

APPENDIX W – DEUEL COUNTY WIND FARM MARKET IMPACT ANALYSIS

MARKET IMPACT ANALYSIS
DEUEL HARVEST NORTH WIND FARM
DEUEL COUNTY, SOUTH DAKOTA

November 28, 2018

Deuel Harvest Wind Energy LLC
c/o Invenergy, LLC
1401 17th Street, Suite 1100
Denver, Colorado 80202

Attention: Mr. Michael Svedeman, Manager of Project Development

Subject: Market Impact Analysis
Deuel Harvest North Wind Farm
Deuel County, South Dakota

Dear Mr. Svedeman,

In accordance with your request, the proposed development of the Deuel Harvest North Wind Farm in Deuel County, South Dakota, 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 38 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.

MaRous & Company has conducted numerous market studies of energy-related projects. Those projects include the following projects: Dakota Range Wind Project, in Codington County and Grant County, Crocker Wind Farm in Clark County, and Prevailing Wind Park in Charles Mix County, Bon Homme County, and Hutchinson County, all in South Dakota; 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, Alta Farms Wind Project II in DeWitt County, Radford's Run Wind Farm in Macon County, Midland Wind Project in Henry County, all in Illinois; Freeborn County Wind Farm in Freeborn County, Minnesota; Ida County and Palo Alto County Wind Farms, both in Iowa; Orangeville Wind Farm in Wyoming County, New York; Dorchester County Solar Farms in Dorchester County, Maryland; and Badger Hollow Solar Farm in Iowa County, Wisconsin. We also have analyzed the impact of high-tension electric wires on adjacent residential uses and a number of proposed natural gas-fired electric plants in various locations.

In addition to this experience, MaRous & Company has appraised a variety of properties in the large market area of the proposed project in South Dakota, in North Dakota, in Iowa, and in Minnesota in the last 3 years, including: industrial facilities, food processing plants, and warehouse and distribution facilities ranging in size from 50,000 to 1,000,000 square feet, and more than 20 major retail facilities.

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DEUEL HARVEST WIND ENERGY LLC

Property

Project Name	Deuel Harvest North Wind Farm
Location	Deuel County, South Dakota
Property Type	Wind Farm
Project Developer	Deuel Harvest Wind Energy LLC

Wind Farm Description

Footprint/Leased Land Acreage	≈41,900 Acres
Actual Land Acreage Used by Turbines	0.7% of total footprint, or ≈294 Acres
Number of Turbines	Up to 112 Turbines
Turbine Specifications	
<i>Type</i>	GE 2.3-116 & GE 2.82-127
<i>Capacity</i>	Up to 2.82 Megawatts
<i>Tip Height</i>	Up to 499 Feet
Total Capacity	Up to 310.1 Megawatts of Nameplate Capacity
Deuel County Zoning & Setback Requirements	<ul style="list-style-type: none"> ∴ Distances from existing Non-Participating residences and businesses shall be not less than four times the height of the wind turbine. Distance from existing Participating residences, business and public buildings shall be not less than fifteen hundred feet. Non-Participating property owners shall have the right to waive the respective setback requirements. ∴ Distance from public right-of-way shall be one hundred and ten percent (110%) the height of the wind turbines, measured from the ground surface to the tip of the blade when in a fully vertical position. ∴ Distance from any property line shall be one hundred and ten percent (110%) the height of the wind turbine measured from the ground surface to the tip of the blade when in a fully vertical position unless wind easement has been obtained from adjoining property owner. ∴ Distance from the Lake Park District located at Lake Cochrane 3 miles, Lake Alice 2 miles, and 1 mile from the Lake Park District at Bullhead Lake. ∴ Distance from the municipalities of Altamont, Astoria, Brandt, and Goodwin of 1 mile from the nearest residence and 1½ miles from the city limits of the towns of Gary, Toronto and Clear Lake, except the area of Clear located in sections 11, 12, and 14.
Number of Participants	≈112 landowners

Permanent Ancillary Construction

Project substation	Gravel access roads
Up to 4 meteorological towers	Interconnection substation
Operations and maintenance building	Collection and communication systems and cabling
Overhead line between the project and the interconnection substations	

Total Cost ≈\$400,000,000

Purpose and Intended Use of the Study

The purpose of this appraisal assignment is to analyze the impact, if any, on the value of the surrounding rural residential and agricultural properties due to the development of the wind farm. Specifically, this study is designed to address the question of whether the development of the wind farm has an effect on the value of residential uses and/or agricultural land in proximity to the turbines. Any other use or user of this report is considered to be unintended.

Executive Summary

As a result of the market impact analysis undertaken, I 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 of the project in Deuel County. Further, market data from South Dakota 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 turbines, the additional income from the wind lease may increase the value and marketability of those properties. The foregoing general conclusions are built upon the following information and data:

- ∴ 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 wind farm;
- ∴ The wind farm will create well-paid jobs in the area which will benefit overall market demand;
- ∴ An analysis of recent residential sales proximate to existing wind farms, which includes residential sales within five times turbine tip height, did not support any finding that proximity to a wind turbine had any impact on property values;
- ∴ An analysis of agricultural land values in the area and in other areas of the state with wind farms did not support any finding that the agricultural land values are negatively impacted by the proximity to wind turbines;
- ∴ Studies indicate that wind turbine leases add value to agricultural land;
- ∴ A survey of County Assessors in 8 South Dakota counties in which wind 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 wind farm and that there were no reductions in assessed valuations;
- ∴ A survey of County Assessors in 18 Illinois counties in which wind 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 wind farm and that there were no reductions in assessed valuations;

- ∴ A survey of County Assessors in 26 Iowa counties in which wind 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 wind farm and that there were no reductions in assessed valuations;
- ∴ A survey of County Assessors in 8 Minnesota counties in which wind 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 wind farm and that there were no reductions in assessed valuations; and
- ∴ A summary of the findings in literature on peer-reviewed studies of wind farms in North America, although not specific to South Dakota, the conclusions are consistent with our findings.

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 the 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; and
- ∴ 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

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)

Scope of Work and Reporting Process

Information was gathered concerning the real estate market generally and the market of the area surrounding the proposed wind farm project specifically. The uses in the surrounding area were considered. This report is based on market conditions as of October 8, 2018. We performed the following activities as part of our work:

- ∴ Review and analysis of the Deuel County Zoning Ordinance, and other public documents;
- ∴ Review and analysis of the information for the proposed wind farm from Invenergy, LLC, including supporting documents;
- ∴ Review and analysis of the demographics in the area of the proposed wind farm;
- ∴ Review and analysis of data on the general market area of the wind farm, and on the other areas in South Dakota and/or Deuel County in which existing wind farms are located;
- ∴ Review and analysis of data on the market for single-family houses in the immediate area of the proposed wind farm and from other areas in the county from public sources, and from the Deuel County public records and the public records from 13 other counties in South Dakota²;
- ∴ Interviews of local real estate professionals concerning recent sales in the area, local market conditions, and the impact of wind turbines on property values in the area;
- ∴ Properties used for development of the matched pairs were physically inspected on the exterior, and review of photographs of the interiors reviewed when available;
- ∴ Inspections were performed of the project area and the areas in nearby counties with existing wind farms by Michael S. MaRous on October 4-5, 2017, and October 8-9, 2018. In addition, Michael S. MaRous inspected the nearby Prevailing Wind Park on June 14, 2018, the nearby Crocker Wind Farm on April 5-6, 2018, and the nearby Dakota Range Wind Project on February 18-19, 2018 and October 8-9, 2018 by Michael S. MaRous, and by Joseph M. MaRous on February 18-19, 2018.

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

² Aurora County, Bon Homme County, Brookings County, Campbell County, Charles Mix County, Codington County, Day County, Grant County, Hutchinson County, Hyde County, Jerauld County, McPherson County, and Roberts County

In order to form a judgment concerning the potential impact, if any, the proposed wind farm would have on the market values of the surrounding residential properties, the following have been considered:

- ∴ The character and the value of the residential and agricultural properties in the general area of the proposed wind farm;
- ∴ Agricultural land values in Deuel County, and in other South Dakota counties in which wind farms are located;
- ∴ Market trends for both residential and agricultural land up to the past 5 years;
- ∴ The economic impact the proposed wind farm would have on the larger community; and
- ∴ The potential impact on the value of the surrounding residential and agricultural properties.

Description of Area and Development Area Analysis

Deuel Harvest North Wind Farm Location

Deuel County, South Dakota

2010 Population	4,364 Persons
2018 Population	4,367 Persons
Median Household Income in 2018	\$53,852
Number of Households in 2018	1,818
Number of Housing Units in 2018	2,204
Number of Vacant Housing Units in 2018	386
Unemployment Rate	2.5%

Grant County, South Dakota – Adjacent County

2010 Population	7,356 Persons
2018 Population	7,263 Persons
Median Household Income in 2018	\$53,306
Number of Households in 2018	3,062
Number of Housing Units in 2018	3,526
Number of Vacant Housing Units in 2018	464
Unemployment Rate	2.2%

Main Roadway Arterials

North/South	Interstate 29 extends through the southwestern corner of Deuel County.
East/West	SD-22 extends through the central portion and SD-212 extends through the northern portion of Deuel County.

Top Major Industry Employers in Northeast South Dakota

Name of Company	Industry
Sanford Clear Lake Medical Center	Healthcare
The Good Samaritan Society – Deuel County	Healthcare
South Dakota Partners, Inc	Manufacturing
Tech Ord	Manufacturing
ITC	Communications
Buffalo Ridge Resort and Business Center	Hospitality

Source: Deuel Area Development, Inc.- <http://www.deuelarea.com/business-resources/target-industries-in-deuel-county>

Nearest Cities within the Market Area of the Deuel Harvest North Wind Farm

Clear Lake, South Dakota

2010 Population	1,273 Persons
2018 Population	1,237 Persons

Gary, South Dakota

2010 Population	227 Persons
2018 Population	227 Persons

Toronto, South Dakota

2010 Population	212 Persons
2018 Population	201 Persons

Goodwin, South Dakota

2010 Population	146 Persons
2018 Population	162 Persons

Brandt, South Dakota

2010 Population	107 Persons
2018 Population	101 Persons

Altamont, South Dakota

2010 Population	34 Persons
2018 Population	38 Persons

Other Existing Wind Farms Near Deuel County

The closest existing wind farm to the project is the Buffalo Ridge Wind Farm, located predominantly in Brookings County, South Dakota, and approximately 17 miles south of the project footprint. The wind farm is made up of a total of 202 turbines with a total capacity of approximately 286.7 megawatts and came online between 1994 and 2010. Day County Wind Farm is located in Day County, South Dakota, and approximately 60 miles northwest of the project footprint. The wind farm is made up of a total of 66 turbines with a total capacity of approximately 99 megawatts and came online in 2010.

Residential Sales Nearest to the Project Area

Like the majority of South Dakota, 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 select recent sales of these types of residences in the general area of the Deuel Harvest North Wind Farm. 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 IN THE AREA NEAREST TO THE PROPOSED DEUEL HARVEST NORTH WIND FARM							
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	101 2 nd Ave. Waverly, South Dakota	\$66,800	8/16	0.38	1900	2,016	\$33.13
2	308 Oscar Ave. N Canby, Minnesota	\$84,000	9/16	0.33	1900	2,756	\$30.48
3	16002 SD-Hwy. 15 Labolt, South Dakota	\$230,000	7/18	4.48	N/A	2,705	\$85.03
4	48645 SD-Hwy. 22 Gary, South Dakota	\$362,500	8/18	10.00	2003	4,200	\$86.31
5	17265 460 th Ave. Watertown, South Dakota	\$415,000	12/17	2.53	2004	4,170	\$99.52

Project Description

The proposed project will consist of up to 112 wind turbines with a nameplate capacity of up to 310.1 megawatts of electricity. The two wind turbine model types the project will utilize are the GE 2.82-127 and GE 2.3-116 wind turbine generators by General Electric. The turbines will have a tip height of approximately 499 feet, and will produce energy sufficient to power approximately 115,000 homes. The total footprint of the wind farm will cover approximately 41,900 acres, with an actual acreage used by turbines of approximately 294 acres.

The turbines will be constructed to meet applicable standards and will be monitored to ensure compliance with those standards and to limit the impact of noise and shadow flicker. Additional efforts are being made to limit the impact on avian and wildlife resources in the area.

Roads are to be improved both before and after construction to accommodate the installation of the turbines and to repair any damage caused by the construction.

The total project cost will be approximately \$390,000,000. Ancillary construction includes gravel-covered access roads, a wind electrical collection system, a project substation, an interconnection station, three meteorological towers, a 345 kilovolt overhead electric line between the project and interconnection substations, communication systems, and an operations and maintenance building.

Project Benefits

Taxes

Property	Estimated to be approximately \$1,500,000 per year over the 30-year lifespan of the project
Beneficiaries	County, local schools, emergency services, townships, and other taxing bodies

Land Agreements

Landowner Lease Payments (Property with Turbines and participating neighboring properties without turbines)	Estimated total payments will be approximately \$2,500,000 in the first year and approximately \$75,000,000 over the 30-year lifespan of the project
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Job Creation

Temporary/Construction	Approximately 400 Construction Jobs
Permanent	Approximately 15 permanent jobs with a combined salary estimated to total approximately \$660,000 in the first year and approximately \$19,800,000 over the 30-year lifespan of the project

Induced Impacts due to Construction

Indirect Impacts	Permit payments to the county and anticipated increase in household spending to local businesses
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Market Impact Analysis

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

- ∴ A matched pair analyzing the impact on value of residential properties proximate to a wind farm in Deuel County, South Dakota, as well as matched pairs developed in counties with similar demographics, land use, and economic characteristics of other states in the Midwest, specifically, Illinois, Minnesota, and Iowa;
- ∴ The value of agricultural land in Deuel County and in other counties with existing wind farms;
- ∴ Interviews of local and national real estate professionals;
- ∴ The results of a survey of assessors in South Dakota, Illinois, Minnesota, and Iowa with existing wind farms in their respective jurisdictions; and
- ∴ The results of several academic and peer-reviewed studies on the impact of wind turbines on residential property values.

Matched Pair Analysis

A matched pair analysis (also known as paired sales analysis) is a methodology which analyzes the importance of a selected characteristic, in this instance proximity to a wind turbine, 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 wind turbine, and which also occurred under substantially similar market conditions, especially in rural areas. Many sales in the area are also conducted privately from family member to family member, or passed down from generation to generation, causing there to be a lack of sale information. In addition, where sale information is available, its utility may be limited or eliminated because the properties have not sold in a typical, open market transaction for full value.

Data from similar Midwestern states that have a strong presence of wind turbines, similar demographics, similar economics, and similar agricultural characteristics, have also been analyzed.

Details of the sales included in this analysis are retained in my office files; maps in the addenda to this report illustrate the location of the properties. 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 wind turbine lease associated with the property.

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.

South Dakota Analysis - Brookings County Matched Pair No. 1

The Buffalo Ridge Wind Farms are located in Brookings County in the East-Central region of South Dakota and consist of 129 turbines that began commercial operations in 2009. Both phases I and II are located primarily in Brookings County. Phase I came online in 2009 with 24 turbines generating approximately 50.4 MW of power. Phase II was much larger, following the first phase the next year in 2010 with 105 turbines generating approximately 210 MW of power. A property located at 21088 487th Avenue, Elkton, South Dakota, sold in October 2016 for \$183,000. The nearest turbine is approximately 1,028 feet to the south of this property.

This property is compared with a similar property located at 5705 Rathum Loop, Brookings, South Dakota, that sold in June 2015, which is not located proximate to any wind turbines. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 487th Avenue property to the closest wind turbines.

