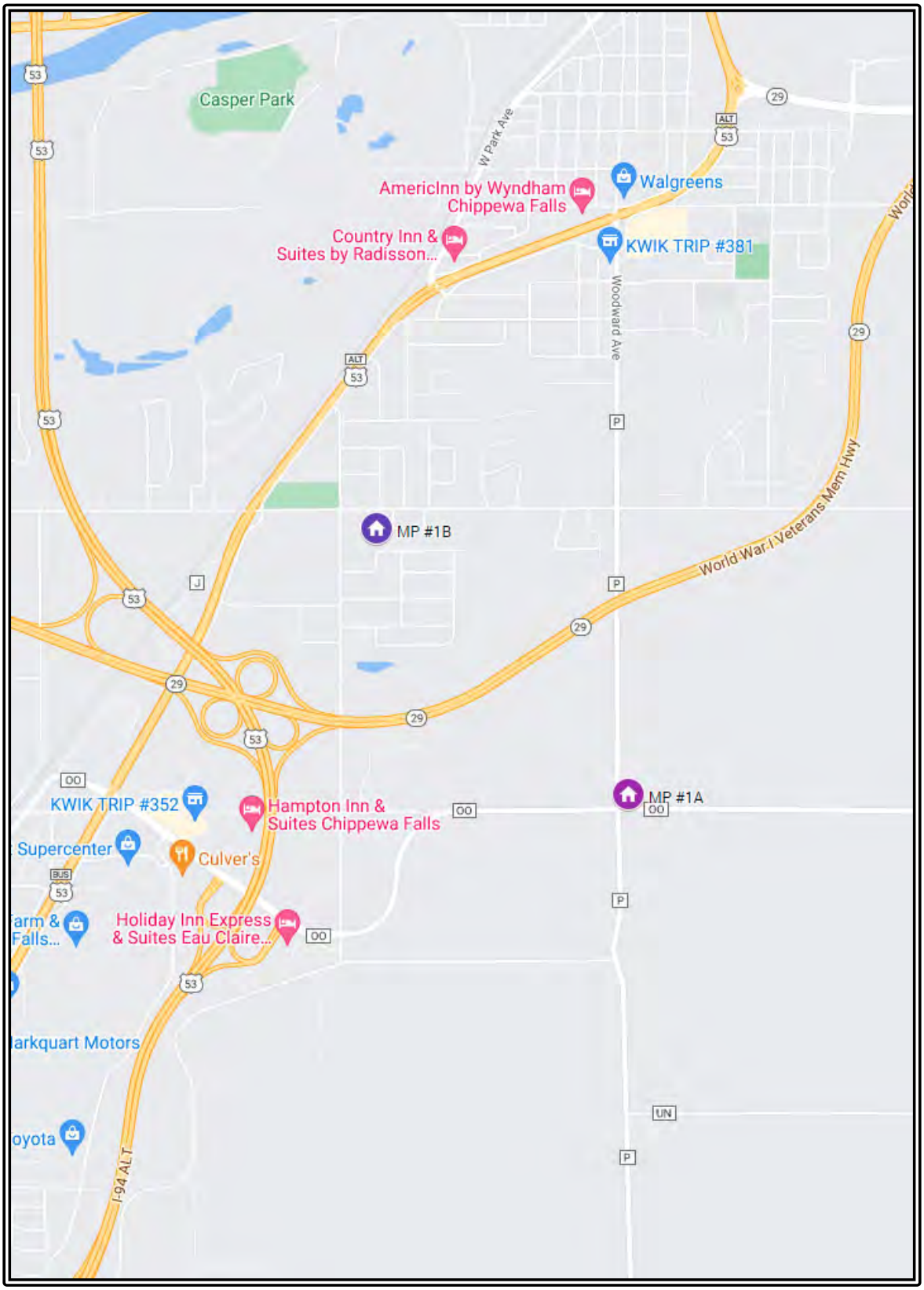
MANITOWOC COUNTY, WISCONSIN MATCHED PAIR LOCATION MAP



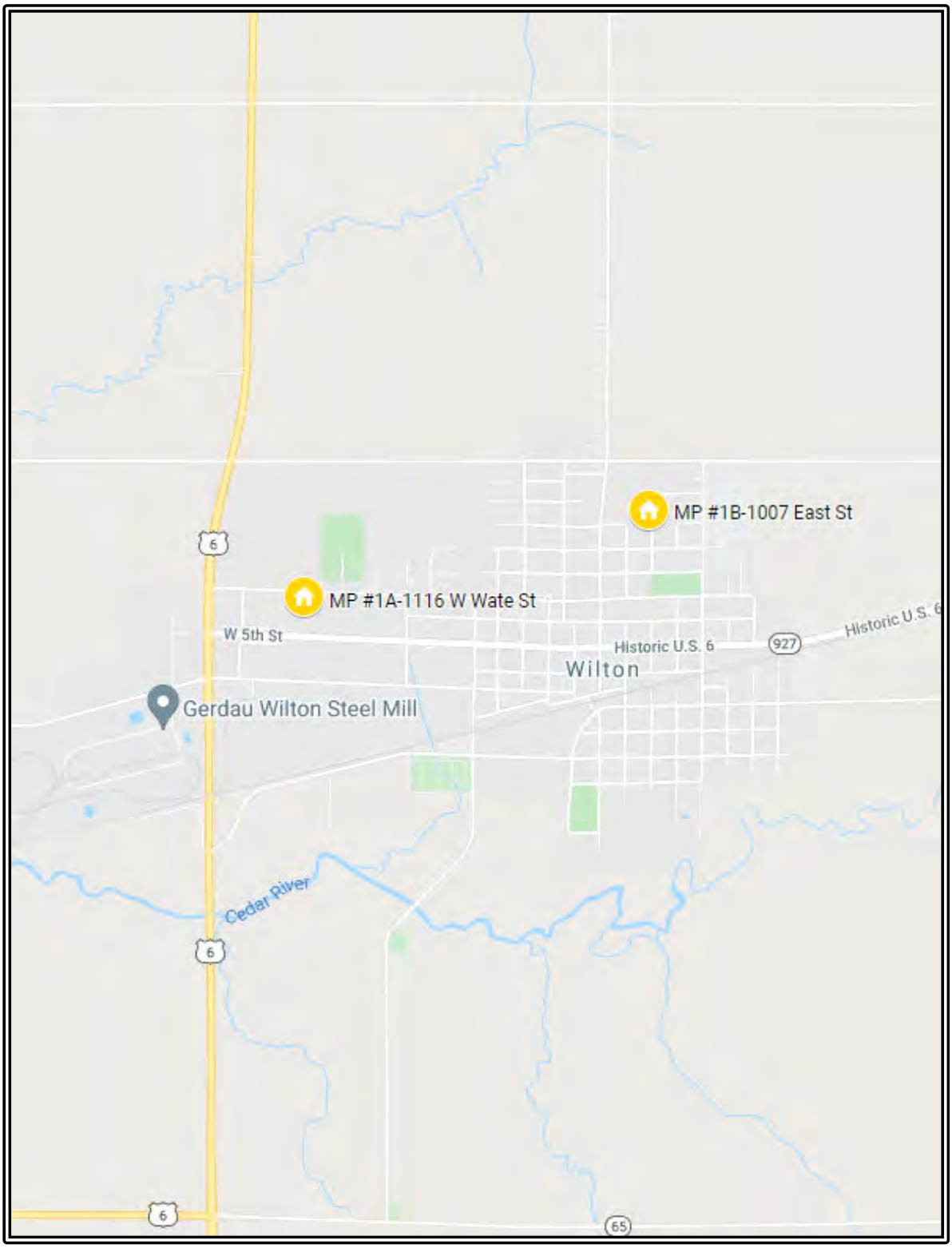
JEFFERSON COUNTY, WISCONSIN MATCHED PAIR LOCATION MAP



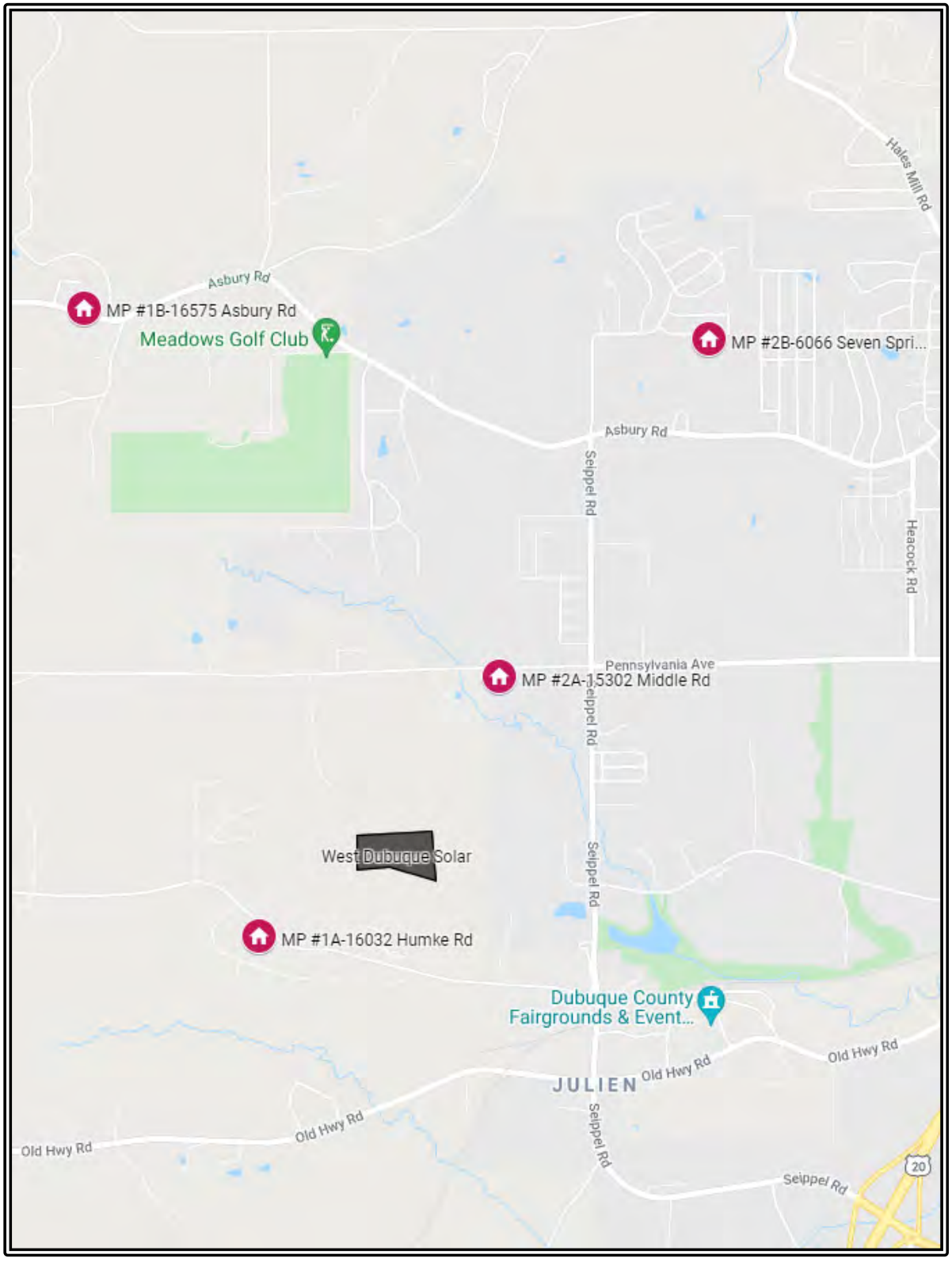
VERNON COUNTY, WISCONSIN MATCHED PAIR LOCATION MAP



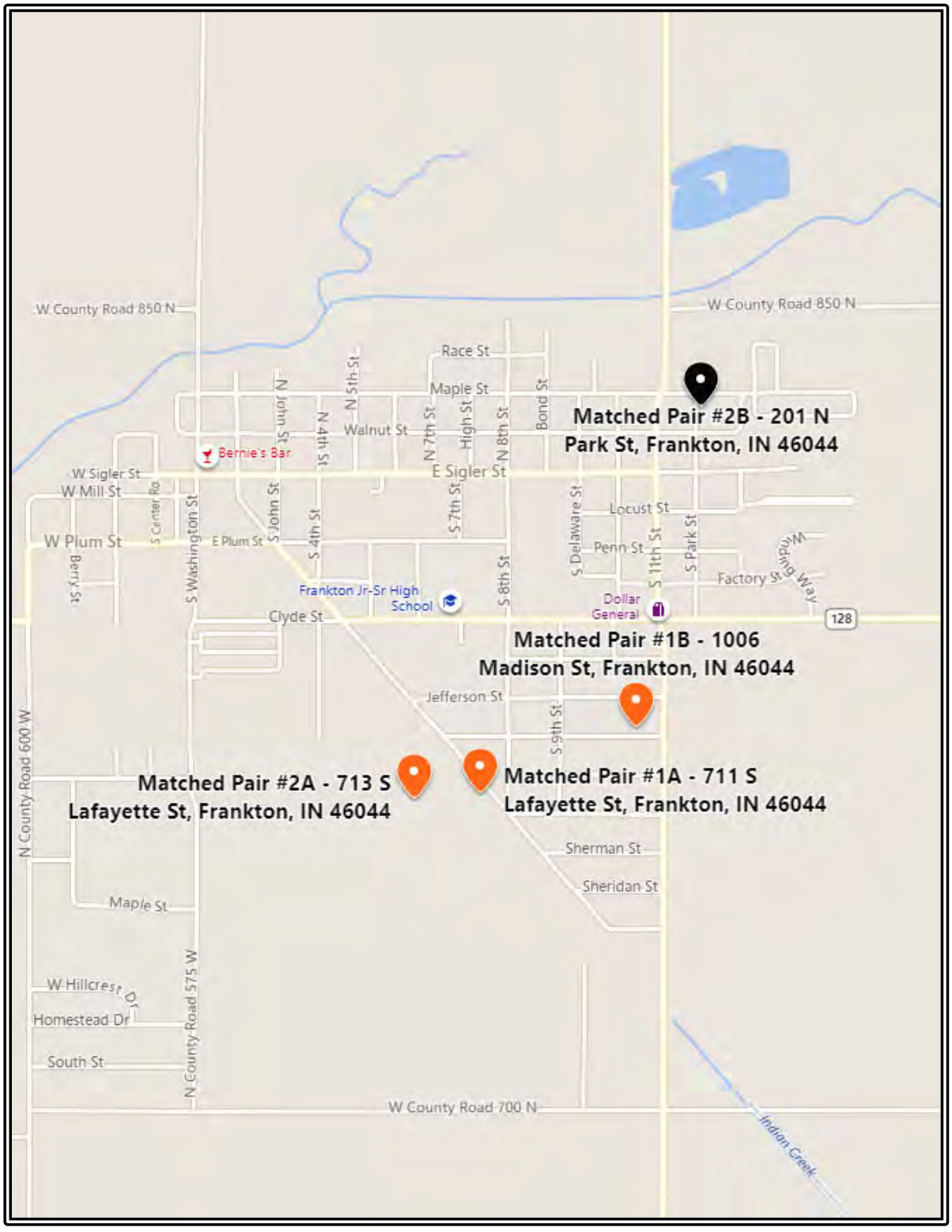
CHIPPEWA COUNTY, WISCONSIN MATCHED PAIR LOCATION MAP



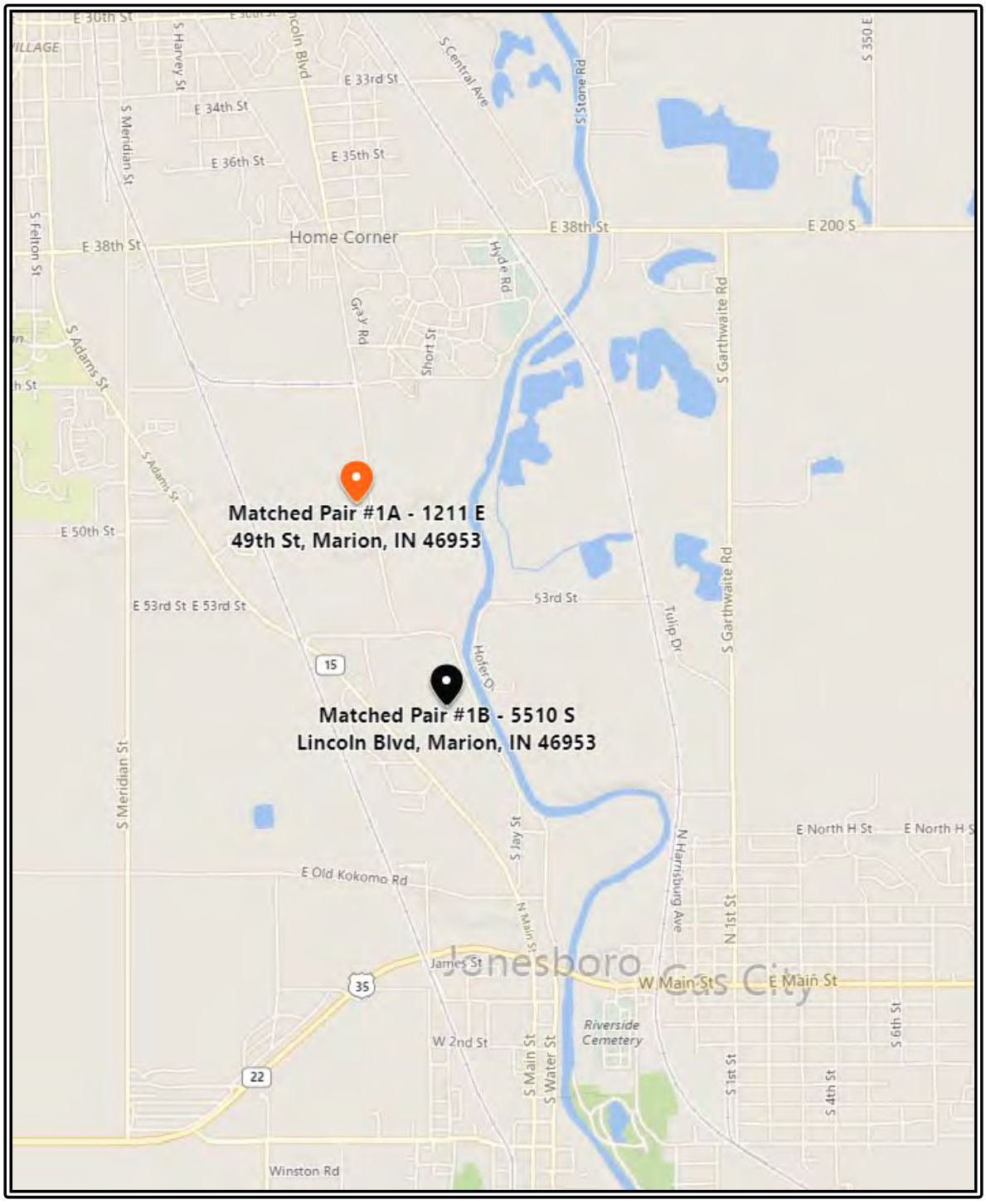
MUSCATINE COUNTY, IOWA MATCHED PAIR LOCATION MAP



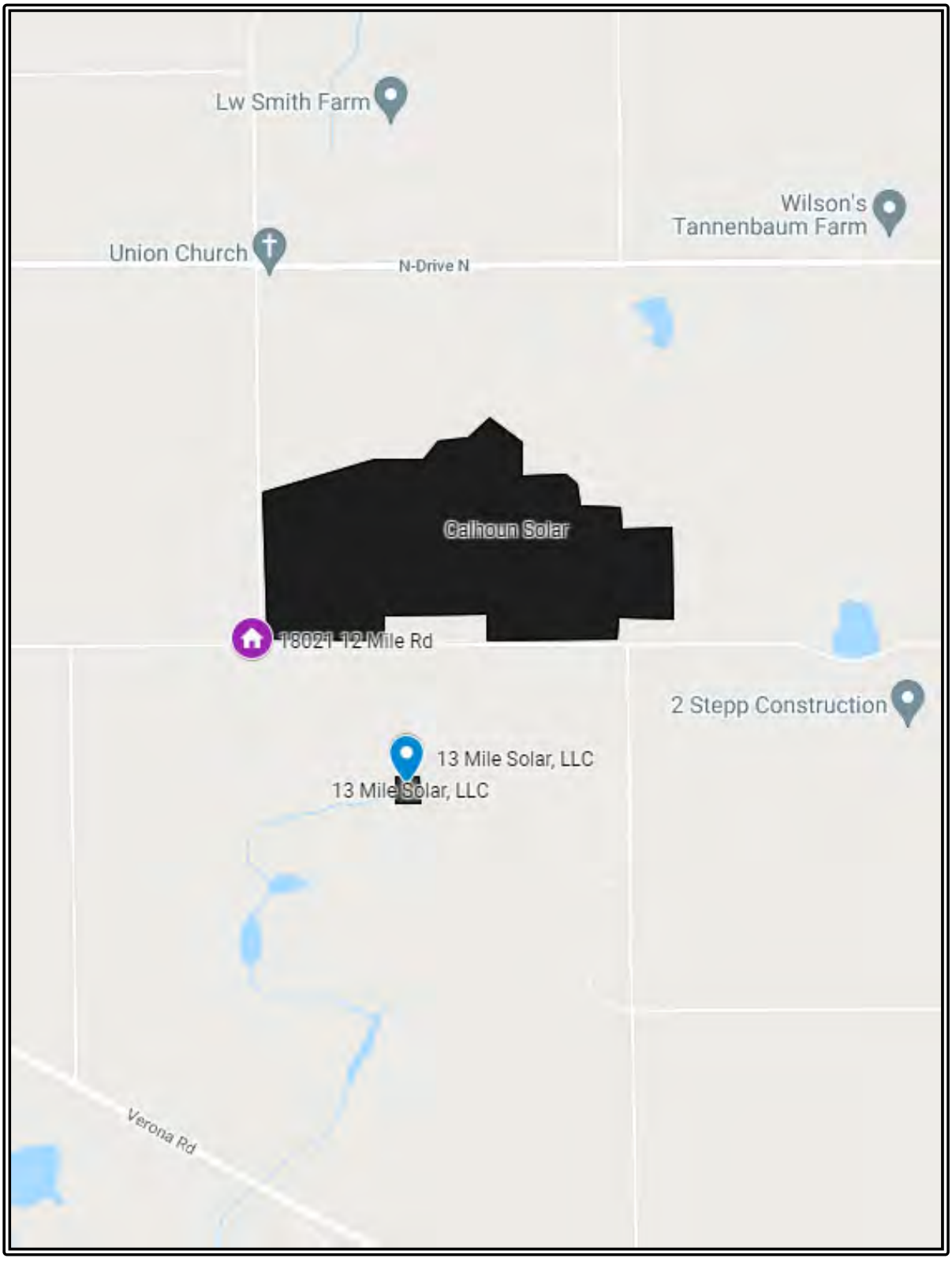
DUBUQUE COUNTY, IOWA MATCHED PAIR LOCATION MAP



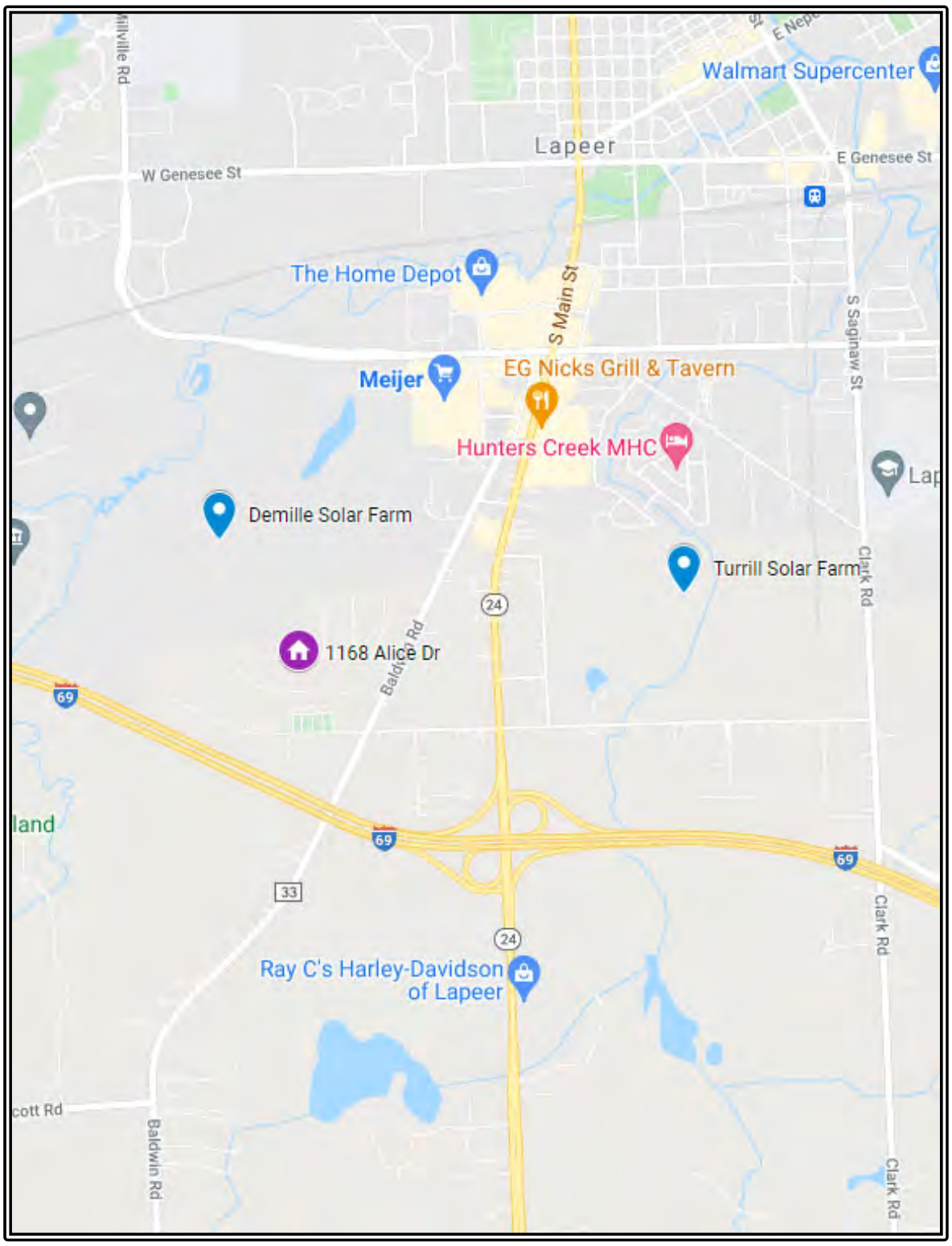
MADISON COUNTY, INDIANA MATCHED PAIR LOCATION MAP



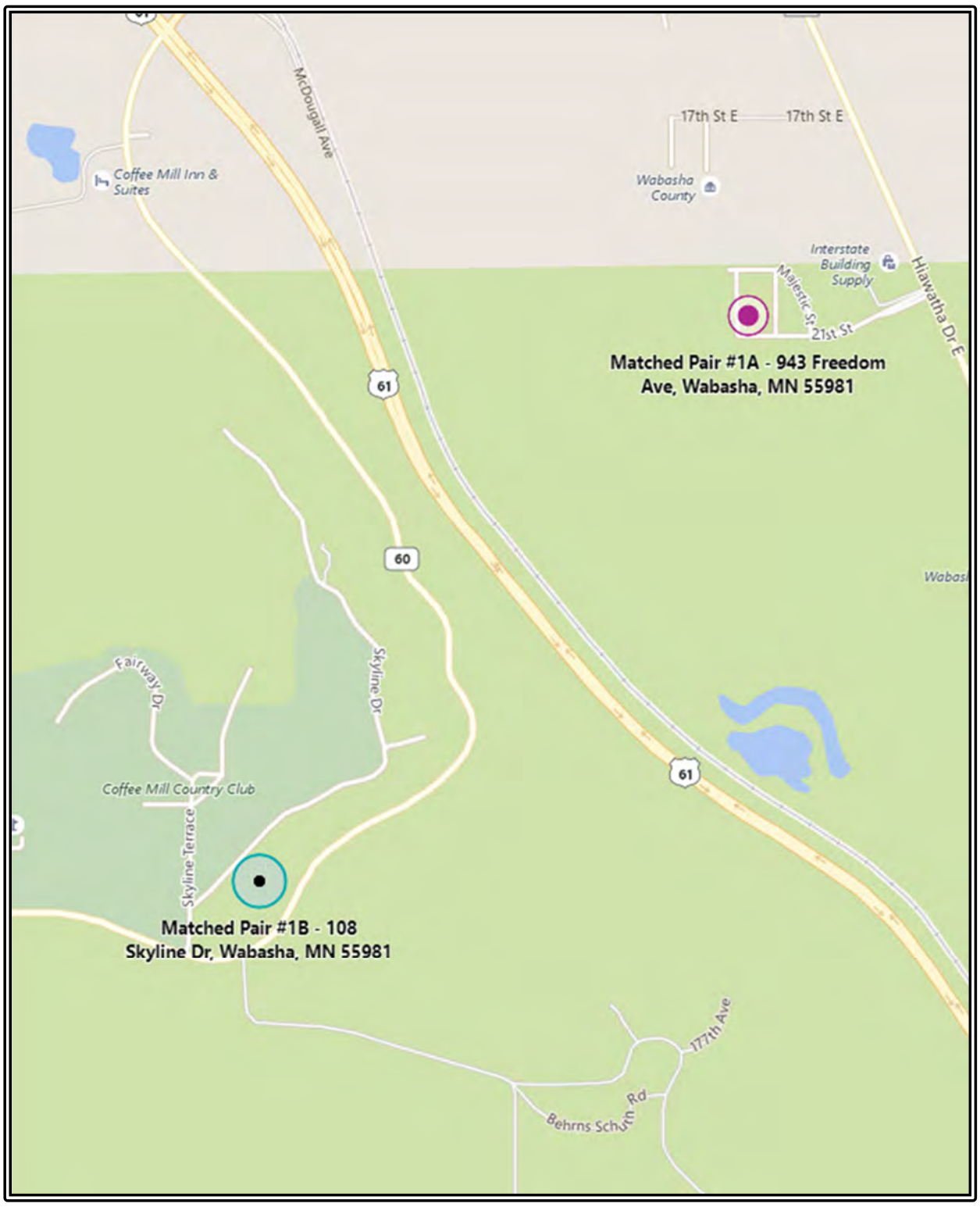
GRANT COUNTY, INDIANA MATCHED PAIR LOCATION MAP



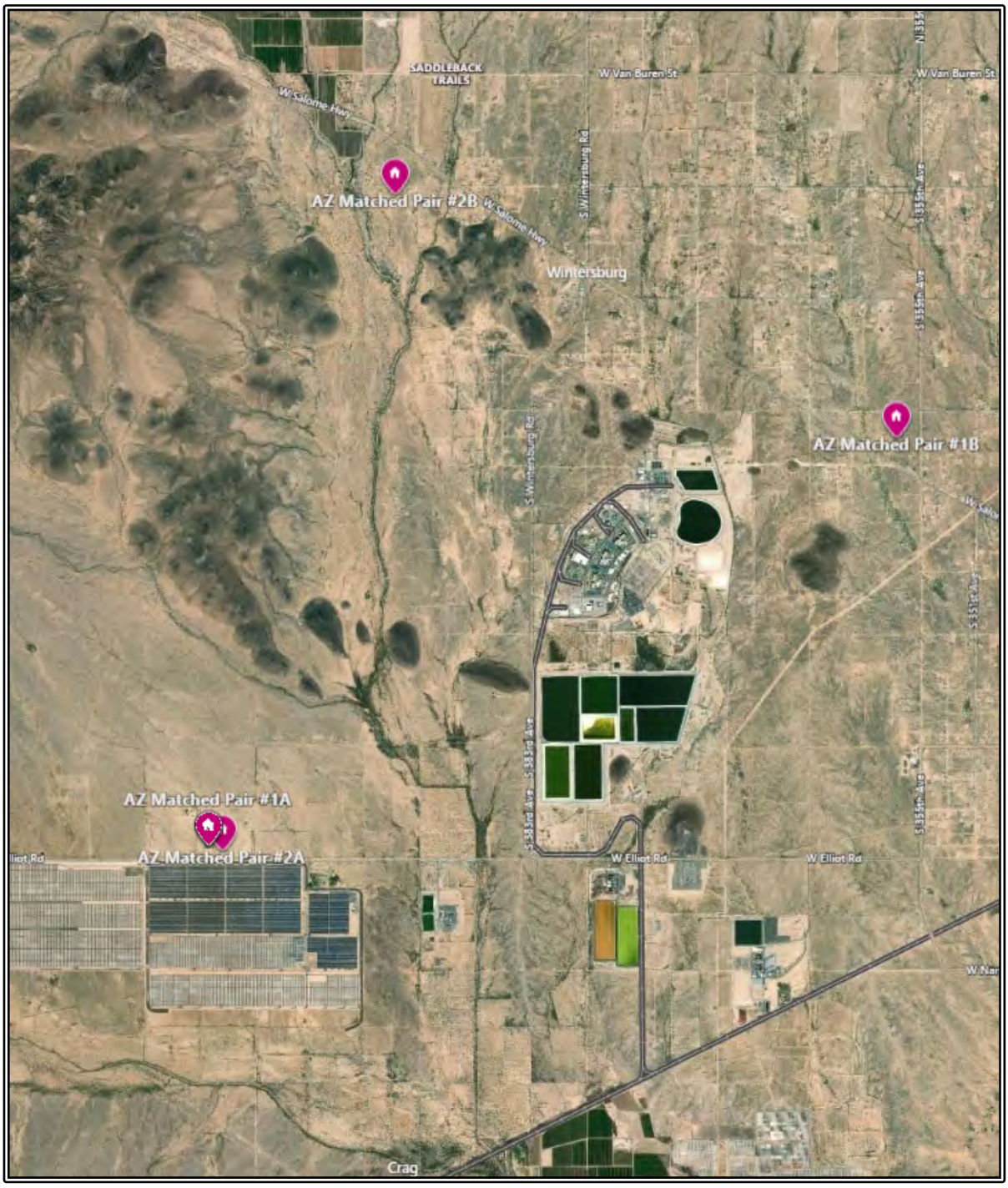
CALHOUN COUNTY, MICHIGAN MATCHED PAIR LOCATION MAP



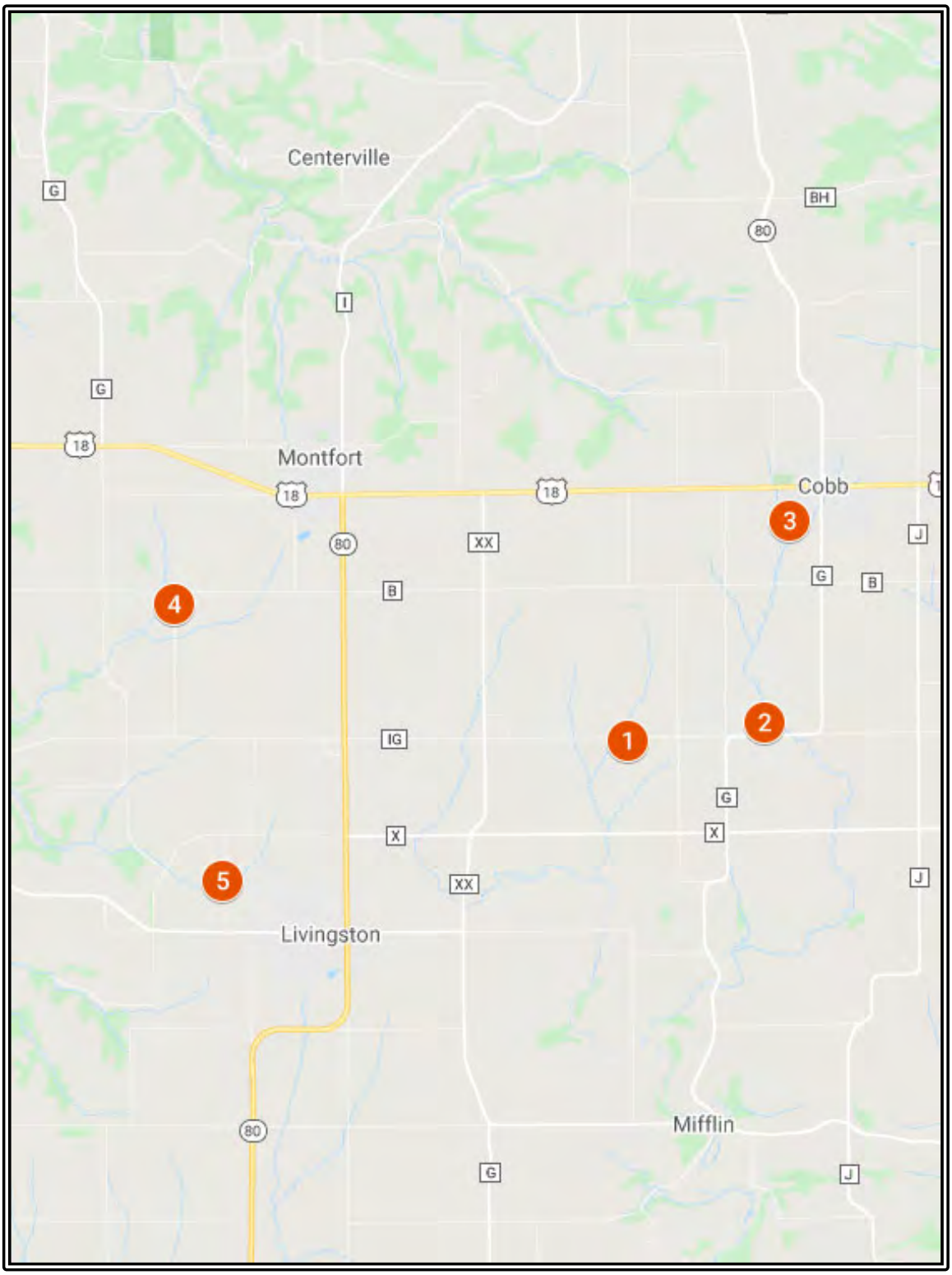
LAPEER COUNTY, MICHIGAN MATCHED PAIR LOCATION MAP



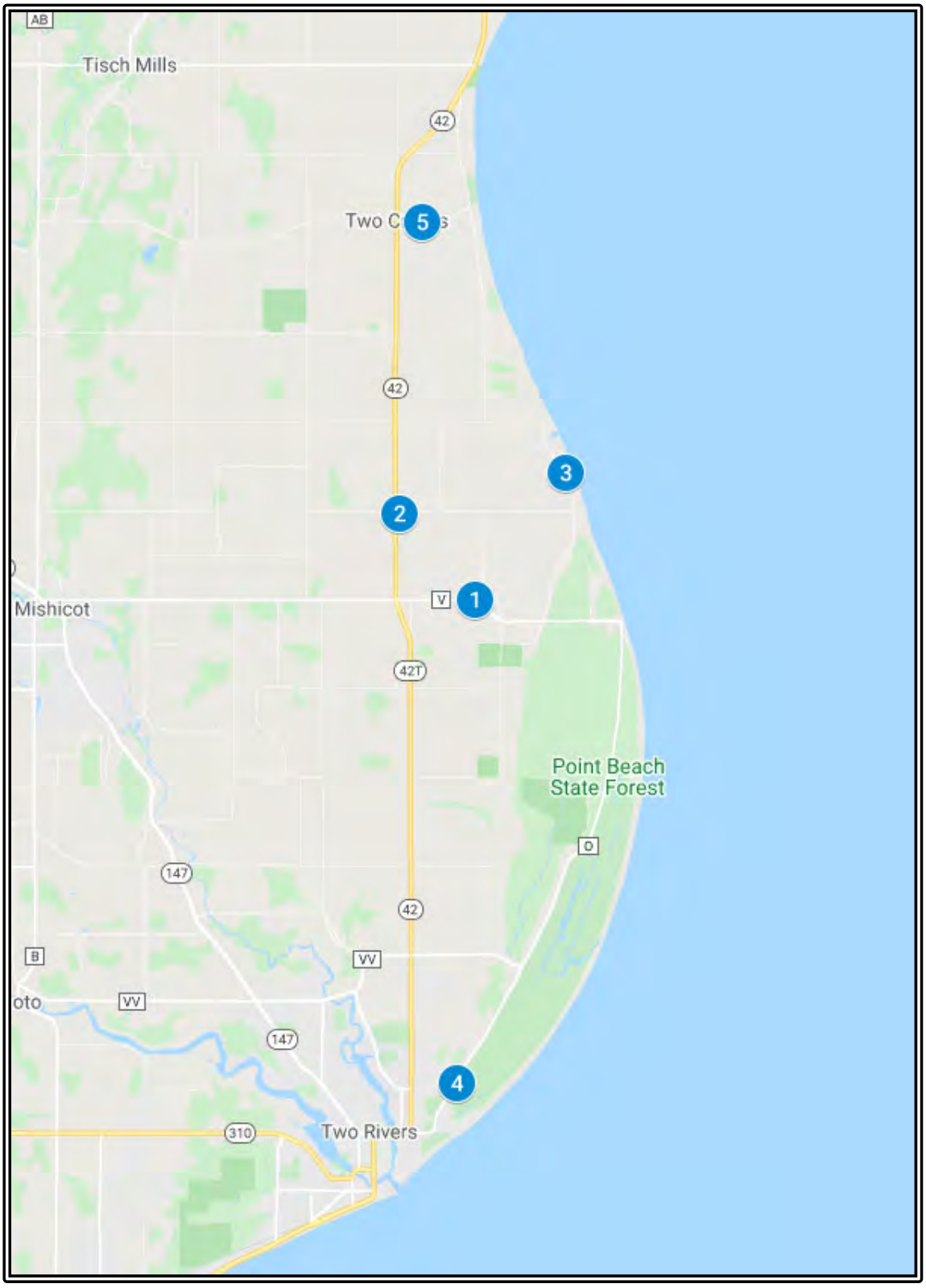
WABASHA COUNTY, MINNESOTA MATCHED PAIR LOCATION MAP



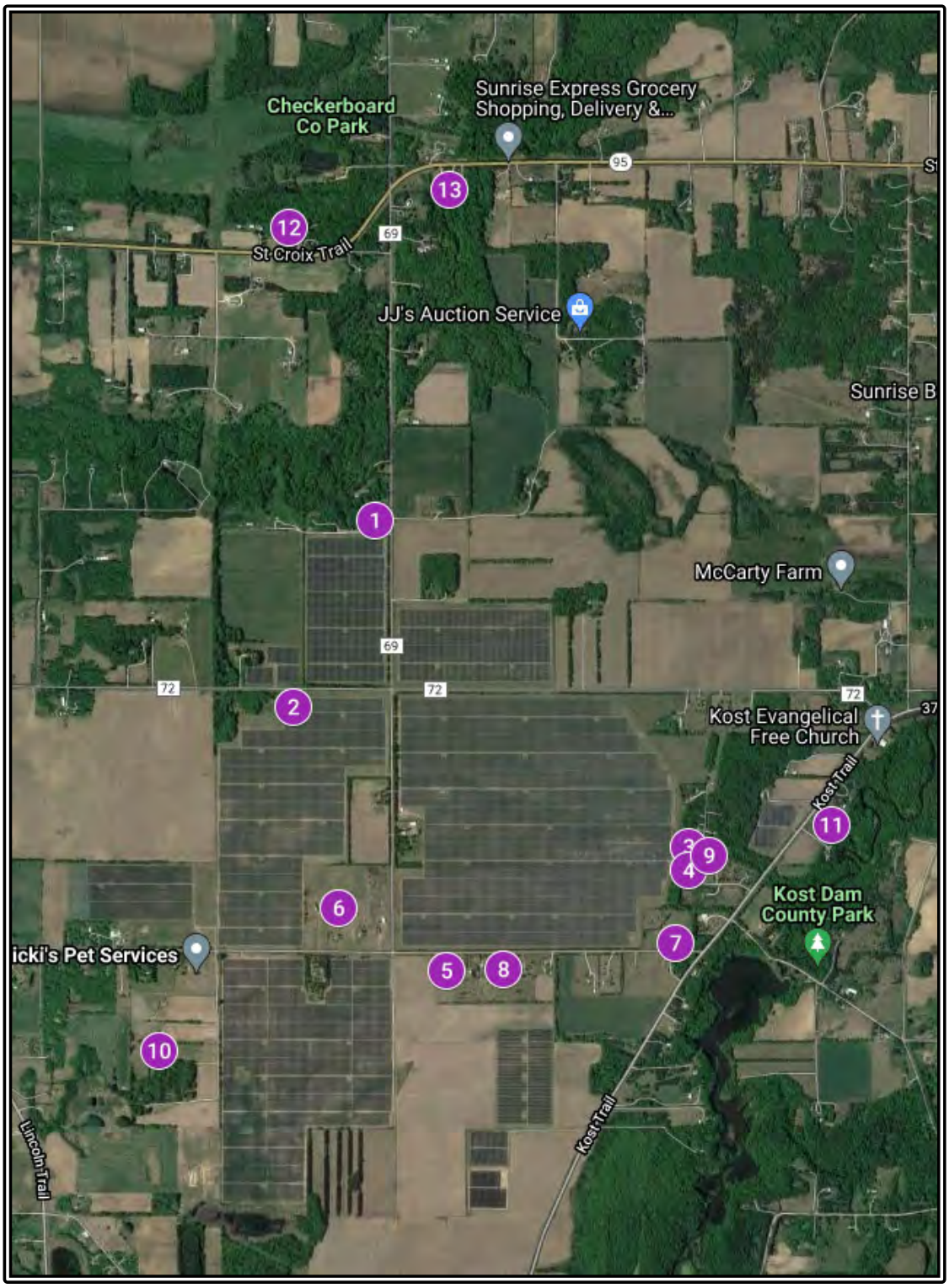