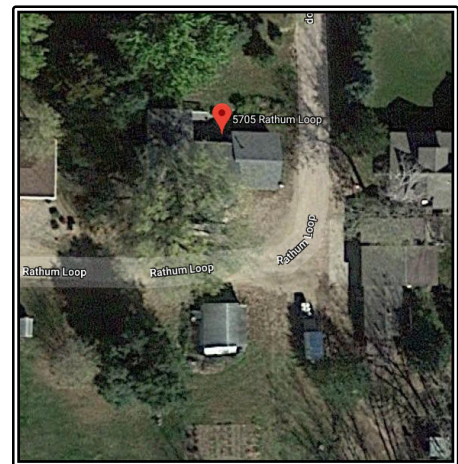


BROOKINGS COUNTY MATCHED PAIR NO. 1

	1A - Proximate to a Wind Turbine	1B - Not Proximate to a Wind Turbine
Address	21088 487 th Ave. Elkton, SD 57026	5705 Rathum Loop Brookings, SD 57006
Distance from Turbine	1,028 Feet	N/A
Sale Date	October 14, 2016	June 5, 2015
Sale Price	\$183,000	\$142,000
Sale Price/Sq. Ft. (A.G.)	\$66.64	\$68.33
Year Built	2003	1973
Building Size (Sq. Ft.)	2,746	2,078
Lot Size (Acres)	8.00	0.49
Style	One-story, frame (vinyl) 5 bedrooms, 3 bath	One-story; frame (vinyl) 3 bedrooms, 1 bath
Basement	Partial	Crawlspace/Partially finished
Utilities	Central air; Forced-air heat; Well & septic	Central air; Forced-air heat; Well & septic
Other	1-car attached garage patio, deck, utility buildings	1-car attached garage; 3-car detached garage; patio, deck, utility buildings



21088 487th Avenue



5705 Rathum Loop

Both the 487th Avenue property and the Rathum Loop property are ranch-style houses. However Rathum Loop appears to contain only three bedrooms, whereas 487th Avenue has five bedrooms. An upward adjustment of Rathum Loop for the superior building style of 487th Avenue is required. In the case of the Rathum Loop property, there are utility buildings, a detached three-car garage, and a one-car attached garage; however, the 487th Avenue property has a just one larger utility building and an attached one-car garage. A downward adjustment for the superior outbuildings of Rathum Loop is required. The 487th Avenue building is of newer construction, and Rathum Loop is approximately 50 years old. Both properties are considered to be in normal condition by the Brookings County Assessor. An upward adjustment of Rathum Loop is required due to 487th Avenue's newer vintage. An upward adjustment is made for the larger building size of the 487th Avenue property. The 487th Avenue property is also situated on a much larger lot than that of the Rathum Loop property requiring an upward adjustment; however, both lots are surrounded by agricultural and pasture land, which mitigates the size differential to some degree. The Rathum Loop property has a superior location to the 487th Street property due to its close proximity to the town of Brookings, requiring a downward adjustment.

Considering the adjustments noted in the following table for the older vintage and smaller size of the Rathum Loop property and for the superior market conditions of the 487th Avenue property, the difference in the sale price does not support the conclusion that proximity to the wind turbines had a negative impact on the value of the 487th Avenue property.

ADJUSTMENT GRID MATCHED PAIR NO. 1

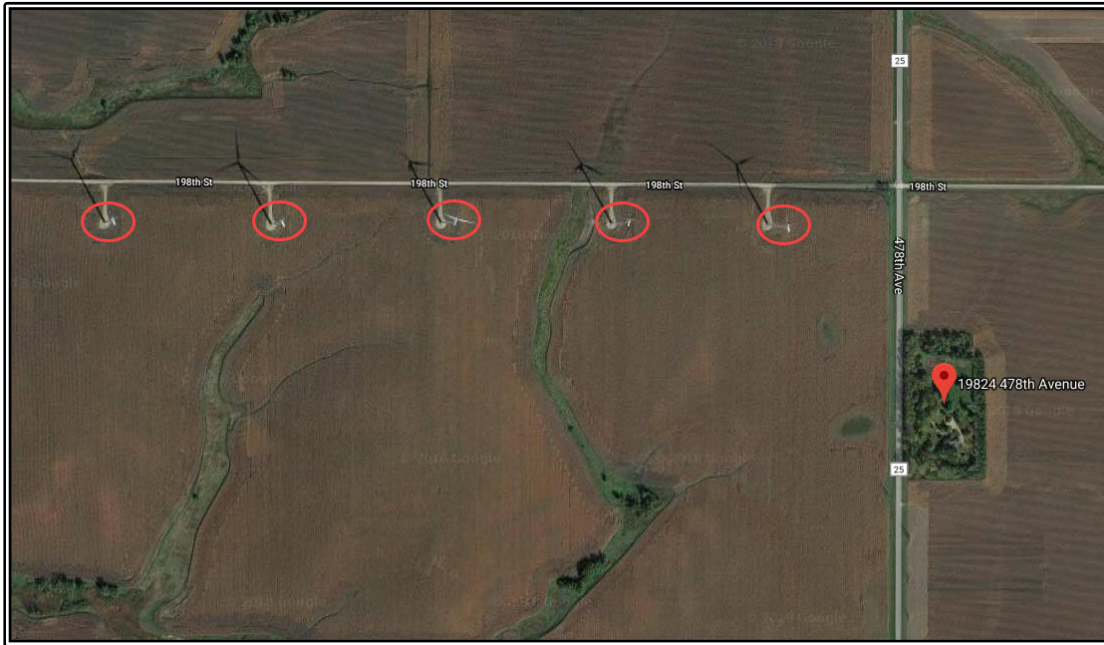
SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
1B	5705 Rathum Loop Brookings, South Dakota	+	+	+	+	-	+	o	o	-
+	Positive adjustment based on comparable being inferior in comparison to property No.1A									
-	Negative adjustment based on comparable being superior in comparison to property No.1A									
o	No adjustment necessary									

South Dakota Analysis - Brookings County Matched Pair No. 2

A property located at 19824 478th Avenue, Toronto, South Dakota, sold in March 2011 for \$235,000. The nearest turbine is approximately 1,548 feet to the northwest of this property.

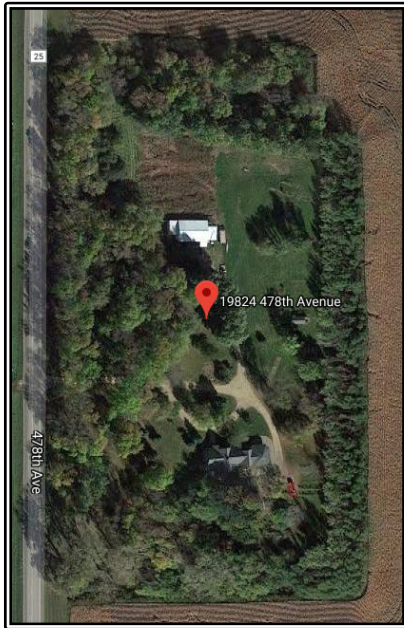
This property is compared with a similar property located at 20485 475th Avenue, Brookings, South Dakota, that sold in August 2016, which is not located proximate to any wind turbines. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 478th Avenue property to the closest wind turbines.

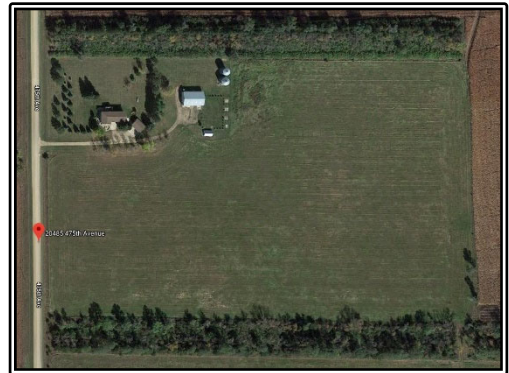


BROOKINGS COUNTY MATCHED PAIR NO. 2

	2A - Proximate to a Wind Turbine	2B - Not Proximate to a Wind Turbine
Address	19824 478 th Ave. Toronto, SD 57268	20485 475 th Ave. Brookings, SD 57002
Distance from Turbine	1,548 Feet	N/A
Sale Date	March 14, 2011	August 10, 2016
Sale Price	\$235,000	\$300,000
Sale Price/Sq. Ft. (A.G.)	\$100.38	\$129.53
Year Built	1998	2016
Building Size (Sq. Ft.)	2,341	2,316
Lot Size (Acres)	9.50	19.10
Style	1.5-story, frame (stone/vinyl) 3 bedrooms, 1.2 bath	One-story; frame (vinyl) 4 bedrooms, 3 bath
Basement	Partial	Full
Utilities	Radiant floor heat; Well & septic	Central air; Geothermal heat; Well & septic
Other	1-car attached garage	3-car attached garage



19824 478th Avenue



20485 475th Avenue

Although the 478th Avenue property is a 1.5-story house and the 475th Avenue property is a ranch-style house, the two houses are of equivalent size. In the case of the 475th Avenue property, there is an attached three-car garage, while the 478th Avenue property has an attached one-car garage. A downward adjustment for the superior outbuildings of 475th Avenue is required. The 475th Avenue building is of newer construction than 478th Avenue property. Both properties are considered to be in normal condition by the Brookings County Assessor. A downward adjustment of 475th Avenue is required for its newer vintage, as well as a downward adjustment of 475th Avenue for its superior market conditions. The 475th Avenue property is situated on a much larger lot than that of the 478th Avenue property requiring a downward adjustment; however, both lots are surrounded by agricultural and pasture land, which mitigates the size differential to some degree. The 475th Avenue property has a superior location to the 478th Avenue property due to its close proximity to the town of Brookings, requiring a downward adjustment.

Considering the adjustments noted in the following table for the newer vintage and superior market conditions of the 475th Avenue property, the difference in the sale price does not support the conclusion that proximity to the wind turbines had a negative impact on the value of the 478th Avenue 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	20485 475 th Ave. Brookings, South Dakota	-	-	o	-	-	o	-	-	-
+	Positive adjustment based on comparable being inferior in comparison to property No.2A									
-	Negative adjustment based on comparable being superior in comparison to property No.2A									
o	No adjustment necessary									

South Dakota Analysis - Brookings County Matched Pair No. 3

A property located at 20937 486th Avenue, Elkton, South Dakota, sold in December 2011 for \$175,000. The nearest turbine is approximately 1,433 feet to the northeast of this property.

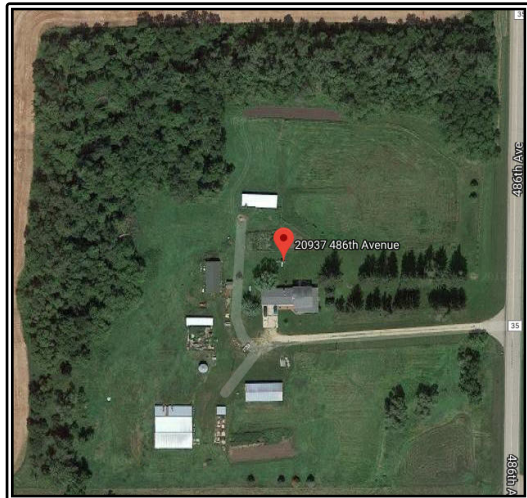
This property is compared with a similar property located at 518 West 44th Street S, Brookings, South Dakota, that sold in October 2017, which is not located proximate to any wind turbines. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 486th Avenue property to the closest wind turbines.

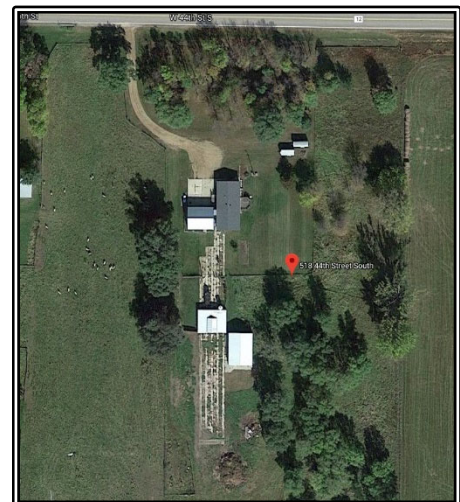


BROOKINGS COUNTY MATCHED PAIR NO. 3

	3A - Proximate to a Wind Turbine	3B - Not Proximate to a Wind Turbine
Address	20937 486 th Ave. Elkton, SD 57026	518 W. 44 th St. S Brookings, SD 57006
Distance from Turbine	1,433 Feet	N/A
Sale Date	December 1, 2011	October 9, 2017
Sale Price	\$175,000	\$175,900
Sale Price/Sq. Ft. (A.G.)	\$79.26	\$104.70
Year Built	1918	1990
Building Size (Sq. Ft.)	2,208	1,680
Lot Size (Acres)	14.28	4.55
Style	Two-story, frame (vinyl) 4 bedrooms, 2 bath	One-story; frame (vinyl) 3 bedrooms, 2 bath
Basement	Partial	Crawlspace
Utilities	Central air; Forced-air heat; Well & septic	Central air; Forced-air heat; Well & septic
Other	2-car attached garage	2-car detached garage



20937 486th Avenue



518 W. 44th Street S

The 486th Avenue property is a two-story house, and the 44th Street South property is a one-story house, and the 486th Avenue has an extra bedroom. The superior style and number of bedrooms of the 486th Avenue property require an upward adjustment. In the case of the outbuildings, both properties have a two-car garage. The 44th Street South building is of newer construction than 486th Avenue property, which is 100 years old. Both properties are considered to be in normal condition by the Brookings County Assessor. A downward adjustment of 44th Street South is required for its newer vintage, as well as a downward adjustment of 44th Street South for its superior market conditions. The 486th Avenue property is situated on a much larger lot than that of the 44th Street South property requiring an upward adjustment; however, both lots are surrounded by agricultural and pasture land, which mitigates the size differential to some degree.

Considering the adjustments noted in the following table for the newer vintage and superior market conditions of the 44th Street South property, the difference in the sale price does not support the conclusion that proximity to the wind turbines had a negative impact on the value of the 486th Avenue 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	518 W. 44 th St. S. Brookings, South Dakota	-	-	+	+	o	+	+	o	o
+	Positive adjustment based on comparable being inferior in comparison to property No.3A									
-	Negative adjustment based on comparable being superior in comparison to property No.3A									
o	No adjustment necessary									

South Dakota Analysis - Brookings County Matched Pair No. 4

A property located at 19636 475th Avenue, Toronto, South Dakota, sold in November 2013 for \$530,000. The nearest turbine is approximately 2,309 feet to the southeast of this property.

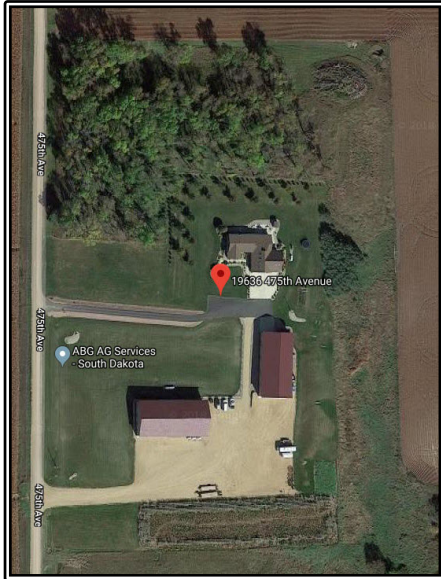
This property is compared with a similar property located at 46246 214th Street, Volga, South Dakota that sold in December 2016, which is not located proximate to any wind turbines. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 475th Avenue property to the closest wind turbines.

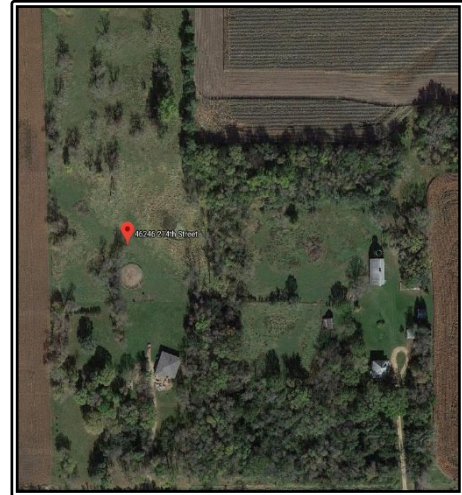


BROOKINGS COUNTY MATCHED PAIR NO. 4

	4A - Proximate to a Wind Turbine	4B - Not Proximate to a Wind Turbine
Address	19636 475 th Ave. Toronto, SD 57268	46246 214 th St. Volga, SD 57071
Distance from Turbine	2,309 Feet	N/A
Sale Date	November 21, 2013	December 21, 2016
Sale Price	\$530,000	\$317,000
Sale Price/Sq. Ft. (A.G.)	\$151.60	\$182.81
Year Built	1989	2001
Building Size (Sq. Ft.)	3,496	1,734
Lot Size (Acres)	13.00	10.43
Style	One-story; frame (vinyl) 5 bedrooms, 3 bath	One-story; frame (vinyl) 4 bedrooms, 3 bath
Basement	Partial	Full
Utilities	Central air; Forced-air heat; Well & septic	Central air; Geothermal heat; Well & septic
Other	3-car attached garage; two commercial utility buildings; gazebo	1-car attached garage; 2-car detached garage



19636 475th Avenue



46246 214th Street

Both the 475th Avenue property and the 214th Street property are a one-story ranch style house. In the case of the outbuildings, the 475th Avenue property is superior with two large commercial-style utility buildings and a three-car attached garage compared to the 214th Street property with a two-car detached garage and a one-car attached garage. The superiority of the 475th Avenue buildings requires an upward adjustment. The 214th Street building is of newer construction than 475th Avenue property. Both properties are considered to be in normal condition by the Brookings County Assessor. A downward adjustment of 214th Street is required for its newer vintage, as well as a downward adjustment of 214th Street for its superior market conditions. The 475th Avenue property is situated on a larger lot than that of the 214th Street property requiring an upward adjustment; however, both lots are surrounded by agricultural and pasture land, which mitigates the size differential to some degree.

Considering the adjustments noted in the following table for the newer vintage and superior market conditions of the 214th Street property, the difference in the sale price does not support the conclusion that proximity to the wind turbines had a negative impact on the value of the 475th Avenue property.

ADJUSTMENT GRID MATCHED PAIR NO. 4

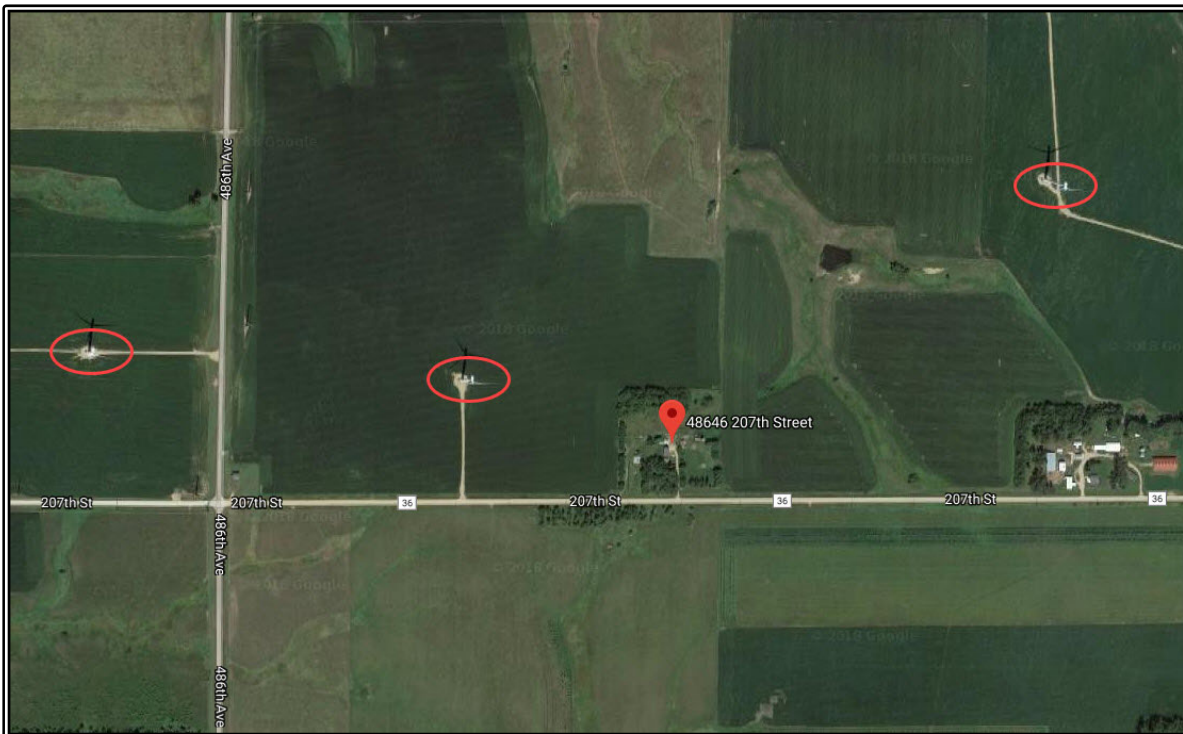
SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
4B	46246 214 th St. Volga, South Dakota	-	-	+	+	o	o	-	-	+
+	Positive adjustment based on comparable being inferior in comparison to property No.4A									
-	Negative adjustment based on comparable being superior in comparison to property No.4A									
o	No adjustment necessary									

South Dakota Analysis - Brookings County Matched Pair No. 5

A property located at 48646 207th Street, Elkton, South Dakota, sold in March 2014 for \$190,000. The nearest turbine is approximately 1,118 feet to the west of this property.

This property is compared with a similar property located at 5705 Rathum Loop, Brookings, South Dakota, that sold in June 2015, which is not located proximate to any wind turbines. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 207th Street property to the closest wind turbines.

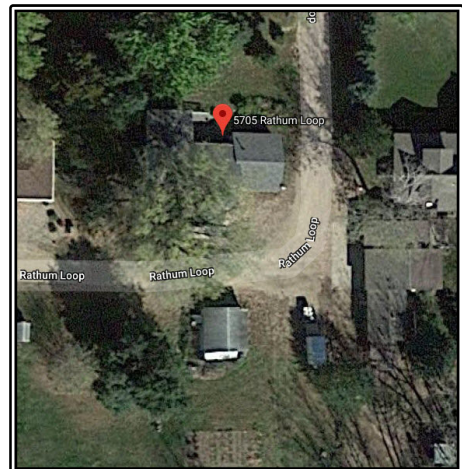


BROOKINGS COUNTY MATCHED PAIR NO. 5

	5A - Proximate to a Wind Turbine	5B - Not Proximate to a Wind Turbine
Address	48646 207 th St. Elkton, SD 57026	5705 Rathum Loop Brookings, SD 57006
Distance from Turbine	1,118 Feet	N/A
Sale Date	March 26, 2014	June 5, 2015
Sale Price	\$190,000	\$142,000
Sale Price/Sq. Ft. (A.G.)	\$87.96	\$68.33
Year Built	1936	1973
Building Size (Sq. Ft.)	2,160	2,078
Lot Size (Acres)	6.95	0.49
Style	Two-story, frame (vinyl) 3 bedrooms, 3 bath	One-story; frame (vinyl) 3 bedrooms, 1 bath
Basement	Partial	Crawlspace/Partially finished
Utilities	Central air; Forced-air heat; Well & septic	Central air; Forced-air heat; Well & septic
Other	1-car attached garage; 2-car detached garage	1-car attached garage; 3-car detached garage; patio, deck, utility buildings



48646 207th Street



5705 Rathum Loop

Although the 207th Street property is a two-story house and the Rathum Loop property is a ranch-style house, the two houses are of equivalent size. However, an upward adjustment to Rathum Loop is required for the superior building style of 207th Street property. In the case of the Rathum Loop property, there are utility buildings, a detached three-car garage, and a one-car attached garage. In comparison, the 207th Street property has an attached one-car garage and a detached two-car garage. A downward adjustment for the superior outbuildings of Rathum Loop is required. Although the Rathum Loop building is of newer construction, it is still approximately 50 years old. The 207th Street property is closer to 80 years old. Both properties are considered to be in normal condition by the Brookings County Assessor. A downward adjustment of Rathum Loop is required for its newer vintage, as well as a downward adjustment of Rathum Loop for its superior market conditions. The 207th Street property is situated on a much larger lot than that of the Rathum Loop property requiring an upward adjustment; however, both lots are surrounded by agricultural and pasture land, which mitigates the size differential to some degree. The Rathum Loop property has a superior location to the 207th Street property due to its close proximity to the town of Brookings, requiring a downward adjustment.

Considering the adjustments noted in the following table for the newer vintage and superior market conditions, yet smaller lot size of the Rathum Loop property, the difference in the sale price does not support the conclusion that proximity to the wind turbines had a negative impact on the value of the 207th Street property.

ADJUSTMENT GRID MATCHED PAIR NO. 5

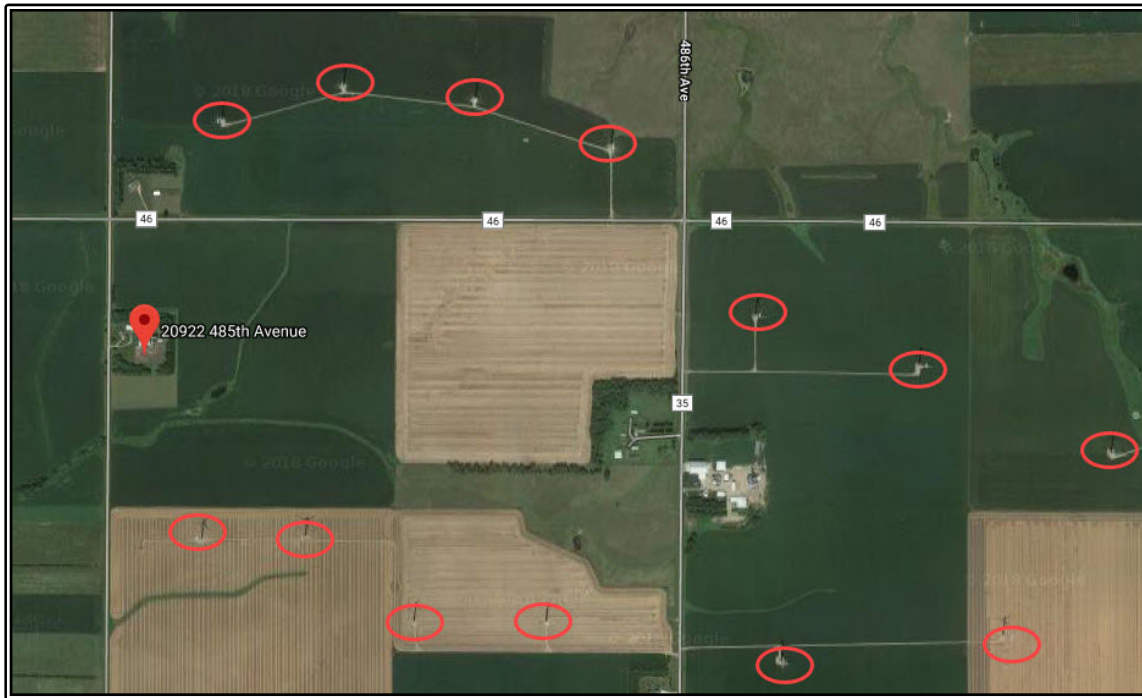
SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
5B	5705 Rathum Loop Brookings, South Dakota	-	-	o	+	-	+	o	o	-
+	Positive adjustment based on comparable being inferior in comparison to property No.5A									
-	Negative adjustment based on comparable being superior in comparison to property No.5A									
o	No adjustment necessary									

South Dakota Analysis - Brookings County Matched Pair No. 6

A property located at 20922 485th Avenue, Elkton, South Dakota, sold in August 2010 for \$180,000. The nearest turbine is approximately 1,959 feet to the south, as well as twelve other turbines within approximately a half mile to the east, of this property.

This property is compared with a similar property located at 46464 218th Street, Volga, South Dakota, that sold in November 2014, which is not located proximate to any wind turbines. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 485th Avenue property to the closest wind turbines.



BROOKINGS COUNTY MATCHED PAIR NO. 6

	6A - Proximate to a Wind Turbine	6B - Not Proximate to a Wind Turbine
Address	20922 485 th Ave. Elkton, SD 57026	46464 218 th St. Volga, SD 57071
Distance from Turbine	1,959 Feet	N/A
Sale Date	August 4, 2010	November 14, 2014
Sale Price	\$180,000	\$190,600
Sale Price/Sq. Ft. (A.G.)	\$107.14	\$113.45
Year Built	1992	1918
Building Size (Sq. Ft.)	1,680	1,680
Lot Size (Acres)	13.35	15.00
Style	One-story; frame (vinyl) 4 bedrooms, 2 bath	Two-story; frame (vinyl) 5 bedrooms, 2 bath
Basement	Partial	Full
Utilities	Central air; Geothermal heat; Well & septic	Central air; Forced-air heat; Well & septic
Other	1-car attached garage	1-car detached garage



20922 485th Avenue



46464 218th Street

The 218th Street property is a two-story house with five bedrooms, and the 485th Avenue property is a one-story ranch style house with four bedrooms. The superior style of the 218th Street property requires a downward adjustment. In the case of the outbuildings, both properties have a one-car garage. The 485th Avenue building is of newer construction than the 218th Street property, which is 100 years old. Both properties are considered to be in normal condition by the Brookings County Assessor. An upward adjustment of 218th Street is required for 485th Avenue's newer vintage, as well as a downward adjustment of 218th Street for its superior market conditions. The 218th Street property is situated on a larger lot than that of the 485th Avenue property requiring an upward adjustment; however, both lots are surrounded by agricultural and pasture land, which mitigates the size differential to some degree.

Considering the adjustments noted in the following table for the older vintage, yet superior market conditions of the 218th Street property, the difference in the sale price does not support the conclusion that proximity to the wind turbines had a negative impact on the value of the 485th Avenue property.

ADJUSTMENT GRID MATCHED PAIR NO. 6

SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
6B	46464 218 th St. Volga, South Dakota	-	+	o	o	o	-	-	+	o
+	Positive adjustment based on comparable being inferior in comparison to property No.6A									
-	Negative adjustment based on comparable being superior in comparison to property No.6A									
o	No adjustment necessary									

Matched Pair Analysis- Illinois, Minnesota, and Iowa

In addition to analyzing sales in the subject project area, we have researched sales in proximity to several existing wind farms in rural areas of Illinois, Minnesota, and Iowa 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 South Dakota, 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 wind turbine lease associated with the property.

Illinois Analysis - Macon County Matched Pair No. 1

Macon County Matched Pair No.1 considers the recent sale of a property located at 8873 North Glasgow Road, Warrensburg, that is 1,855 feet from the nearest wind turbine located within the subject, the Deuel Harvest North Wind Farm, with approximately four additional turbines visible from the property to the north and west.

This sale is compared with a similar property located at 1511 Hunters View Drive, Mount Zion, that sold in June 2013. The location is in a suburban setting, but the area is still very rural in nature. The salient details of these two properties are summarized in the table below.