ARIZONA MATCHED PAIR LOCATION MAP



BADGER HOLLOW SOLAR FARM RECENT RESIDENTIAL SALES LOCATION MAP



TWO CREEKS SOLAR RECENT RESIDENTIAL SALES LOCATION MAP



NORTH BRANCH, MINNESOTA RECENT RESIDENTIAL SALES LOCATION MAP

NORTH BRANCH, MINNESOTA BEFORE AND AFTER SALES LOCATION MAP

ELIZABETH CITY, NORTH CAROLINA RECENT RESIDENTIAL SALES LOCATION MAP

GOLDSBORO, NORTH CAROLINA RECENT RESIDENTIAL SALES LOCATION MAP

GOLDSBORO, NORTH CAROLINA BEFORE AND AFTER SALES LOCATION MAP

IMPROVED SALE PHOTOGRAPHS

13688 N. 130 East Road

2566 E. 1050 North Road

8366 E. 850 North Road

5764 E. 200 North Road

6270 N. 600 East Road

14131 N. Eighty East Road

ILLINOIS COUNTY ASSESSOR SURVEY ANALYSIS

A survey of the Supervisors of Assessments or the Deputy Assessors of 6 counties in Illinois which solar farms currently are operational has been undertaken. The supervisors of assessments or a qualified staff member were interviewed. The interviews were intended to allow the assessment officials to share their experiences regarding the impact