MACON COUNTY MATCHED PAIR NO. 1

	1A - Proximate to a Wind Turbine	1A - Prior Sale	1B - Not Proximate to a Wind Turbine
Address	8873 North Glasgow Rd. Warrensburg, IL 62573	8873 North Glasgow Rd. Warrensburg, IL 62573	1511 Hunters View Dr. Mount Zion, IL 62549
Distance from Turbine	1,855 Feet	NA	NA
Sale Date	June 12, 2017	March 25, 2014	June 31, 2013
Sale Price	\$214,000	\$184,000	\$193,000
Sale Price/Sq. Ft. (A.G.)	\$124.35	\$106.91	\$91.90
Year Built	2006	2006	2006
Building Size (Sq. Ft.)	1,721	1,721	2,100
Lot Size (Acres)	1.04	1.35	0.21
Style	1-story, frame (vinyl) 4 bedrooms, 2 bath	1-story, frame (vinyl) 3 bedrooms, 2 bath	2-story, frame (vinyl/brick) 4 bedrooms; 2.1 bath
Basement	Full; partially finished	Full; unfinished	Full; finished
Utilities	Geothermal heat & cooling; Well & septic	Geothermal heat & cooling; Well & septic	Central Air; Forced-air heat; Public Sewer
Other	2.5-car attached garage; front porch and deck	2.5-car attached garage; front porch	3-car attached garage; patio



8873 North Glasgow Road

1511 Hunters View Drive



The house at 8873 North Glasgow Road, is located approximately 8 miles northwest of Decatur, in a rural area. According to the Macon County Assessor’s records, this house previously sold in March 2014 for \$184,000. This indicates an increase in value of approximately 16 percent during a period in which residential sale prices generally were not increasing. There is no lease for a wind turbine on this property. According to the most recent selling broker, there was an issue with the well test; the yard was dug up to find the well and to treat the problem. The yard has since returned to normal condition. The broker also stated that the house is in excellent condition and showed very well. The sellers added a wrap-around deck and finished part of the basement to add a fourth bedroom. The seller was being relocated and was offered a low price for the relocation fee; the sellers put the house on the market on their own and were able to sell it almost immediately for greater than the asking price. The broker stated that the turbine being installed proximate to the property is a possible reason for the quick sale at a higher price, which indicates that having a turbine close to this property potentially had a positive effect on the sale.

The house on Hunters View Drive has a similar, rural location, yet is situated in a suburban setting, and is approximately 4 miles south of Decatur. Although this house sits on a smaller lot than the Glasgow Road property, this is offset by the extra bedroom and by the second floor. The property is not near a wind farm.

ADJUSTMENT GRID MATCHED PAIR NO. 1

SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
1B	1511 Hunters View Drive Mount Zion, Illinois	+	o	-	+	-	o	o	+	o
	+	Positive adjustment based on comparable being inferior in comparison to property No.1A								
	-	Negative adjustment based on comparable being superior in comparison to property No.1A								
	o	No adjustment necessary								

The comparison will be made to the March 2014 date of sale because it is most similar to the sale of the Hunters View Drive property.

Upward adjustments are made for the superior market conditions, larger lot size, and geothermal heating and cooling system of the Glasgow Road property. Downward adjustments are made for the superior building size of the Hunters View Drive property. When the adjustments noted above are made to the sale price of the Glasgow Road house, the two properties have essentially the same per square foot value. Therefore, although the Hunters View Drive house is larger, the higher per foot sales price for the Glasgow Road house is justified by its superior condition and amenities, and its larger lot size. Thus, the difference in the sales price does not support the conclusion that there is any diminution in value resulting from the proximity of the Glasgow Road property to wind turbines. This is further supported by the subsequent sale of the Glasgow Road property, at which time the 2017 sale price increased by \$17.44 per square foot over the 2014 sale price.

Illinois Analysis - McLean County Matched Pair No. 1

McLean County Matched Pair No. 1 considers the sale of a house located at 29394 E 850 North Road, Ellsworth, that sold in November 2015 for \$207,000. This house is located approximately 1,865 feet from the nearest turbine, and there are several turbines visible to the north and east. The following photograph is of the turbines visible from the house, with the majority visible in the distance.



This property is compared with a similar property located at 26298 E 1000 North Road, Downs, that sold in March 2015 for \$220,000. This property is not located near wind turbines; however, there are some visible more than 1 mile to the east. Market conditions are considered to be similar. Both properties are situated in rural locations. The salient details of these two properties are summarized in the table below.

MCLEAN COUNTY MATCHED PAIR NO. 1

	1A - Proximate to a Wind Turbine	1B - Not Proximate to a Wind Turbine
Address	29394 E 850 North Rd. Ellsworth, IL 61737	26298 E 1000 North Rd. Downs, IL 61736
Distance from Turbine	1,865 Feet	N/A
Sale Date	November 17, 2015	March 11, 2015
Sale Price	\$207,000	\$220,000
Sale Price/Sq. Ft. (A.G.)	\$86.25	\$82.71
Year Built	1978	1978
Building Size (Sq. Ft.)	2,400	2,660
Lot Size (Acres)	1.70	2.49
Style	Two-story, frame (vinyl/brick) 4 bedrooms; 2 bath	Two-story, frame (vinyl) 4 bedrooms; 2 bath
Basement	Full, finished	Full, finished
Utilities	Central air; Propane heat; Well & septic	Central air; Propane heat; Well & septic
Other	2-car detached garage; patio, deck, small shed	2.5-car attached garage; large storage shed



29394 E 850 North Road



26298 E 1000 North Rd.

Both houses are of similar construction type, vintage, and size. Both had been updated recently, with the house at 29394 E 850 North Road having been updated more extensively than the other. Both have finished basements; however, basement build-out in the house at 26298 E 1000 North Road is not completely finished. The house at 26298 E 1000 North Road has a large shed with a drive-in door. The superior interior features and the larger shed are offset by the approximately ½-acre larger site size of the property at 26298 E 1000 North Road. Both houses are located on paved roads.

ADJUSTMENT GRID MATCHED PAIR NO. 1

SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
1B	26298 E 1000 North Rd. Downs, Illinois	o	o	o	-	o	o	o	o	-
+	Positive adjustment based on comparable being inferior in comparison to property No.1A									
-	Negative adjustment based on comparable being superior in comparison to property No.1A									
o	No adjustment necessary									

The analysis of the sales at 29394 E 850 North Road and at 26298 E 1000 North Road does not support a finding that the proximity to the wind turbines had a negative impact on value.

Illinois Analysis - McLean County Matched Pair No. 2

McLean County Matched Pair No. 2 considers the sale of a house located at 25156 E 1400 North Road, Ellsworth, that sold in November 2015 for \$196,000. This house is located approximately 2,210 feet from the nearest turbine, but there are several turbines proximate to the south, southeast, and southwest.

The following photograph is of the turbines visible from the property.



This property is compared with a similar property located at 787 E 1300 North Road, Sibley, that sold in March 2015 for \$125,000. This property is not located near wind turbines. Market conditions are considered to be similar. Although this property is located in Ford County, both properties have similar, rural locations. The salient details of these two properties are summarized in the table below.

MCLEAN COUNTY MATCHED PAIR NO. 2

	2A - Proximate to a Wind Turbine	2A – Prior Sale	2B - Not Proximate to a Wind Turbine
Address	25156 E 1400 North Rd. Ellsworth, IL 61737	25156 E 1400 North Rd. Ellsworth, IL 61737	787 E 1300 North Rd. Sibley, IL 61773
Distance from Turbine	2,210 Feet	N/A	N/A
Sale Date	November 1, 2015	August 15, 2014	March 31, 2015
Sale Price	\$196,000	\$190,000	\$125,000
Sale Price/Sq. Ft. (A.G.)	\$66.58	\$64.54	\$49.56
Year Built	1890	1890	1900
Building Size (Sq. Ft.)	2,944	2,944	2,522
Lot Size (Acres)	4.14	4.14	3.36
Style	1.5-story, frame (vinyl) 4 bedrooms; 2 bath	1.5-story, frame (vinyl) 4 bedrooms; 2 bath	Two-story, frame (vinyl) 4 bedrooms; 2 bath
Basement	Full, finished	Full, finished	Full, partially finished
Utilities	Central air; Propane heat; Well & septic	Central air; Propane heat; Well & septic	Central air; Propane heat; Well & septic
Other	1-car attached garage; porch; machine shop	1-car attached garage; porch; machine shop	2-car detached garage; deck, large shed



25156 E 1400 North Road



787 E 1300 North Road

Both houses are of similar construction type, vintage, and size. Both have been remodeled in the recent past. The E 1400 North Road house has a large freestanding garage/machine shed that has water and electricity, which is superior to the older shed on the site of the E 1300 North Road house. Also, the site size of the E 1400 North Road house is approximately ¾ acre larger than the E 1300 North Road house. Both factors are reflected in its higher sale price.

ADJUSTMENT GRID MATCHED PAIR NO. 2

SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
2B	787 E 1300 North Rd. Sibley, Illinois	o	o	+	+	o	o	o	o	o
	+ Positive adjustment based on comparable being inferior in comparison to property No.2A									
	- Negative adjustment based on comparable being superior in comparison to property No.2A									
	o No adjustment necessary									

The analysis of the sales at 25156 E 1400 North Road and 787 E 1300 North Road does not support a finding that the proximity to the wind turbines had a negative impact on value.

Illinois Analysis - McLean County Matched Pair No. 3

McLean County Matched Pair No. 3 considers the sale of a house located at 25017 E 1400 North Road, Ellsworth, that sold in September 2015 for \$159,000. This house is located approximately 1,573 feet from the nearest turbine, and there are several turbines proximate to the south, southeast, and southwest.

The following photograph is of the turbines visible from the property.



This property is compared with a similar property located at 10837 Yankee Town Road, Farmer City, that sold in October 2016 for \$134,000. This property is not located near wind turbines. Market conditions are considered to be slightly superior at the date of sale of this property. Although this house is located in DeWitt County, both properties have similar rural locations. The salient details of these two properties are summarized in the table below.

MCLEAN COUNTY MATCHED PAIR NO. 3

	3A - Proximate to a Wind Turbine	3B - Not Proximate to a Wind Turbine
Address	25017 E 1400 North Rd. Ellsworth, IL 61737	10837 Yankee Town Rd. Farmer City, IL 61842
Distance from Turbine	1,573 Feet	N/A
Sale Date	September 3, 2015	October 3, 2016
Sale Price	\$159,000	\$134,000
Sale Price/Sq. Ft. (A.G.)	\$81.45	\$68.37
Year Built	1880	1908
Building Size (Sq. Ft.)	1,952	1,960
Lot Size (Acres)	2.87	4.00
Style	Two-story, frame (vinyl) 4 bedrooms; 2 bath	Two-story, frame (vinyl) 4 bedrooms; 2 bath
Basement	Full, finished	Full, finished
Utilities	Central air; Propane heat; Well & septic	Central air; Propane heat; Well & septic
Other	No separate garage; large shed with drive-in doors; other farm buildings	No separate garage; large shed with drive-in doors; other farm buildings



25017 E 1400 North Road

10837 Yankee Town Road



Both houses are of similar construction type, vintage, and size. Both have been remodeled and updated. Neither property has a garage; both have large buildings with drive-in doors for cars and other equipment. Both properties have other farm buildings on the site. The Yankee Town Road house has a site that is approximately 1.25 acres larger than that of the E1400 North Road house.

ADJUSTMENT GRID MATCHED PAIR NO. 3

SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
3B	10837 Yankee Town Rd. Farmer City, Illinois	-	o	o	-	o	o	o	o	o
+	Positive adjustment based on comparable being inferior in comparison to property No.3A									
-	Negative adjustment based on comparable being superior in comparison to property No.3A									
o	No adjustment necessary									

The analysis of the sales at 25017 E 1400 North Road and 10837 Yankee Town Road does not support a finding that the proximity to wind turbines had a negative impact on value.

Illinois Analysis - Livingston County Matched Pair No. 1

Livingston County Matched Pair No.1 considers the sale of a property in Livingston County that is located proximate to the Cayuga Ridge Wind Farm. Cayuga Ridge construction began in 2009, and the wind farm came fully online in March 2010. The house at 23090 N 2500 East Road, Odell, is 2,322 feet east of a wind turbine, 3,229 feet west of a wind turbine, and 3,440 feet south of a wind turbine. The following photograph illustrates the location of this house (on the right in the picture) relative to the nearest turbines.



This sale is compared with a similar property located at 16101 E 1400 North Road in Pontiac that is not proximate to a wind turbine. The salient details of these two properties are summarized in the table below.

LIVINGSTON COUNTY MATCHED PAIR NO. 1

	1A - Proximate to a Wind Turbine	1B - Not Proximate to a Wind Turbine
Address	23090 N 2500 East Rd. Odell, IL 60460	16101 E 1400 North Rd. Pontiac, IL 61764
Distance from Turbine	2,322 Feet	N/A
Sale Date	August 15, 2013	November 18, 2013
Sale Price	\$205,000	\$167,500
Sale Price/Sq. Ft. (A.G.)	\$108.41	\$89.33
Year Built	1971	1967
Building Size (Sq. Ft.)	1,891	1,875
Lot Size (Acres)	3.63	3.27
Style	One-story; brick 4 bedrooms, 1.1 bath	One-story; brick 3 bedrooms, 2 bath
Basement	Full, partially finished	Crawlspace
Utilities	Central air; Electric heat; Well & septic	Central air; Propane heat; Well & septic
Other	2-car detached garage; 2 pole barns; 60 x 90 shed (subsequently demolished)	1-car attached garage; 30 x 40 shed; 64 x 42 machine shop



23090 N 2500 East Road



16101 E 1400 North Road

Both properties are located in the Pontiac High School district. The lot sizes are similar; however, the Odell property is approximately 1/3-acre larger. The houses are of similar construction vintage and are of equivalent size. The condition of both is assumed to be similar. The Odell property has an additional bedroom and is superior in that it has a full, partially finished basement and a larger garage. However, the Pontiac property has two full bathrooms, a first-floor laundry room, and propane gas heat. The outbuildings of the Odell property were in poor condition and were demolished subsequent to the sale; therefore, the Pontiac property is considered superior in that regard, which offsets the smaller size of the garage.

ADJUSTMENT GRID MATCHED PAIR NO. 1

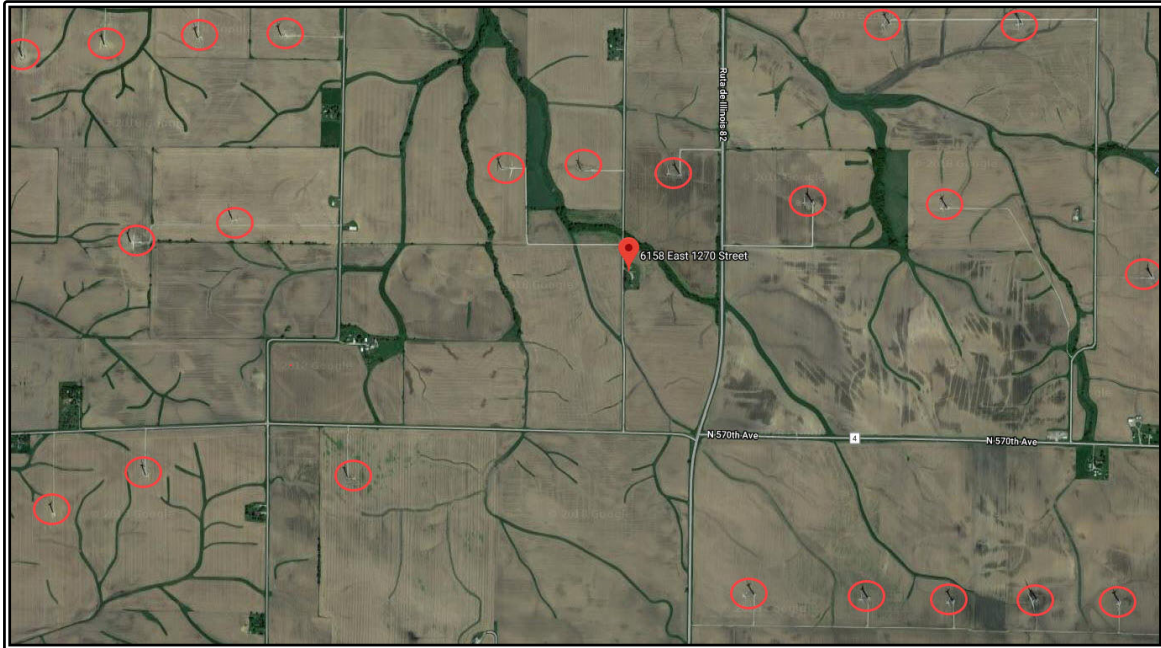
SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
1B	16101 E 1400 North Rd. Pontiac, Illinois	o	o	o	o	o	o	+	o	o
+	Positive adjustment based on comparable being inferior in comparison to property No.1A									
-	Negative adjustment based on comparable being superior in comparison to property No.1A									
o	No adjustment necessary									

Overall, although the Odell property is somewhat superior to the Pontiac property, the analysis of the sales does not support a finding that the proximity to wind turbines had a negative impact on value.