of the solar farm(s) upon the market values and/or the assessed values of surrounding properties. The interviews were conversational, but thoroughly discussed residential and agricultural values and impacts. The interviews were conducted in July 2019.

Conclusions of the Study

Based on these interviews:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of, and the proximity to, a solar farm facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- There have been no tax appeals in any county based upon solar farm-related concerns.
- In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based upon solar farm-related concerns. As of the date of this report, there are more than 13 solar farms with more than 18 megawatts within these counties. There have been no reductions in assessed valuations related to photovoltaic panels.
- Residential assessed values have fluctuated consistently countywide as influenced by market conditions, with no regard for proximity to a solar farm.
- Agricultural properties are taxed based upon a productivity formula that is not impacted by market data and by external influences.

Scope of Project

The supervisors of assessments or a qualified staff member were interviewed. Each of the interviewees was familiar with the solar farm(s) located within each respective county. A map indicating the total capacity of the solar farms in each of these counties is included in this memorandum. A second map illustrates the number of the solar farms located in each of these counties. The following is the list of County Supervisors of Assessments contacted, county population, and the solar farms in their counties:

County	Population	Assessor	CA Phone #	Solar Farm Project Name	Capacity (MW)	Year Installed
Champaign	209,983	Paula Bates	(217) 384-3760	Brookfield Properties Retail	1.28	2018
				Rantoul Solar	1.00	2016
Cook	5,180,493	Fritz Kaegi	(312) 443-7550	Exelon Solar Chicago	9.00	2009
				West Pullman Industrial Redevelopment Area	10.00	2010
Henry	49,090	Tracey Vinavich	(309) 937-3570	Geneseo	1.20	2015
				Macy's	2.00	2017
LaSalle	109,430	Stephanie R. Kennedy	(815) 434-8233	Grand Ridge Solar Farm	20.00	2012
Will	692,310	Rhonda Novak	(815) 740-4648	IKEA	1.12	2012
				IKEA Joliet Rooftop PV System	2.00	2017
Winnebago	284,081	Thomas R. Hodges	(815) 319-4460	Rockford Solar Farm	3.06	2012

Residential Market Values

Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of, and the proximity to, a solar farm facility. Either as a request by a county board, in an attempt to appropriately assess newly constructed residences, or to support current assessed values, the supervisors of assessments have been particularly attentive to market activity in the area of the solar farms.

Residential Assessed Values, Complaints/Tax Appeal Filings

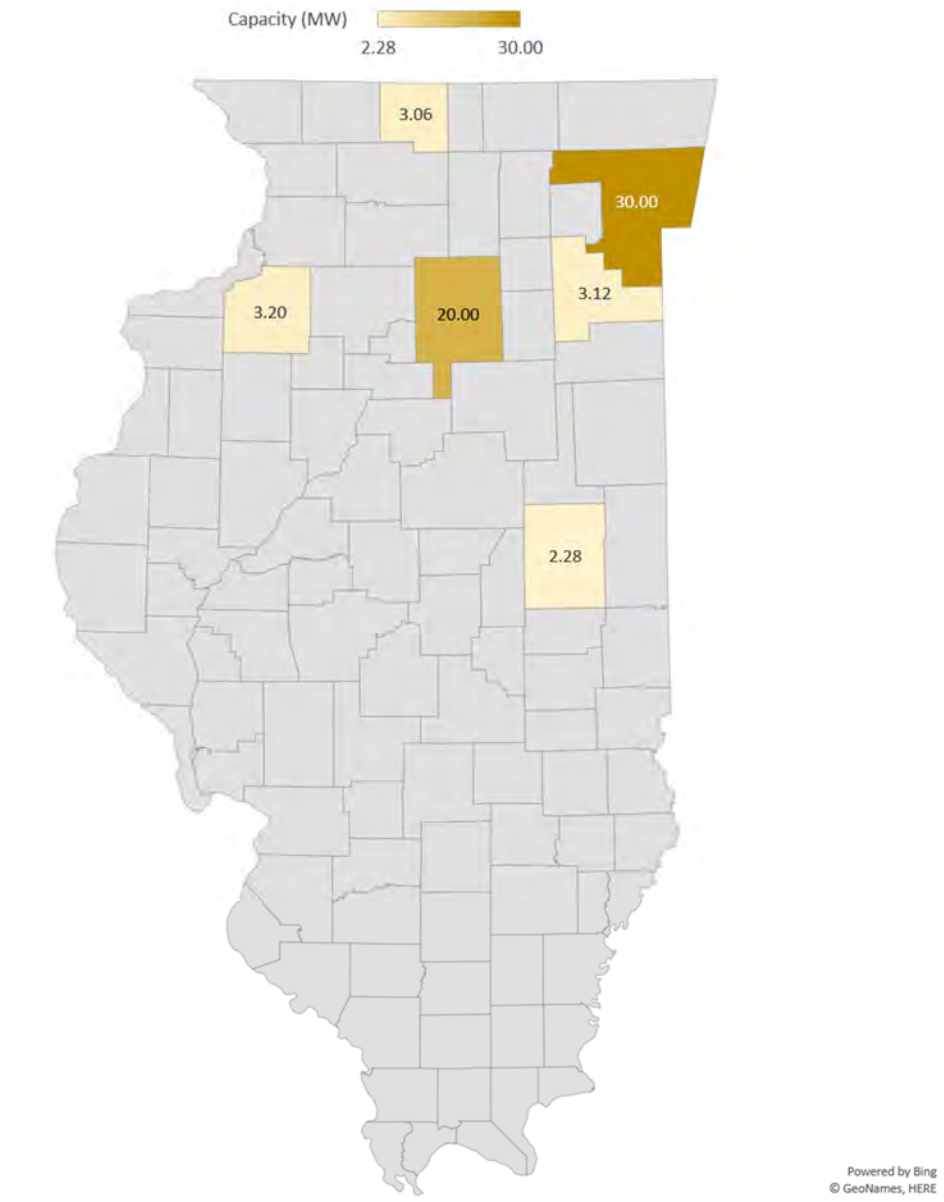
The assessors reported that there have been no tax appeal filings based upon solar farm issues. The deputy assessor of Champaign County, Zebo Zebe, stated that although there have not been any complaints or appeals on existing solar farms, there have been a number of unofficial complaints due to a proposed solar farm that is currently in the development stage.