Illinois Analysis - Henry County Matched Pair No. 1

Henry County Matched Pair No. 1 considers the sale of a house located at 6158 East 1270th Street, Cambridge, that sold in April 2016 for \$120,000. This house is located approximately 1,610 feet from the nearest turbine, and there are several turbines visible in each direction.

The following photograph is an aerial view of the turbines visible surrounding the house.



This property is compared with a similar property located at 17675 N 400th Avenue, Cambridge, that sold in March 2017 for \$110,000. This property is not located near wind turbines; however, there are some visible more than 1 mile to the west. Market conditions are considered to be similar. Both properties are situated in rural locations. The salient details of these two properties are summarized in the table below.

HENRY COUNTY MATCHED PAIR NO. 1

	1A - Proximate to a Wind Turbine	1B - Not Proximate to a Wind Turbine
Address	6158 E 1270 th St. Cambridge, IL 61238	17675 N 400 th Ave. Cambridge, IL 61238
Distance from Turbine	1,610 Feet	N/A
Sale Date	April 29, 2016	March 1, 2017
Sale Price	\$120,000	\$110,000
Sale Price/Sq. Ft. (A.G.)	\$63.03	\$73.33
Year Built	1907	1907
Building Size (Sq. Ft.)	1,904	1,500
Lot Size (Acres)	1.20	5.00
Style	Two-story; frame (vinyl) 3 bedrooms, N/A bath	Two-story; frame (vinyl) 3 bedrooms, 2 bath
Basement	N/A	N/A
Utilities	Well & septic	Forced-air heat; Well & septic
Other	2-car detached garage; workshop attached to garage; pole barn	2-car detached garage; Chicken coop; Tree farm and small orchard



6158 E 1270th Street



17675 N 400th Avenue

Both houses are of similar construction type, vintage, and market condition. Both houses were constructed in 1907, but the 400th Avenue house appears to be in better condition. Both do not have basements; however, both have the same number of bedrooms. The 1270th Street house has a large two car garage with an added large area on the north end of the garage that could be used as a workshop and a separate barn. The superior size and the superior outbuildings of the 1270th Street property are offset by the approximately 4½-acre larger site size, the superior utilities, and the site amenities of the 400th Avenue 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	17675 N 400 th Ave. Cambridge, Illinois	o	o	+	-	o	o	o	+	+
+	Positive adjustment based on comparable being inferior in comparison to property No.1A									
-	Negative adjustment based on comparable being superior in comparison to property No.1A									
o	No adjustment necessary									

The analysis of the sales at 6158 East 1270th Street and at 17675 N 400th Avenue does not support a finding that the proximity to the wind turbines had a negative impact on value.

Minnesota Analysis - Freeborn County Matched Pair No. 1

Freeborn County, Minnesota, is located north adjacent to central Iowa. Matched Pair No.1 considers the sale of a property in the footprint of the Bent Tree Wind Farm in Freeborn County, which has been operational since February 2011. The house is located at 69525 305th Street, Hartland, sold in March 2016. This house is approximately 2,375 feet from the nearest turbine; there are several turbines located to the south and southeast.

This sale is compared with a similar property located at 70308 240th Street, Albert Lea, that sold in May 2016. Wind turbines are visible from the house, but the turbines are more than 1.5 miles away. The location is very rural in nature. Market conditions are considered to be substantially similar at the dates of sale. The salient details of these two properties are summarized in the table below.

FREEBORN COUNTY MATCHED PAIR NO. 1

	1A - Proximate to a Wind Turbine	1B - Not Proximate to a Wind Turbine
Address	69525 305 th Street. Hartland, MN 56042	70308 240 th Street. Albert Lea, MN 56007
Distance from Turbine	2,375 Feet	NA
Sale Date	March 31, 2016	May 16, 2016
Sale Price	\$89,000	\$100,000
Sale Price/Sq. Ft. (A.G.)	\$57.12	\$61.80
Year Built	1880	1925
Building Size (Sq. Ft.)	1,558	1,618
Lot Size (Acres)	5.51	4.01
Style	Farmhouse; frame (vinyl) 3 or 4 bedrooms, 2 bath	Farmhouse; frame (vinyl) 3 bedrooms, 2 bath
Basement	Full, unfinished	Partial, unfinished
Utilities	No central air; propane heat; Well & septic	Central air; natural gas heat; Well & septic
Other	2-car detached garage; deck, outbuildings	2.5-car detached garage; deck, outbuildings



69525 305th Street



70308 240th Street

Both properties are older, farm-house style and of frame construction with vinyl siding. They are somewhat similar in size. However, the 240th Street house is superior to the 305th Street house in condition; it is classified by the Assessor as being in better condition and is described in the online listing as having been renovated recently. The 305th Street house does not have central air conditioning, and does not have natural gas available; however, the 240th Street house has both. Both the central air conditioning and the availability of natural gas are considered superior factors for 240th Street requiring a downward adjustment. An upward adjustment for the full basement of 305th Street compared to the partial basement of 240th Street.

The house on 240th Street has a site size approximately 1.5 acres smaller than that of the 305th Street house. However, this is more than offset by its location on a hard-surface road, as well as the proximity to Interstate 90 access and to the city of Albert Lea.

ADJUSTMENT GRID MATCHED PAIR NO. 1

SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
1B	70308 240 th St. Albert Lea, Minnesota	o	-	o	+	-	o	+	-	o
+	Positive adjustment based on comparable being inferior in comparison to property No.1A									
-	Negative adjustment based on comparable being superior in comparison to property No.1A									
o	No adjustment necessary									

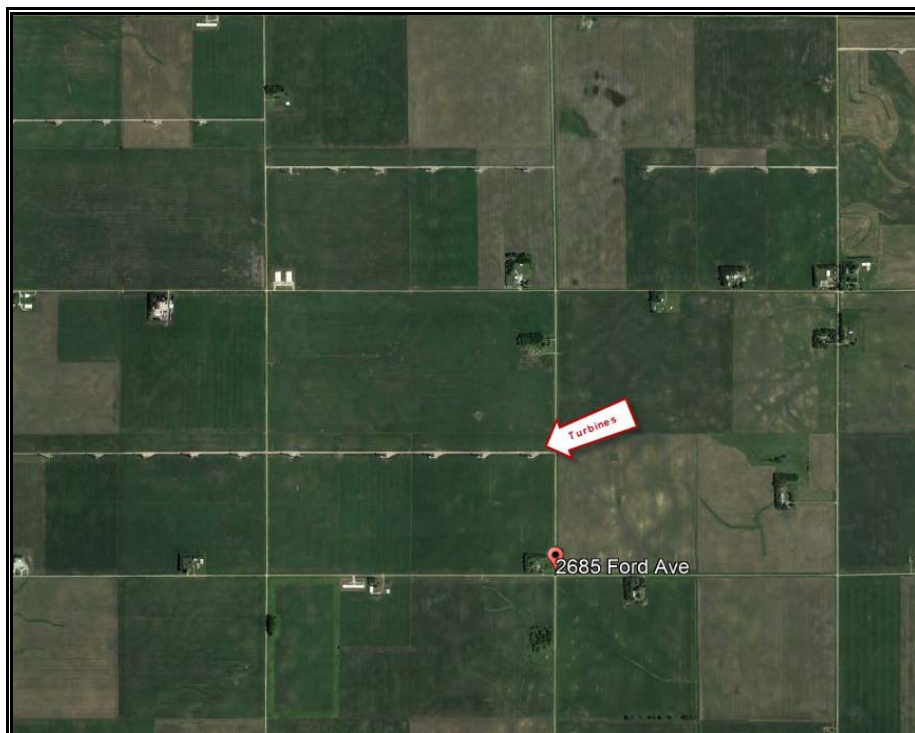
When the adjustments noted above for superior condition, air conditioning, and the availability of natural gas are made to the sale price of the 240th Street house, the two properties have essentially the same per square foot value. In other words, the higher per foot sale price for the 240th Street house is justified by its superior condition and amenities. Thus, the difference in the sale price does not support the conclusion that proximity to the wind turbines had a negative impact on the sale price of the property at 69525 305th Street.

Iowa Analysis - Hancock County Matched Pair No. 1

Hancock County is located in northern Iowa and is a largely rural county, primarily agricultural in nature. The county has two areas of wind turbines, the Hancock County wind farm in the southeast portion of Hancock County and the Crystal Lake Energy Center in the northwest portion of Hancock County.

Crystal Lake I Wind Farm is located in Hancock County in north central Iowa and consists of 100 turbines that began commercial operations in 2008. Phases II and III located primarily in Winnebago County, added another 80 and 44 turbines, respectively, and began operations in approximately 2009. A property located at 2685 Ford Avenue, Britt, sold in May 2016, for \$155,400. The sale previously sold in October 2012 for \$150,000. The nearest turbine is approximately 2,000 feet to the north and west of this property.

The following aerial map illustrates the relationship of the Ford Avenue property to the closest wind turbines.



This property is compared with a similar property located at 2855 Taft Avenue that sold in December 2014 and is not located proximate to any wind turbines. Market conditions between December 2014 and May 2016 are considered to have been stable to improving in this area of Iowa. The salient details of these two properties are summarized in the table below.

HANCOCK COUNTY MATCHED PAIR NO. 1

	1A - Proximate to a Wind Turbine	1B - Not Proximate to a Wind Turbine
Address	2685 Ford Ave. Britt, IA 50423	2855 Taft Ave. Garner, IA 50438
Distance from Turbine	2,020 Feet	NA
Sale Date	May 20, 2016	December 22, 2014
Sale Price	\$155,400	\$190,000
Sale Price/Sq. Ft. (A.G.)	\$81.62	\$94.25
Year Built	1959	1975
Building Size (Sq. Ft.)	1,904	2,016
Lot Size (Acres)	2.08	1.22
Style	Ranch; frame (metal siding) 3 bedrooms, 2 bath	Split level; frame 3 bedrooms, 2 bath
Basement	Full, finished	None; slab
Utilities	Central air; Well & septic	In-wall air; Electric heat; Well & septic
Other	2-car attached garage; 1-car detached garage; patio, porch, shed	2.5-car attached garage; patio, deck, utility buildings



2685 Ford Avenue



2855 Taft Avenue

Although the Ford Avenue property technically is a ranch-style house, and the Taft Avenue property is a split-level-style house, both properties have lower levels that comprise a family room and an additional room. An upward adjustment for the superior market condition of the Ford Avenue property is made. In the case of the Ford Avenue property, the additional lower-level room is a kitchen, and the basement square footage is not included in the building size, and an upward adjustment is made for this feature. In the case of the Taft Avenue property, the lower level is not below grade, and the area, which includes a family room and a bedroom, is included in the square footage. The Taft Avenue building is of newer construction, and a downward adjustment is made; however, the Ford Avenue property has been adequately maintained. Both properties are considered to be in normal condition by the Hancock County Assessor. An upward adjustment is made for the central air of Ford Avenue compared to the in-wall air of Taft Avenue. The Ford Avenue property is situated on a larger lot than that of the Taft Avenue property; however, both lots have wooded areas along the rear property line, which mitigate the size differential to a large 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	2855 Taft Ave. Garner, Iowa	+	-	o	o	-	+	-	+	o
+	Positive adjustment based on comparable being inferior in comparison to property No.1A									
-	Negative adjustment based on comparable being superior in comparison to property No.1A									
o	No adjustment necessary									

When the adjustments noted above for newer construction and the superior above-grade location of the second family room are made to the sale price of the Taft Avenue house, the two properties have essentially the same per square foot value. In other words, the higher per foot sales price for the Taft Avenue house is justified by its superior condition and location. Thus, the difference in the sale price does not support the conclusion that proximity to the wind turbines had a negative impact on the value of the Ford Avenue property.

Matched Pair Analysis Conclusions

Studies in South Dakota and studies in rural counties of Illinois Minnesota, and Iowa comparing sales of properties proximate to wind turbines with similar properties selling under similar market conditions without proximity to wind turbines have not discovered any sales in which proximity to wind turbines 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 wind farm.

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 soy beans. Other factors include favorable interest rates, and the supply of land compared to the number of buyers. The third-quarter 2018 agricultural credit conditions survey, *Low crop prices, trade worrying ag lenders*, from the 9th District, which includes South Dakota, and is published by the Federal Reserve of Minneapolis, stated “Though harvests in some areas were stalled by heavy late-season rains, crop production this year was strong, hitting records in some Ninth District states. But low crop prices and trade woes dealt a financial blow to farmers from July through September 2018, according to the Federal Reserve Bank of Minneapolis’ third-quarter (October) agricultural credit conditions survey.” “Land values were stable on average across district states, and interest rates on loans rose modestly from the previous quarter. The outlook for the fourth quarter is similar, with lenders in the district generally expecting farm incomes to decrease further.”⁴

The *South Dakota Agricultural Land Market Trends, 1991-2018*, produced by South Dakota State University,⁵ reported non-irrigated agricultural cropland values in the northeast region of South Dakota averaged \$4,546 per acre in 2018, and \$4,654 per acre in 2017, while pasture land still remains at a much lower value of \$2,179 per acre in 2018 and \$2,089 per acre in 2017. The study also reported irrigated cropland values in 2018. High productivity land had a value of \$6,667 per acre, average productivity land had a value of \$5,417 per acre, and low productivity land had a value of \$4,083 per acre. The most likely buyer of agricultural land in South Dakota is an existing farmer or investor, with neighboring farmers paying higher prices than investors. The prognosis appears that land values of non-irrigated cropland has declined 2.3% since 2017 and irrigated land values have declined 11.8% since 2017. The following table and map illustrate values as of February 1, 2018, by region, including Deuel County in the Northeast region.