Consistently, the assessors reported that whatever initial concern there may have been regarding property values during the planning and approval stages of the various solar farms had dissipated once the solar farm was constructed. Repeatedly, the assessors would state that the revenue that would come into the county and to each individual farmer would outweigh any initial concern that the residents would have about the solar farms joining their communities.

Agricultural Values/Assessed Values

The assessed values of agricultural properties are established based upon a productivity formula and are not driven by market data. Reportedly, assessed values of agricultural properties have been steady or increasing in recent years and are projected to continue increasing for the near future. The assessors reported that no major complaints have been received and/or no tax appeal filings have been filed for agricultural properties within a solar farm footprint.

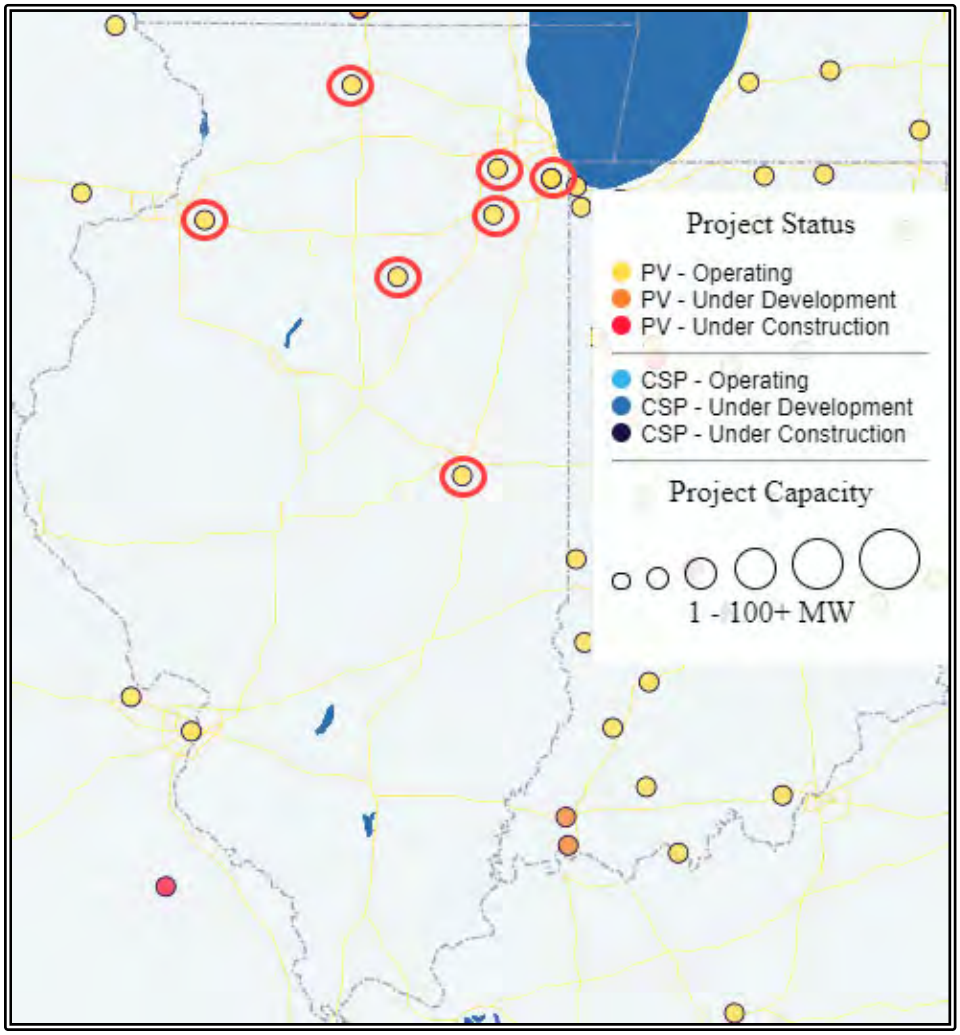
Based on this survey, it does not appear that the Supervisors of Assessments in the surveyed counties in Illinois have reason to believe that the location of photovoltaic panels in their county has had a negative impact on property values.



Map of Illinois Counties Surveyed

Solar Farm Capacity by County

Solar Farms with 1.00-Megawatt Capacity or Higher



Note: As depicted on this map, the locations of certain solar farms are approximations. In some instances, the solar farms are incorrectly shown to be located in adjacent counties. This map, as of the date of this survey, also shows the locations of smaller solar farms, but for the accuracy of this study we have only focused on the farms with a capacity of 1.00 megawatt or higher.

MICHAEL S. MAROUS
STATEMENT OF QUALIFICATIONS

Michael S. MaRous, MAI, CRE, is president and owner of MaRous and Company. He has appraised more than $15 billion worth of primarily investment-grade real estate in more than 25 states. In addition to providing documented appraisals, he has served as an expert witness in litigation proceedings for many law firms; financial institutions; corporations; builders and developers; architects; local, state, county, and federal governments, and agencies; and school districts in the Chicago metropolitan area. His experience in partial interest, condemnation, damage impact, easement (including aerial and subsurface), marital dissolutions, bankruptcy proceedings, and other valuation issues is extensive. He has provided highest and best use, marketability, and feasibility studies for a variety of properties. Many of the largest redevelopment areas and public projects, including Interstate 355, the Chicago O'Hare International Airport expansion, the Chicago Midway International Airport expansion, and the McCormick Place expansion, are part of Mr. MaRous' experience. Mr. MaRous also has experience in regard to mediation and arbitration proceedings. Also, he has purchased and developed real estate for his own account.

APPRAISAL AND CONSULTATION EXPERIENCE

Industrial Properties

Business Parks	Manufacturing Facilities	Self-storage Facilities
Distribution Centers	Research Facilities	Warehouses

Commercial Properties

Auto Sales/Service Facilities	Gasoline Stations	Restaurants
Banquet Halls	Hotels and Motels	Shopping Centers
Big Box Stores	Office Buildings	Theaters

Special-Purpose Properties

Bowling Alleys	Nurseries	Tank Farms
Cemeteries	Riverboat Gambling Facilities	Underground Gas Aquifers
Farms	Schools	Utility Corridors
Golf Courses	Stadium Expansion Issues	Waste Transfer Facilities
Lumber Yards	Solar Farms	Wind Farms

Residential Properties

Apartment Complexes	Condominium Developments	Subdivision Developments
Condominium Conversions	Single-family Residences	Townhouse Developments

Vacant Land

Agricultural	Easements	Rights of Way
Alleys	Industrial	Streets
Commercial	Residential	Vacations

Clients

Corporations	Law Firms	Private Parties
Financial Institutions	Not-for-profit Associations	Public Entities

EDUCATION

B.S., Urban Land Economics, University of Illinois, Urbana-Champaign
Continuing education seminars and programs through the Appraisal Institute
and the American Society of Real Estate Counselors, and real estate brokerage classes

PUBLIC SERVICE

Mayor, City of Park Ridge, Illinois (2003-2005)
Alderman, City of Park Ridge, including Liaison to the Zoning Board of Appeals and Planning and Zoning and Chairman of the Finance and Public Safety Committees (1997-2005)

PROFESSIONAL AFFILIATIONS AND LICENSES

Appraisal Institute, MAI designation, Number 6159
Counselors of Real Estate, CRE designation
Illinois Certified General Real Estate Appraiser, License Number 553.000141 (9/23)
Indiana Certified General Real Estate Appraiser, License Number CG41600008 (6/24)
Wisconsin Certified General Real Estate Appraiser, License Number 1874-10 (12/23)
Minnesota Certified General Real Estate Appraiser, License Number 40330656 (8/24)
Iowa Certified General Real Estate Appraiser, License Number CG03468 (6/25)
South Dakota Certified General Real Estate Appraiser, License Number 1467CG (9/23)
Licensed Real Estate Broker (Illinois)

PROFESSIONAL ACTIVITIES

Mr. MaRous is past president of the Chicago Chapter of the Appraisal Institute. He is former chair and vice chair of the National Publications Committee and has sat on the board of The Appraisal Journal. In addition, he has served on and/or chaired more than 15 other committees of the Appraisal Institute, the Society of Real Estate Appraisers, and the American Institute of Real Estate Appraisers.

Mr. MaRous served as chair of the Midwest Chapter of the Counselors of Real Estate in 2006 and 2007 and has served on the National CRE Board since 2011. He sat on the Midwest Chapter Board of Directors, the Editorial Board of Real Estate Issues, and on various other committees.

Mr. MaRous also is past president of the Illinois Coalition of Appraisal Professionals. He also has been involved with many other professional associations, including the Real Estate Counseling Group of America, the Northwest Suburban Real Estate Board, the National Association of Real Estate Boards, and the Northern Illinois Commercial Association of Realtors.

PUBLICATIONS AND PROFESSIONAL RECOGNITION

Mr. MaRous has spoken at more than 20 programs and seminars related to real estate appraisal and valuation.

Author

"Low-income Housing in Our Backyards," *The Appraisal Journal*, January 1996
"The Appraisal Institute Moves Forward," *Illinois Real Estate Magazine*, December 1993
"Chicago Chapter, Appraisal Institute," *Northern Illinois Real Estate Magazine*, February 1993
"Independent Appraisals Can Help Protect Your Financial Base," *Illinois School Board Journal*, November-December 1990
"What Real Estate Appraisals Can Do for School Districts,"
School Business Affairs, October 1990

Awards

Appraisal Institute - George L. Schmutz Memorial Award, 2001
Chicago Chapter of the Appraisal Institute – Heritage Award,
2000
Chicago Chapter of the Appraisal Institute - Herman O. Walther, 1987 (Distinguished Chapter Member)

Reviewer or Citation in the Following Books

Rural Property Valuation, 2017
Real Estate Damages, 1999, 2008, and 2016
Golf Property Analysis and Valuation, 2016
Dictionary of Real Estate Appraisal, Fourth Edition, 2002 and Sixth Edition, 2015
Market Analysis for Real Estate, 2005 and 2014
Appraisal of Real Estate, Twelfth Edition, 2001, Thirteenth Edition, 2008, Fourteenth Edition, 2013
Shopping Center Appraisal and Analysis, 2009
Subdivision Valuation, 2008
Valuation of Apartment Properties, 2007
Valuation of Billboards, 2006
Appraising Industrial Properties, 2005
Valuation of Market Studies for Affordable Housing, 2005
Valuing Undivided Interest in Real Property: Partnerships and Cotenancies, 2004
Analysis and Valuation of Golf Courses and Country Clubs, 2003
Valuing Contaminated Properties: An Appraisal Institute Anthology, 2002
Hotels and Motels: Valuation and Market Studies, 2001
Land Valuation: Adjustment Procedures and Assignments, 2001
Appraisal of Rural Property, Second Edition, 2000
Capitalization Theory and Techniques, Study Guide, Second Edition, 2000
Guide to Appraisal Valuation Modeling Land, 2000
Appraising Residential Properties, Third Edition, 1999
Business of Show Business: The Valuation of Movie Theaters, 1999
GIS in Real Estate: Integrating, Analyzing and Presenting Locational Information, 1998
Market Analysis for Valuation Appraisals, 1995

REPRESENTATIVE WORK OF MICHAEL S. MAROUS

Headquarters/Corporate Office Facilities in Illinois
Fortune 500 corporation facility, 200,000 sq. ft., Libertyville
Corporate headquarters, 300,000 sq. ft. and 500,000 sq. ft., Chicago
Fortune 500 corporation facility, 450,000 sq. ft., Northfield
Major airline headquarters, 1,100,000 million sq. ft. on 47 acres, Elk Grove Village
Former communications facility, 1,400,000 million sq. ft. on 62 acres, Skokie and Niles
Corporate Headquarters, 1,500,000+ sq. ft., Lake County
Former Sears Headquarters Redevelopment Project, Chicago

Office Buildings in Chicago
401 South LaSalle Street, 140,000 sq. ft.
134 North LaSalle Street, 260,000 sq. ft.
333 North Michigan Avenue, 260,000 sq. ft.
171 West Randolph Street, 360,000 sq. ft.
20 West Kinzie Street, 405,000 sq. ft.
55 East Washington Street, 500,000 sq. ft.
10 South LaSalle Street, 870,000 sq. ft.
222 West Adams Street, 1,000,000 sq. ft.
141 West Jackson Boulevard, 1,065,000 sq. ft.
333 South Wabash Avenue, 1,125,000 sq. ft.
155 North Wacker Drive, 1,406,000 sq. ft.
70 West Madison Street, 1,430,000 sq. ft.
111 South Wacker Drive, 1,454,000 sq. ft.
175 West Jackson Boulevard, 1,450,000 sq. ft.
227 West Monroe Street, 1,800,000 sq. ft.
10 South Dearborn Street, 1,900,000 sq. ft.

Hotels in Chicago
One West Wacker Drive (Renaissance Chicago Hotel)
10 East Grand Avenue (Hilton Garden Inn)
106 East Superior Street (Peninsula Hotel)
120 East Delaware Place (Four Seasons)
140 East Walton Place (The Drake Hotel)
160 East Pearson Street (Ritz Carlton)
301 East North Water Street (Sheraton Hotel)
320 North Dearborn Street (Westin Chicago River North)
401 North Wabash Avenue (Trump Tower)
505 North Michigan Avenue (Hotel InterContinental)
676 North Michigan Avenue (Omni Chicago Hotel)
800 North Michigan Avenue (The Park Hyatt)

Large Industrial Properties in Illinois
Large industrial complexes, 400,000 sq. ft., 87th Street and Greenwood Avenue, Chicago
Distribution warehouse, 580,000 sq. ft. on 62 acres, Champaign
Publishing house, 700,000 sq. ft. on 195 acres, U.S. Route 45, Mattoon
AM Chicago International, 700,000± sq. ft. on 41 acres, 1800 West Central Road, Mount Prospect
Nestlé distribution center, 860,000 sq. ft. on 153 acres, DeKalb
U.S. Government Services Administration distribution facility, 860,000 sq. ft., 76th Street and Kostner Avenue, Chicago Fortune 500 company distribution center, 1,000,000 sq. ft., Elk Grove Village
Caterpillar Distribution Facility, 2,231,000 sq. ft., Morton
Self-storage facilities, various Chicago metropolitan locations

Airport Related Properties
Mr. MaRous has performed valuations on more than 100 parcels in and around Chicago O'Hare International Airport, Chicago Midway International Airport, Palwaukee Municipal Airport, Chicago Aurora Airport, DuPage Airport, and Lambert-St. Louis International Airport

Vacant Land in Illinois

15 acres, office, Northbrook
20 acres, residential, Glenview
25 acres, Hinsdale
55 acres, mixed-use, Darien
68 acres, Roosevelt Road and the Chicago River
75 acres, I-88 at I-355, Downers Grove
100± acres, various uses, Lake County
100 acres, Western Springs
140 acres, Flossmoor
142 acres, residential, Lake County
160 acres, residential, Cary
200 acres, mixed-use, Bartlett
250 acres, Island Lake
450 acres, residential, Wauconda
475± acres, various uses, Lake County
650 acres, Hawthorne Woods
650 acres, Waukegan/Libertyville
800 acres, Woodridge
900 acres, Matteson
1,000± acres, Batavia area
2,000± acres, Northern Lake County
5,000 acres, southwest suburban Chicago area
Landfill expansion, Lake County

Retail Facilities

20 Community shopping centers, various Chicago metropolitan locations
Big box uses, various Chicago metropolitan locations and the Midwest
Gasoline Stations, various Chicago metropolitan locations
More than 50 single-tenant retail facilities larger than 80,000 sq. ft., various Midwest metropolitan locations

Residential Projects

Federal Square townhouse development project, 118 units, $15,000,000+ sq. ft. project, Dearborn Place, Chicago
Marketability and feasibility study, 219 East Lake Shore Drive, Chicago
Riverview II, Chicago; Old Town East and West, Chicago; Museum Park Lofts II, Museum Park Tower 4, University Commons, Two River Place, River Place on the Park, Chicago,
Timber Trails, Western Springs, Illinois

Market Impact Studies

Land-fill projects in various locations
Quarry expansions in Boone and Kendall counties
Commercial development and/or parking lots in various communities
Zoning changes in various communities
Waste transfer stations in various communities

Business and Industrial Parks

Chevy Chase Business Park, 30 acres, Buffalo Grove
Carol Point Business Center, 300-acre industrial park, Carol Stream, $125,000,000+ project
Internationale Centre, approximately 1,000 acre-multiuse business park, Woodridge

Properties in Other States

330,000 sq. ft., Newport Beach, California
Former government depot/warehouse and distribution center, 2,500,000 sq. ft. on 100+ acres, Ohio
Shopping Center, St. Louis, Missouri, Office Building, Clayton, Missouri
Condominium Development, South Dakota, South Dakota
Hormel Foods, various Midwest locations
Wisconsin Properties including Lowes, Menards, Milwaukee Zoo, CVS Pharmacy's in Milwaukee, Dairyland Racetrack, Major Industrial Property in Manawa, Class A Office Buildings and Vacant Land

Energy Related Projects

Oakwood Hills Energy Center, McHenry County, Illinois
Lackawanna Power Plant, Lackawanna County, Pennsylvania
Commonwealth Edison, high tension lines

Wind Projects

Illinois
Alta Farms Wind Project II, Dewitt County
Bennington Wind Project, Marshall County
Goose Creek Wind, Piatt County
Harvest Ridge Wind Farm, Douglas County
Lincoln Land Wind Farm, Morgan County
Midland Wind Farm, Henry County
McLean County Wind Farm, McLean County
Otter Creek Wind Farm, LaSalle County
Pleasant Ridge Wind Farm, Livingston County
Radford's Run Wind Farm, Macon County
Shady Oaks II, Lee County
Twin Groves Wind Farm, McLean County
Walnut Ridge Wind Farm, Bureau County

Indiana
Roaming Bison Wind Farm, Montgomery County
Tippecanoe County Wind Farm, Tippecanoe County

Iowa
Great Pathfinder Wind Project, *Boone & Hamilton County*
Ida Grove II Wind Farm, *Ida County*

Kansas
Neosho Ridge Wind Farm, Neosho County
Jayhawk Wind, Bourbon County & Crawford County

New York
Alle-Catt Wind, Allegany County, Cattaraugus County, & Wyoming County
Orangeville Wind Farm, Wyoming County

Ohio
Seneca Wind, Seneca County
Republic Wind, Seneca County & Sandusky County

South Dakota
Deuel Harvest Wind Farm, Deuel County
Dakota Range Wind Project I-III, Codington County, Grant County, & Roberts County
Crocker Wind Farm, Clark County
Crowned Ridge Wind II, Deuel County
Prevailing Wind Park, Bon Homme County, Charles Mix County, & Hutchinson County
Sweet Land Wind Farm, Hand County
Triple H Wind Farm, Hyde County
Tatanka Ridge Wind Project, Deuel County

Solar Projects

Illinois
Hickory Point Solar Energy Center, Christian County
Mulligan Solar, Logan County

Indiana
Lone Oak Solar Farm, Madison County

Maryland
Dorchester County Solar Farm, Dorchester County

Wisconsin
Badger Hollow Solar Farm, Iowa County
Darien Solar Energy Center, Rock County & Walworth County
Grant County Solar, Grant County
Paris Solar Energy Center, Kenosha County

South Dakota
Brookhaven Solar Energy Production Facility, Brookings County

Western Regions of the United States of America
Southwest Region – Arizona, Colorado, Nevada, New Mexico, & Utah
Northwest Region – Idaho and Oregon
Southern Great Plains Region – Texas
Northern Great Plains Region – General Research