⁴ <https://www.minneapolisfed.org/publications/agricultural-credit-conditions-survey/low-crop-prices-trade-worrying-ag-lenders>, Federal Reserve Bank of Minneapolis

⁵ <https://igrow.org/up/resources/07-3000-2018.pdf>, 2018 SDSU South Dakota Farm Real Estate Survey

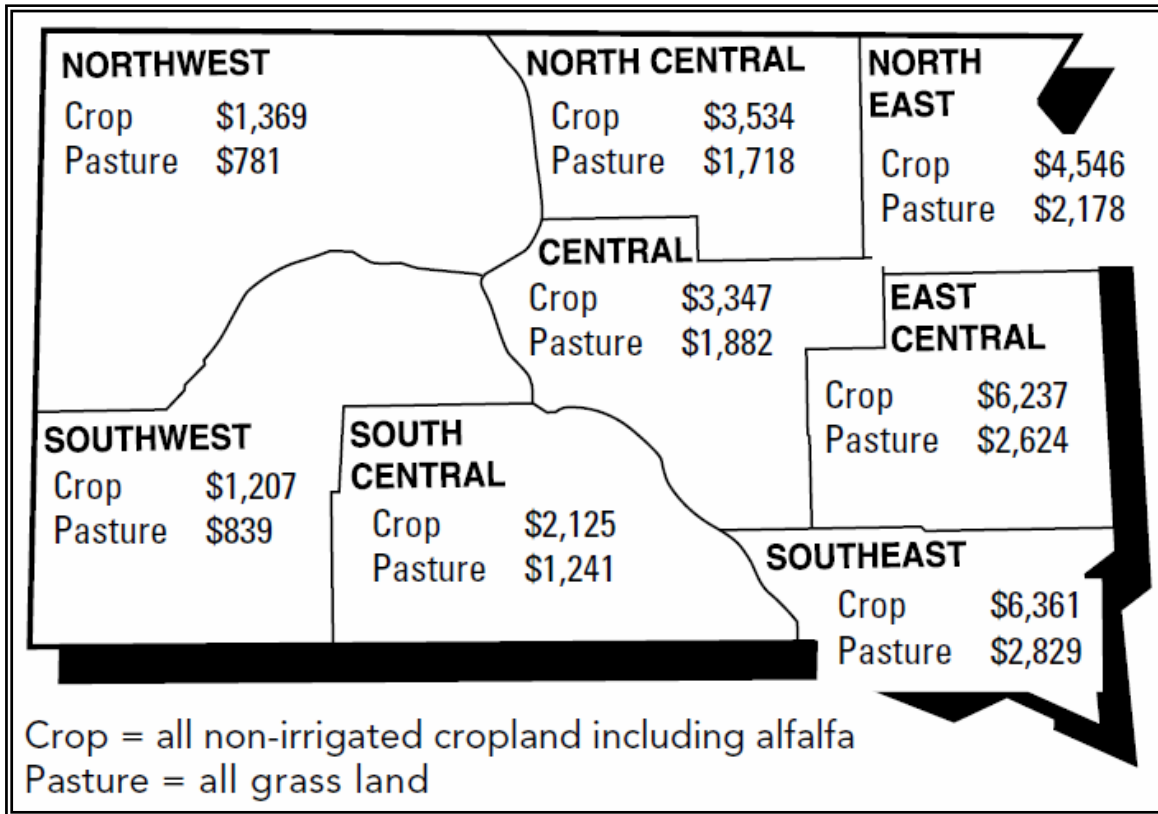


Table 4. Average reported value and annual percentage change in value of South Dakota agricultural land by type of land by region, February 2014-2018.

Type of Land	South-east	East Central	North-east	North Central	Central	South Central	South-west	North-west	STATE
dollars per acre									
Nonirrigated Cropland									
Average value, 2018	\$6,361	\$6,237	\$4,546	\$3,534	\$3,347	\$2,125	\$1,207	\$1,369	\$3,937
Average value, 2017*	\$5,569	\$6,160	\$4,654	\$4,030	\$3,291	\$2,203	\$1,427	\$1,142	\$3,903
Average value, 2016	\$5,653	\$6,116	\$4,613	\$4,177	\$3,843	\$2,168	\$1,264	\$1,187	\$4,094
Average value, 2015	\$5,887	\$6,329	\$5,066	\$4,275	\$3,895	\$2,283	\$1,347	\$1,193	\$4,265
Average value, 2014	\$6,331	\$7,114	\$5,291	\$4,614	\$3,953	\$2,087	\$820	\$870	\$4,478
Annual % change 18/17	14.2%	1.3%	-2.3%	-12.3%	1.7%	-3.5%	-15.4%	19.9%	0.9%
Pasture/ Rangeland**									
Average value, 2018	\$2,829	\$2,624	\$2,178	\$1,718	\$1,882	\$1,241	\$839	\$781	\$1,252
Average value, 2017**	\$2,450	\$2,546	\$2,089	\$1,914	\$2,011	\$1,150	\$887	\$650	\$1,215
Average value, 2016	\$2,566	\$2,781	\$2,028	\$1,957	\$2,219	\$1,330	\$715	\$760	\$1,222
Average value, 2015	\$2,719	\$2,727	\$2,136	\$1,758	\$2,100	\$1,338	\$851	\$630	\$1,187
Average value, 2014	\$2,698	\$2,861	\$1,859	\$1,600	\$1,828	\$1,187	\$571	\$436	\$987
Annual % change 18/17	15.5%	3.1%	4.3%	-10.2%	-6.4%	7.9%	-5.4%	20.2%	3.0%

Source: 2018 and earlier South Dakota Farm Real Estate Market Surveys

*cropland now includes all alfalfa acres

** 2017 pasture land variable has been redefined and includes all grass acres

Statewide average land values are based on 2002 land use weights

**RECENT LAND SALES SUMMARY
 IN THE AREA NEAREST TO THE PROPOSED DEUEL HARVEST NORTH WIND FARM**

No.	Owner Address	Owner	Sale Price	Sale Date	NCCPI's*	Land Area (Acres)	Sale Price Per Acre
1	705 7 th Ave. S Clear Lake, South Dakota Land Sale #1 - 1 Parcel	John D. Knight Susan Knight	\$63,000	2/3/14	37.1	41.23	\$1,528.01
2	409 4 th St. N Marietta, Minnesota Land Sale #2 - 2 Parcels	Chad J. Boehnke Shannon Boehnke	\$129,162	12/10/15	19.9	90.15	\$1,432.75
3	48406 174 th St. Gary, South Dakota Land Sale #3 - 2 Parcels	Mark Schmidt Lorie Schmidt	\$175,000	1/9/15	39.2	649.39	\$269.48
4	17232 480A Ave. Clear Lake, South Dakota Land Sale #4 - 3 Parcels	Clark Toben Cindy Toben	\$400,000	4/21/15	36.3	618.32	\$646.91
5	47930 172 nd St. Clear Lake, South Dakota Land Sale #5 - 1 Parcel	Craig A. Magedanz Beverly A. Magedanz	\$800,000	3/7/14	37.8	305.45	\$2,619.09
6	47238 180 th St. Clear Lake, South Dakota Land Sale #6 - 2 Parcels	Joel Brandt Dianne Brandt	\$1,223,000	10/23/14	40.0	579.98	\$2,108.69
7	16851 175 th Ave. Goodwin, South Dakota Land Sale #7 - 3 Parcels	Gregory J. Gibson Joan M. Gibson	\$3,000,000	4/1/14	46.9	1,040.17	\$2,884.14

*National Commodity Crop Productivity Index - based on AcreValue.com GIS informational map. The NCCPI uses a scale of 0 to 100, with 0 having a lower productivity potential and 100 a higher potential. This scale was developed using soil chemical and physical properties, water availability, climate, and landscape values. The NCCPI has indexes for corn, wheat and cotton (USDA, 2008)

Agricultural Land Sales near Wind Farms

The above land sales suggest that the agricultural land nearest to the area of the project footprint is of above-average quality for Deuel County, South Dakota, with an average National Commodity Crop Productivity Index of 36.7 compared to the county's overall average National Commodity Crop Productivity Index of 35.6, and adding wind turbines and land leases should only add benefits to the land prices and adds steady income for the land owner.

Research did not discover data on any sales of northeast South Dakota farmland in which the transaction included a wind turbine, which is likely primarily due to the existing wind farms being located in extremely remote areas of the state with few or no residential houses within 3 miles. However, upon closer inspection, there was one sale within the central region of the state in Jerauld County, South Dakota, which is home to the Wessington Springs Wind Farm and has similar demographics to the project area. The property is situated on pasture land 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. The following table summarizes the sale in 2017 of farmland with turbine leases.

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.⁶ 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 [also] popular with investors.⁷

Although there has been no wide-scale study of the impact of wind turbines on agricultural land sales for South Dakota that I could discover, a report in Illinois, 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.”⁸ 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.”⁹ 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. However, wind farm lease revenue does appear to add to the marketability and value.

Real Estate Professionals & Assessor Surveys

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.

Jim Aesoph of Aesoph Real Estate, Inc. is a broker with 27 years of experience in northeast South Dakota. In the later part of 2017 and early 2018 MaRous and Company was in contact with 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, 2013, 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.

⁶ http://www.omaha.com/money/turning-to-turbines-as-commodity-prices-remain-low-wind-energy/article_2814e2cf-83a3-547d-a09e-f039e935f399.html Accessed September 18, 2017.

⁷ <http://www.agriculture.com/farm-management/farm-land/farmland-sales-hard-to-find-as-growers-hold-tight-keeping-land-value> Accessed September 18, 2017.

⁸ Klein, David E., and Schnitkey, Gary, *2016 Illinois Land Values and Lease Trends*, Illinois Society of Professional Farm Managers and Rural Appraisers, Page 38.

⁹ *Ibid.* Page 42.

Within the first few months of 2018, interviews were conducted with six auctioneers throughout South Dakota. Marshall Hansen of Bob Hansen Auction stated that while turbines closer to a 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 amount 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.

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.

Previously, Michael Crowley, Sr., SRA of Real Estate Consultants, Ltd., Spring Valley, Illinois was consulted in 2016 and 2017. 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.

Rick Mummert of Ron Holton Real Estate reported in 2017, 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.

South Dakota Assessors Survey - November 2017, Updated April 2018

In November 2017, my office conducted a survey of the supervisor of assessments or a deputy supervisor in six counties in South Dakota initially, 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 2016, the AWEA reported there were approximately 14 wind projects with approximately 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 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.

Illinois Assessors Survey - Updated October 2016

In March 2015, and updated in October 2016, my office conducted a survey of the supervisor of assessments or a staff member in 18 counties in Illinois in which wind farms currently are operational. As of 2016, the AWEA reported there were approximately 48 wind projects with approximately 2,579 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 previous 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;¹⁰
- ∴ 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.

Minnesota Assessors Survey - January 2017

In late January 2017, my office conducted a survey of the supervisor of assessments or a deputy supervisor in eight Minnesota counties where large numbers of wind turbines currently are operational. There are several counties with small numbers of wind turbines that were not included in the survey. As of 2015, the AWEA reported there were approximately 97 wind projects with approximately 2,400 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:

- ∴ With one exception, the interviewees reported that there was no market evidence to support a finding that there has been 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, the assessors believed this to be the result of the very rural nature of the area in which the projects are located;
- ∴ The exception, the Dodge County Assessor, reported receiving two complaints from residential property owners regarding the value impact of proximity to wind turbines; however, the Assessor was unable to find data to support the contentions;
- ∴ Without exception, where there was sufficient data to analyze, the County Assessors reported that both residential and agricultural assessed property values within the wind farm footprints had fluctuated consistently within counties as influenced by market conditions, with no regard for proximity to a wind farm.

Bruce Nielson, Lincoln County Assessor, reported a recent residential transaction in a township in which wind turbines are located that sold \$70,000 higher than the assessor's opinion of market value.

¹⁰ A law suit 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.

Iowa Assessors Survey - August/September 2017

In August and September 2017 my office conducted a survey of the supervisor of assessments or a staff member in 26 counties in Iowa in which wind farms with more than 25 turbines currently are operational. As of 2016, the AWEA reported there were approximately 107 wind projects with approximately 4,143 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 previous 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;
- ∴ 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.

Literature Review

I am 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 South Dakota. However the following studies are consistent with our findings in South Dakota. These are summarized below:

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

Ontario, Canada

This study originally was 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.”

These studies had a combined number of over 3,700 transactions within 1 mile of operating turbines and found no evidence of value impact.¹¹

¹¹ *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, I 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 South Dakota, 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 turbines, the additional income from the wind 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 wind farm;
- ∴ The wind farm will create well-paid jobs in the area which will benefit overall market demand;
- ∴ An analysis of recent residential sales proximate to existing wind farms did not support any finding that proximity to a wind turbine had a negative impact on property values;
- ∴ An analysis of agricultural land values in South Dakota did not support any finding that agricultural land values are negatively impacted by the proximity to wind turbines;
- ∴ Reports from South Dakota, Illinois, Minnesota, and Iowa indicate that wind turbine leases add value to agricultural land; and
- ∴ A survey of County Assessors in 18 Illinois counties, 8 South Dakota counties, 26 Iowa counties, and 8 Minnesota counties in which wind farms with more than 25 turbines 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 wind farm and that there were no reductions in assessed valuation.

This report is based on market conditions proposed as of October 8, 2018. This market impact study has been prepared specifically for the use of the client and to support the development of the Deuel Harvest North Wind Farm, in Deuel County, South Dakota. Any other use or user of this report is considered to be unintended.

Respectfully submitted,
MaRous & Company



Michael S. MaRous, MAI, CRE
South Dakota Certified General #1467CG (9/30/19 expiration)
Illinois Certified General - #553.000141 (9/19 expiration)

CERTIFICATE OF REPORT

I do hereby certify that:

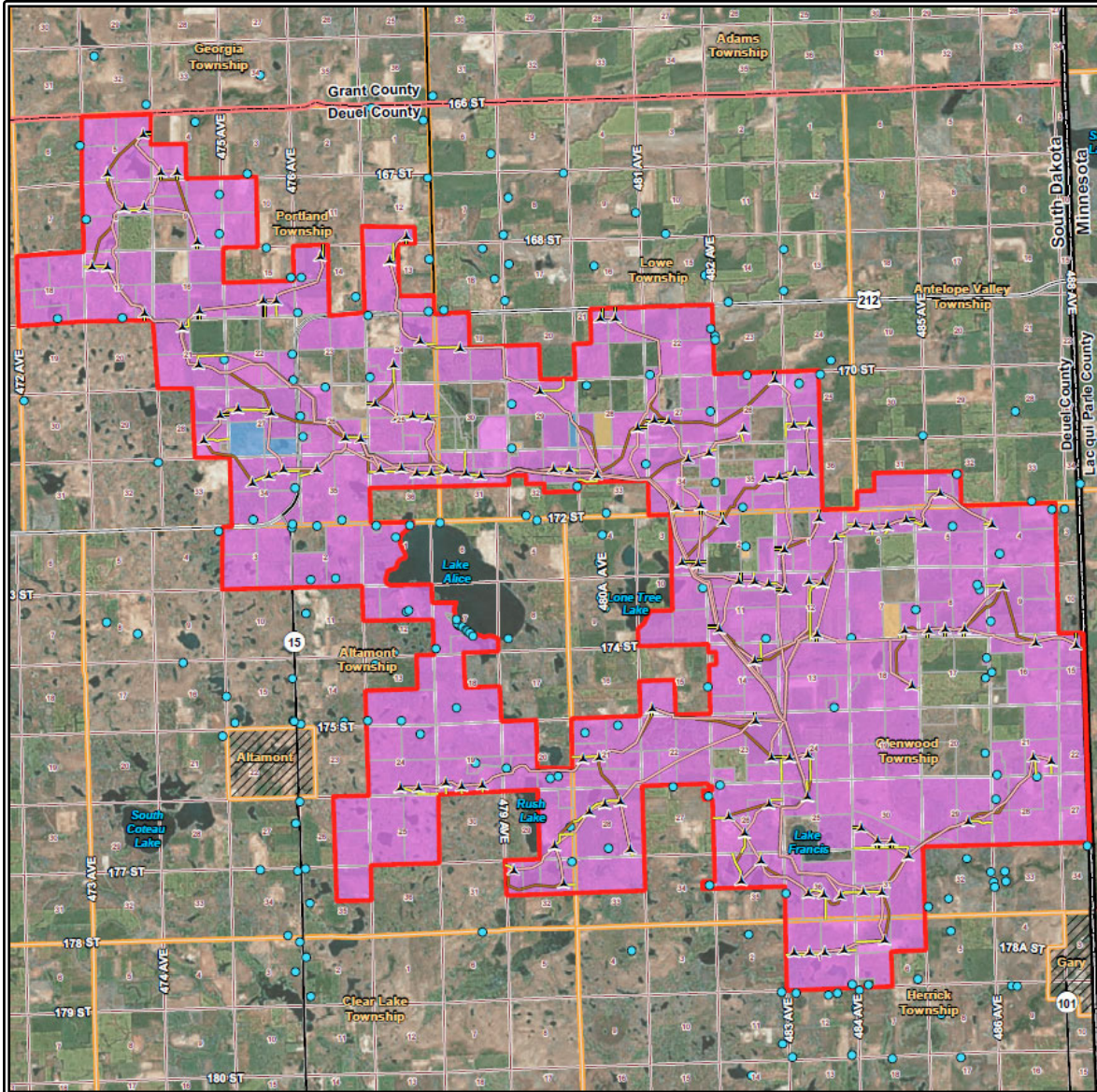
1. The statements of fact contained in this report are true and correct;
2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions and are my personal, impartial, and unbiased professional analyses, opinions, conclusions, and recommendations;
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; and
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