REPRESENTATIVE CLIENT LISTING OF MICHAEL S. MAROUS

Law Firms

Alschuler, Simantz & Hem LLC Ancel, Glink, Diamond, Bush, DiClanni & Krafthefer
Arnstein & Lehr LLP
Berger, Newmark & Fenchel P.C.
Berger Schatz
Botti Law Firm, P.C.
Carmody MacDonald P.C.
Carr Law Firm
Crane, Heyman, Simon, Welch & Clar
Daley & Georges, Ltd.
Day, Robert & Morrison, P.C. Dentons US LLP
DiMonte & Lizak LLC
DLA Piper
Dreyer, Foote, Streit, Furgason & Slocum, P.A.
Drinker, Biddle & Reath LLP Figliulo & Silverman, P.C.
Foran, O'Toole & Burke LLC Franczek Radelet P.C.
Fredrikson & Byron, P.A.
Freeborn & Peters LLP
Gould & Ratner LLP
Greenberg Traurig LLP
Helm & Wagner
Robert Hill Law, Ltd.
Hinshaw & Culbertson LLP
Holland & Knight LLP
Ice Miller LLP
Jenner & Block
Katz & Stefani, LLC
Kinnally, Flaherty, Krentz, Loran, Hodge & Mazur PC
Kirkland & Ellis LLP
Klein, Thorpe & Jenkins, Ltd.
McDermott, Will & Emery
Mayer Brown
Michael Best & Friedrich LLP
Morrison & Morrison, Ltd.
Bryan E. Mraz & Associates
Neal, Gerber & Eisenberg, LLP
Neal & Leroy LLC
O'Donnell Haddad LLC
Prendergast & DelPrincipe
Rathje & Woodward, LLC
Righeimer, Martin & Cinquino, P.C.
Robbins, Salomon & Patt, Ltd.
Rosenfeld Hafron Shapiro & Farmer
Rosenthal, Murphey, Coblentz & Donahue Rubin & Associates, P.C.
Ryan and Ryan, P.C.
Reed Smith LLP
Sarnoff & Baccash
Scariano, Himes & Petrarca, Chtd.
Schiff Hardin LLP
Schiller, DuCanto & Fleck LLP
Schirott, Luetkehans & Garner, LLC
Schuyler, Roche & Crisham, P.C.
Sidley Austin LLP
Storino, Ramello & Durkin
Thomas M. Tully & Associates
Thompson Coburn, LLP
Tuttle, Vedral & Collins, P.C.
Vedder Price
von Briesen & Roper, SC
Winston & Strawn LLP
Worsek & Vihon LLP

Financial Institutions

AmericaUnited Bank Trust
BMO Harris Bank
Charter One
Citibank
Cole Taylor Bank
First Bank of Highland Park
First Financial Northwest Bank
First Midwest Bank
First State Financial
Glenview State Bank
Itasca Bank & Trust Co.
Lake Forest Bank & Trust Co.
MB Financial Bank
Midwest Bank
Northern Trust
Northview Bank & Trust
The Private Bank
Wintrust

Corporations

Advocate Health Care System
Alliance Property Consultants
American Stores Company
Archdiocese of Chicago
Arthur J. Rogers and Company
Avangrid Renewables, LLC
BHE Renewables
BP Amoco Oil Company
Christopher B. Burke Engineering, Ltd. Cambridge Homes
Canadian National Railroad
Capital Realty Services, Inc.
Chicago Cubs
Children's Memorial Hospital
Chrysler Realty Corporation
Citgo Petroleum Corporation
CorLands
CVS
Edward R. James Partners, LLC
Enterprise Development Corporation
Enterprise Leasing Company
Exxon Mobil Corporation
Hamilton Partners
Hollister Corporation
Imperial Realty Company
Invenergy LLC
Kimco Realty Corporation
Kinder Morgan, Inc.
Lakewood Homes
Lowe's Companies, Inc.
Loyola University Health System
Marathon Oil Corporation
Meijer, Inc.
Menards
Mesirow Stein Real Estate, Inc.
Paradigm Tax Group
Prime Group Realty Trust
Public Storage Corporation
RREEF Corporation
Shell Oil Company
Union Pacific Railroad Company
United Airlines, Inc.

Public Entities

Illinois Local Governments and Agencies

Village of Arlington Heights
Village of Barrington
Village of Bartlett
Village of Bellwood
Village of Brookfield
Village of Burr Ridge
City of Canton
Village of Cary
City of Chicago
Village of Deer Park
City of Des Plaines
Des Plaines Park District
Downers Grove Park District
City of Elgin
Elk Grove Village
City of Elmhurst
Village of Elmwood Park
City of Evanston
Village of Forest Park
Village of Franklin Park
Village of Glenview
Glenview Park District
Village of Harwood Heights
City of Highland Park
Village of Hinsdale
Village of Inverness
Village of Kenilworth
Village of Kildeer
Village of Lake Zurich
Leyden Township
Village of Lincolnshire
Village of Lincolnwood
Village of Morton Grove
Village of Mount Prospect
Village of North Aurora
Village of Northbrook
City of North Chicago
Village of Northfield
Northfield Township
Village of Oak Brook
Village of Orland Park
City of Palos Hills
City of Peoria
City of Prospect Heights
City of Rolling Meadows
Village of Rosemont
City of St. Charles
Village of Schaumburg
Village of Schiller Park
Village of Skokie
Village of South Barrington
Village of Streamwood
Metropolitan Water Reclamation District of Greater Chicago
City of Waukegan
Village of Wheeling
Village of Wilmette
Village of Willowbrook
Village of Winnetka
Village of Woodridge

County Governments and Agencies

Boone County State's Attorney's Office
Cook County State's Attorney's Office
DuPage County Board of Review
Forest Preserve District of DuPage County
Kane County
Kendall County Board of Review
Lake County
Lake County Forest Preserve District
Lake County State's Attorney's Office
Morton Township
Peoria County

State and Federal Government Agencies

Federal Deposit Insurance Corporation
U.S. General Services Administration
Illinois Housing Development Authority
Illinois State Toll Highway Authority
Internal Revenue Service
The U.S. Postal Service

Schools

Argo Community High School District No. 217
Arlington Heights District No. 25 Township High School District No. 214, Arlington Heights
Barrington Community Unit District No. 220
Chicago Board of Education
Chicago Ridge District No. 127½
College of Lake County
Community Consolidated School District No. 15
Community Consolidated School District No. 146
Community School District No. 200 Consolidated High School District No. 230
Darien District No. 61
DePaul University
Elk Grove Community Consolidated District No. 59
Elmhurst Community Unit School District No. 205
Glen Ellyn School District No. 41
Glenbard High School District No. 87
Indian Springs School District No. 109
LaGrange School District No. 105
Lake Forest Academy
Leyden Community High School District No. 212
Loyola University
Lyons Township High School District No. 204
Maine Township High School District No. 207
Niles Elementary District No. 71
North Shore District No. 112, Highland Park
Northwestern University
Orland Park School District No. 135
Palatine High School District #211
Rhodes School District No. 84-1/2
Riverside-Brookfield High School District No. 208
Rosalind Franklin University
Roselle School District No. 12
Schaumburg Community Consolidated District No. 54
Sunset Ridge School District No. 29
Township High School District No. 211
Township High School District No. 214
Triton College
University of Illinois
Wheeling Community Consolidated District No. 21
Wilmette District No. 39

JOSEPH M. MaROUS
STATEMENT OF QUALIFICATIONS

Joseph M. MaRous is an Energy Consultant with MaRous and Company, with a focus on the renewable and alternative energy industry.
For more details visit: linkedin.com/in/joemarous

EDUCATION

Purdue University - West Lafayette, Indiana
Bachelor of Science – Building Construction Management
Focus in residential and green build construction

CERTIFICATIONS

OSHA Safety Certified
Certified Green Build Professional
USPAP Qualified

CONSTRUCTION

Professional in the construction industry for 10 years

- Residential
- Commercial
- Industrial
- Municipal
- Tenant Improvement
- Schools
- Media Studios
- Automobile Dealerships

MaROUS & COMPANY

Appraisal Assistance

- Vacant Land
- Industrial
- Commercial
- Office
- Retail
- Residential
- Auto Dealerships
- Religious Facilities
- Hotel/Motel

Wind Projects

- Illinois
  - Alta Farms Wind Project II, *Dewitt County*
  - Bennington Wind Project, *Marshall County*
  - Crescent Ridge Wind Farm, McLean County
  - Goose Creek Wind, *Piatt County*
  - Harvest Ridge Wind Farm, *Douglas County*
  - Lincoln Land Wind Farm, *Morgan County*
  - Midland Wind Farm, *Henry County*
  - McLean County Wind Farm, *McLean County*
  - Osagrove Flats Wind Project, *LaSalle County*
  - Radford's Run Wind Farm, *Macon County*
  - Shady Oaks II, *Lee County*
- Indiana
  - Roaming Bison Wind Farm, *Montgomery County*
  - Tippecanoe County Wind Farm, *Tippecanoe County*
- Iowa
  - Great Pathfinder Wind Project, *Boone & Hamilton County*
  - Ida Grove II Wind Farm, *Ida County*
  - Three Waters Wind, *Dickinson County*
  - Worthwhile Wind, *Worth County*
- Kansas
  - Jayhawk Wind, *Bourbon & Crawford County*
  - Neosho Ridge Wind Farm, *Neosho County*
- Minnesota
  - Dodge County Wind, *Dodge & Steele County*
  - Three Waters Wind, Jackson County
- New York
  - Alle-Catt Wind, *Allegany, Cattaraugus, & Wyoming County*
  - Orangeville Wind Farm, *Wyoming County*
- Ohio
  - Emerson Creek Wind Farm, Erie, Huron &Seneca County
  - Republic Wind, *Seneca & Sandusky County*
  - Seneca Wind, *Seneca County*
- South Dakota
  - Crocker Wind Farm, *Clark County*
  - Crowned Ridge Wind II, *Codington, Deuel, & Grant County*
  - Dakota Range Wind Project I-III, *Codington, Grant, & Roberts County*
  - Deuel Harvest Wind Farm, *Deuel County*
  - Prevailing Wind Park, *Bon Homme, Charles Mix, & Hutchinson County*
  - Sweet Land Wind Farm, *Hand County*
  - Triple H Wind Farm, *Hyde County*
  - Tatanka Ridge Wind Project, *Deuel County*

Solar Projects

- Illinois
  - Black Diamond Solar, *Christian County*
  - Double Black Diamond Solar, *Sangamon & Morgan County*
  - Hickory Point Solar Energy Center, *Christian County*
  - Mulligan Solar, *Logan County*
  - Osagrove Flats Solar, *LaSalle County*
  - Pleasant Grove Solar, *Boone & McHenry County*
  - South Dixon Solar, *Lee County*
- Indiana
  - Hardy Hills Solar, *Clinton County*
  - Lone Oak Solar Farm, *Madison County*
  - Mammoth Solar, Pulaski & Starke County
- Maryland
  - Dorchester County Solar Farm, *Dorchester County*
- Wisconsin
  - Badger Hollow Solar Farm, *Iowa County*
  - Darien Solar Energy Center, *Rock & Walworth County*
  - Grant County Solar, *Grant County*
  - Koshkonong Solar, *Dane County*
  - Paris Solar Energy Center, *Kenosha County*
  - St. Croix Solar, *St. Croix County*
- Western Regions of the United States of America
  - Southwest Region – *Arizona, Colorado, Nevada, New Mexico, & Utah*
  - Northwest Region – *Idaho and Oregon*
  - Southern Great Plains Region – *Texas*
  - Northern Great Plains Region – *General Research*

Transmission Lines

- Iowa
  - Heartland Divide, *Adair, Audubon & County*

Data Centers

- Illinois
  - Itasca Country Club Data Center, *Itasca*
  - United Airlines Data Center – CloudHQ O'Hare Campus, *Mount Prospect*