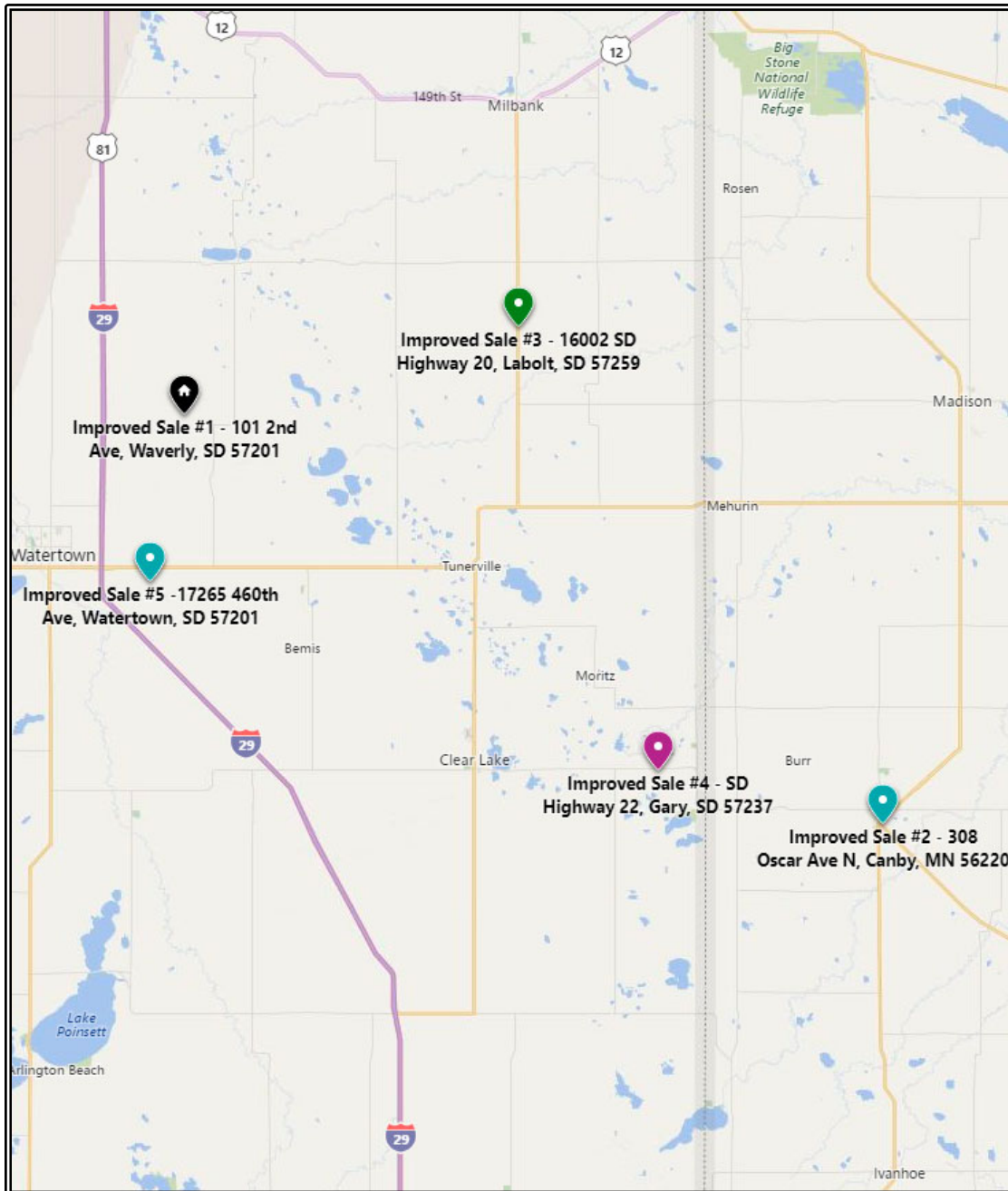


Michael S. MaRous, MAI, CRE
South Dakota Certified General #1467CG (9/30/19 expiration)
Illinois Certified General - #553.000141 (9/19 expiration)

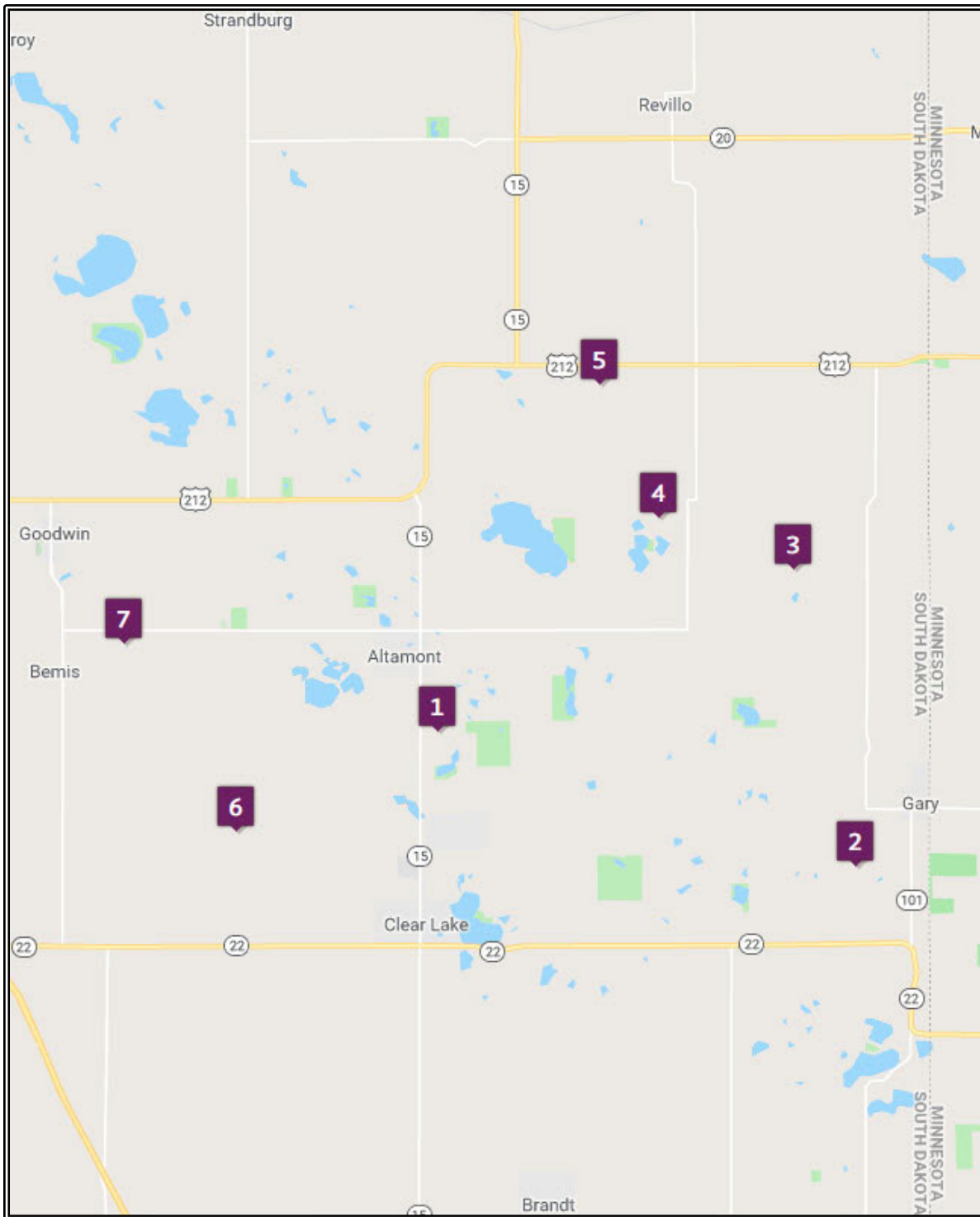
ADDENDA



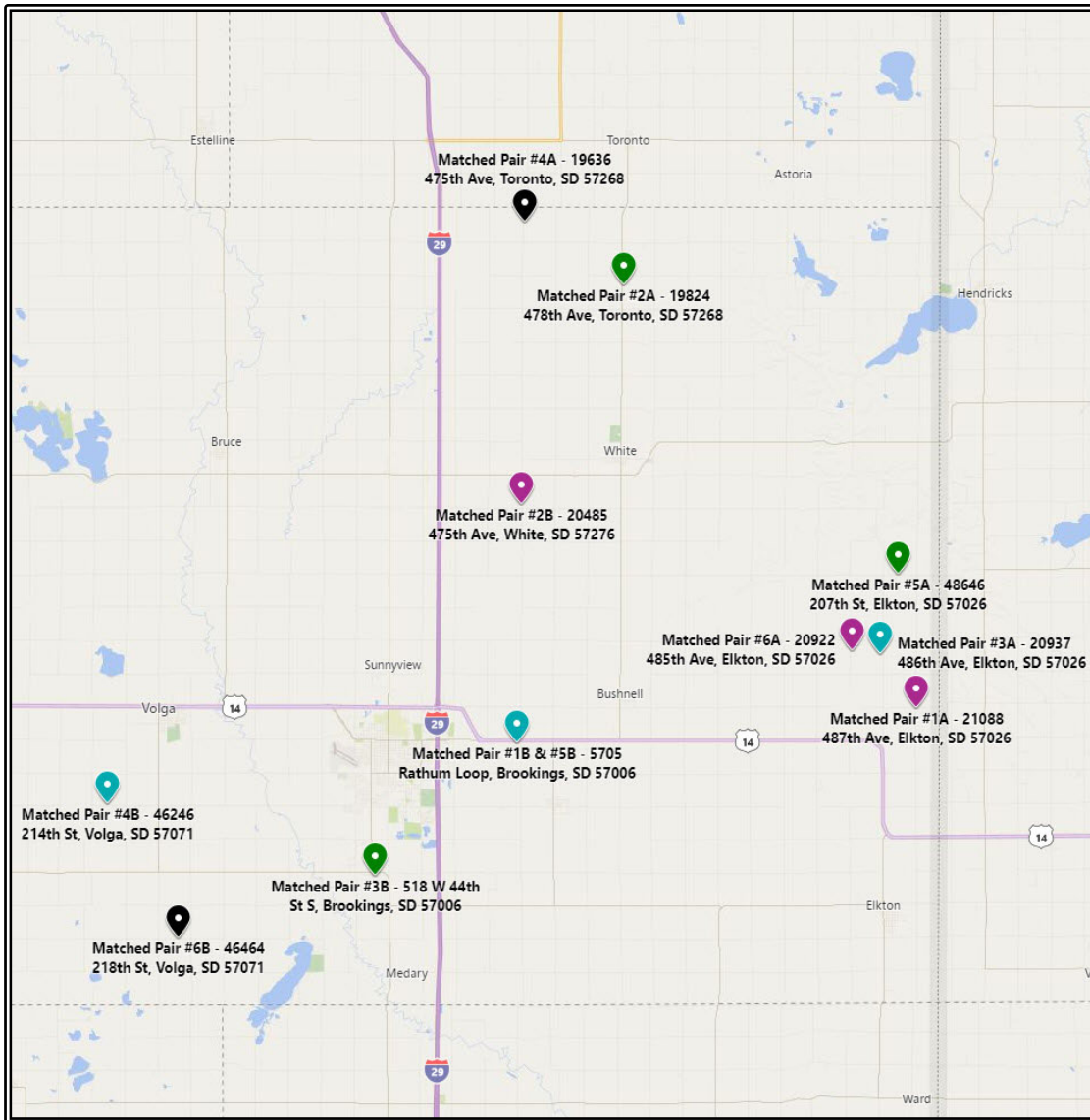
DEUEL HARVEST NORTH WIND FARM FOOTPRINT



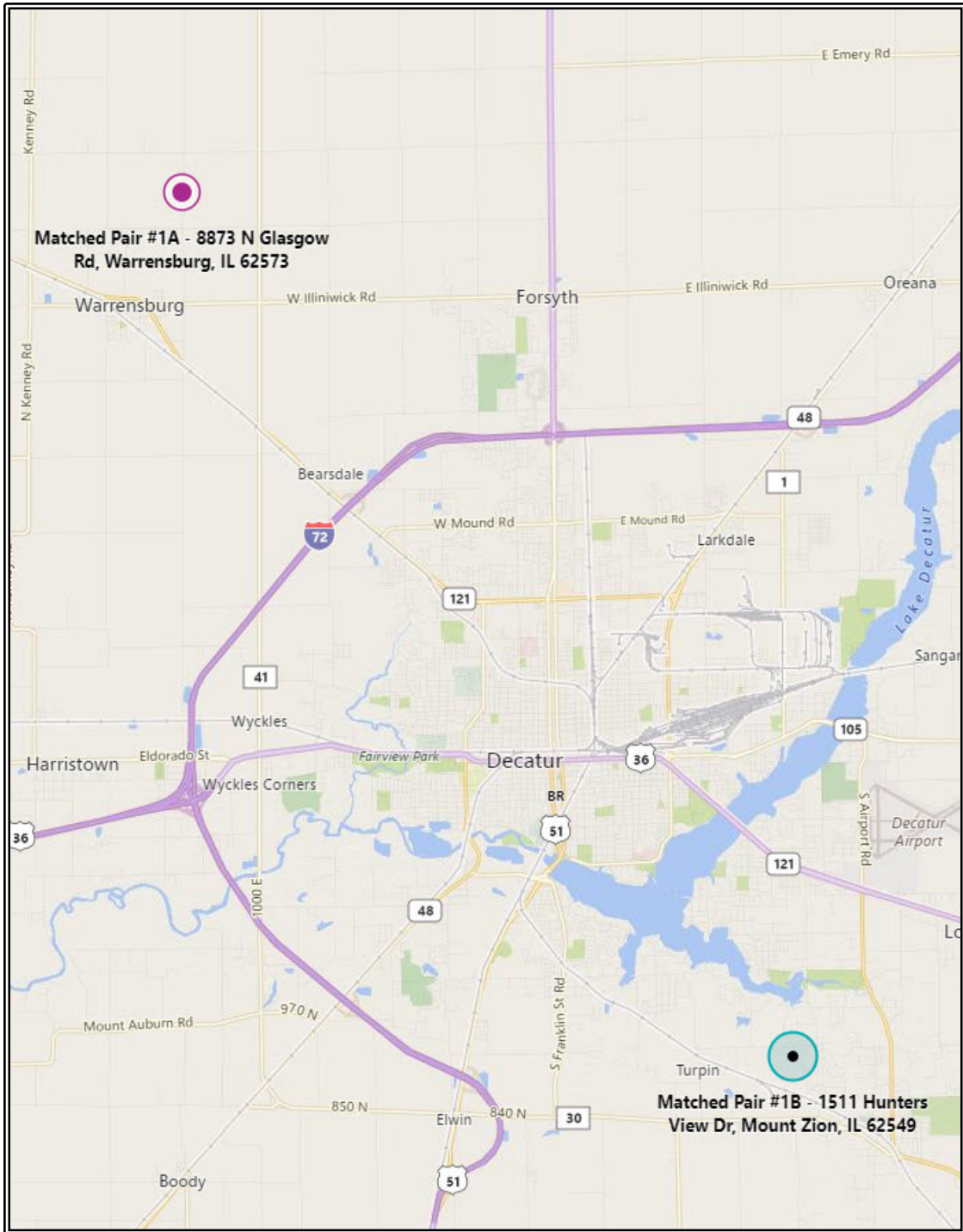
RECENT SINGLE-FAMILY HOUSE SALES LOCATION MAP



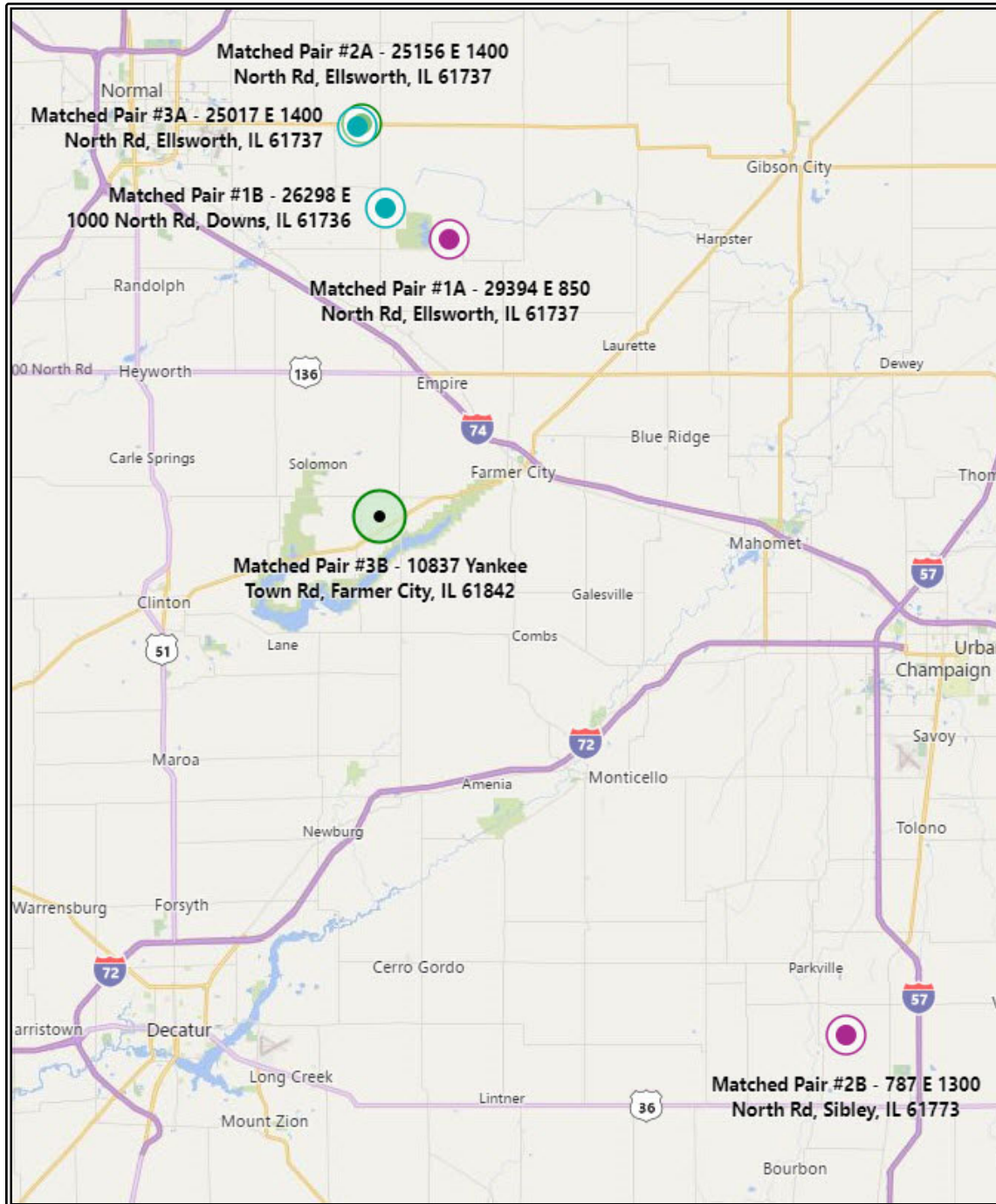
LAND SALES LOCATION MAP



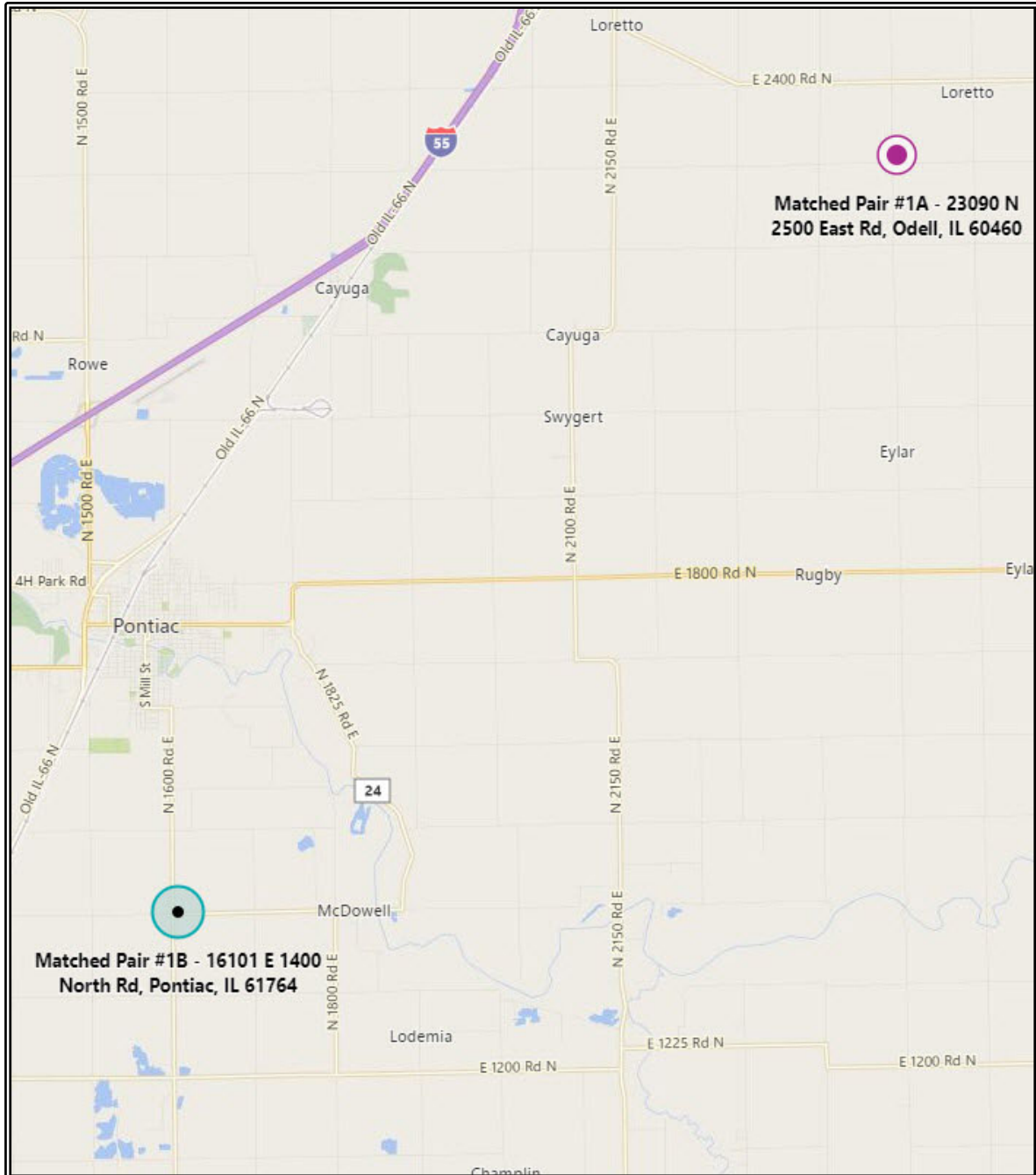
BROOKINGS COUNTY, SOUTH DAKOTA MATCHED PAIR LOCATION MAP



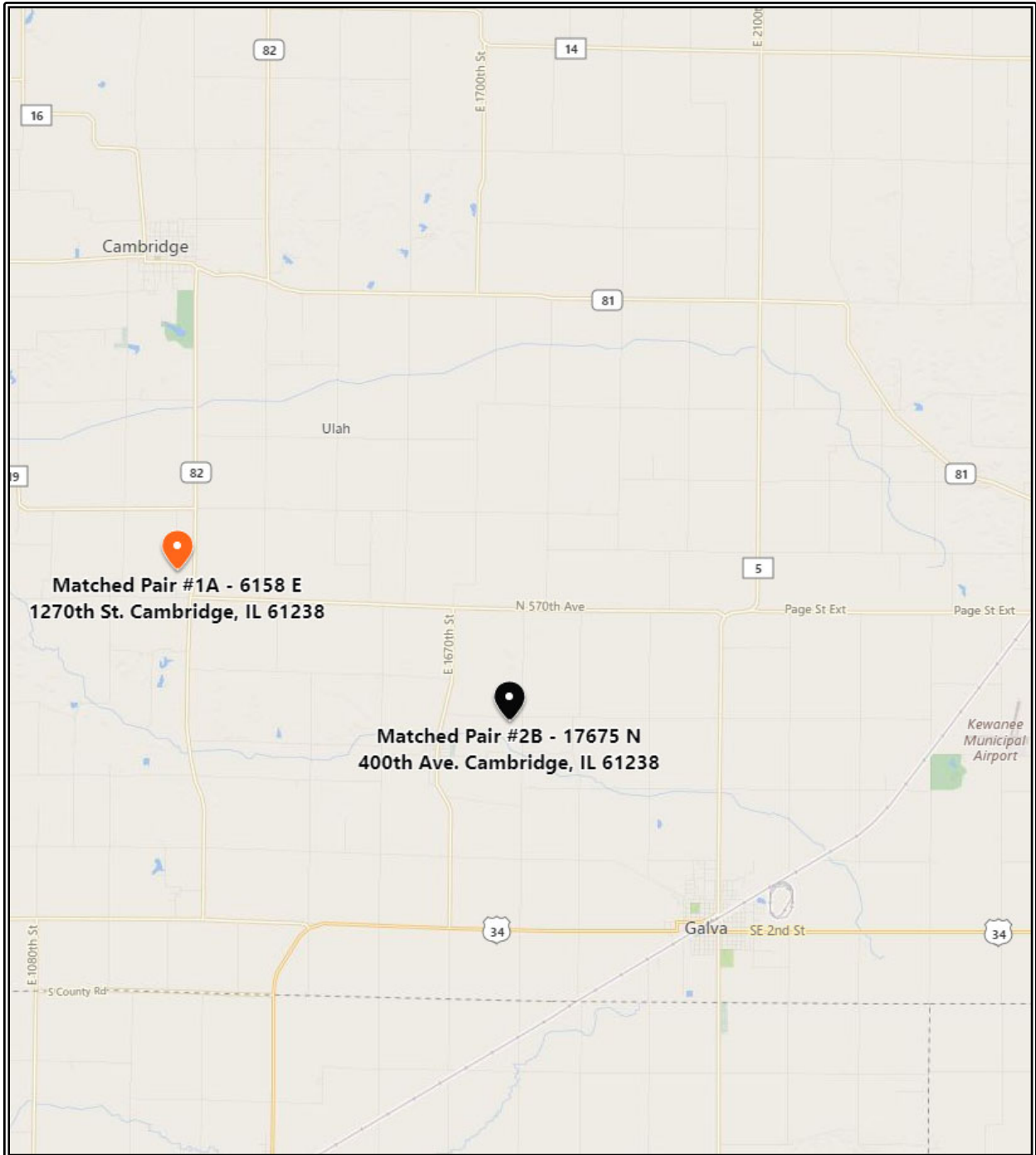
MACON COUNTY, ILLINOIS MATCHED PAIR LOCATION MAP



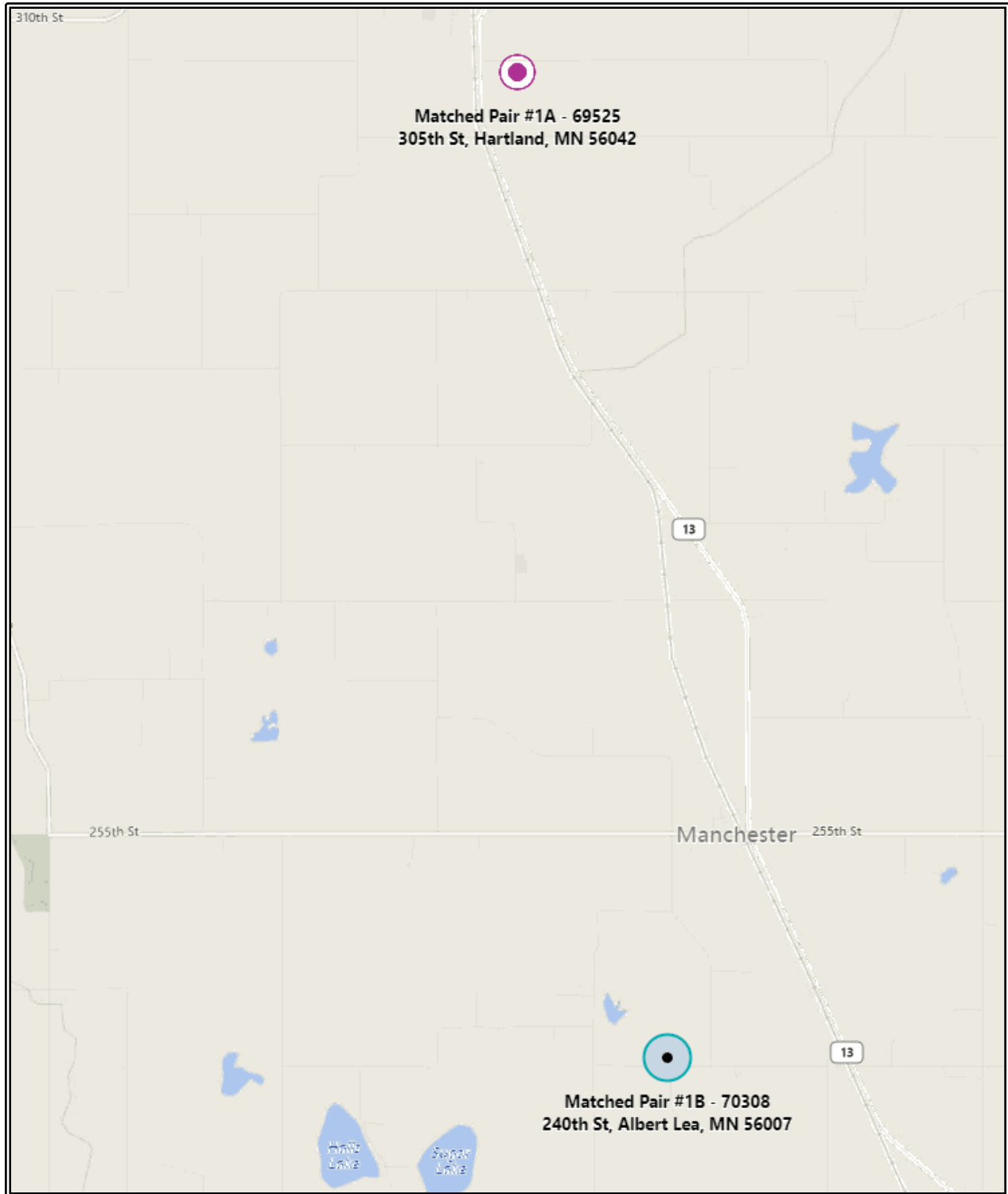
MCLEAN COUNTY, ILLINOIS MATCHED PAIR LOCATION MAP



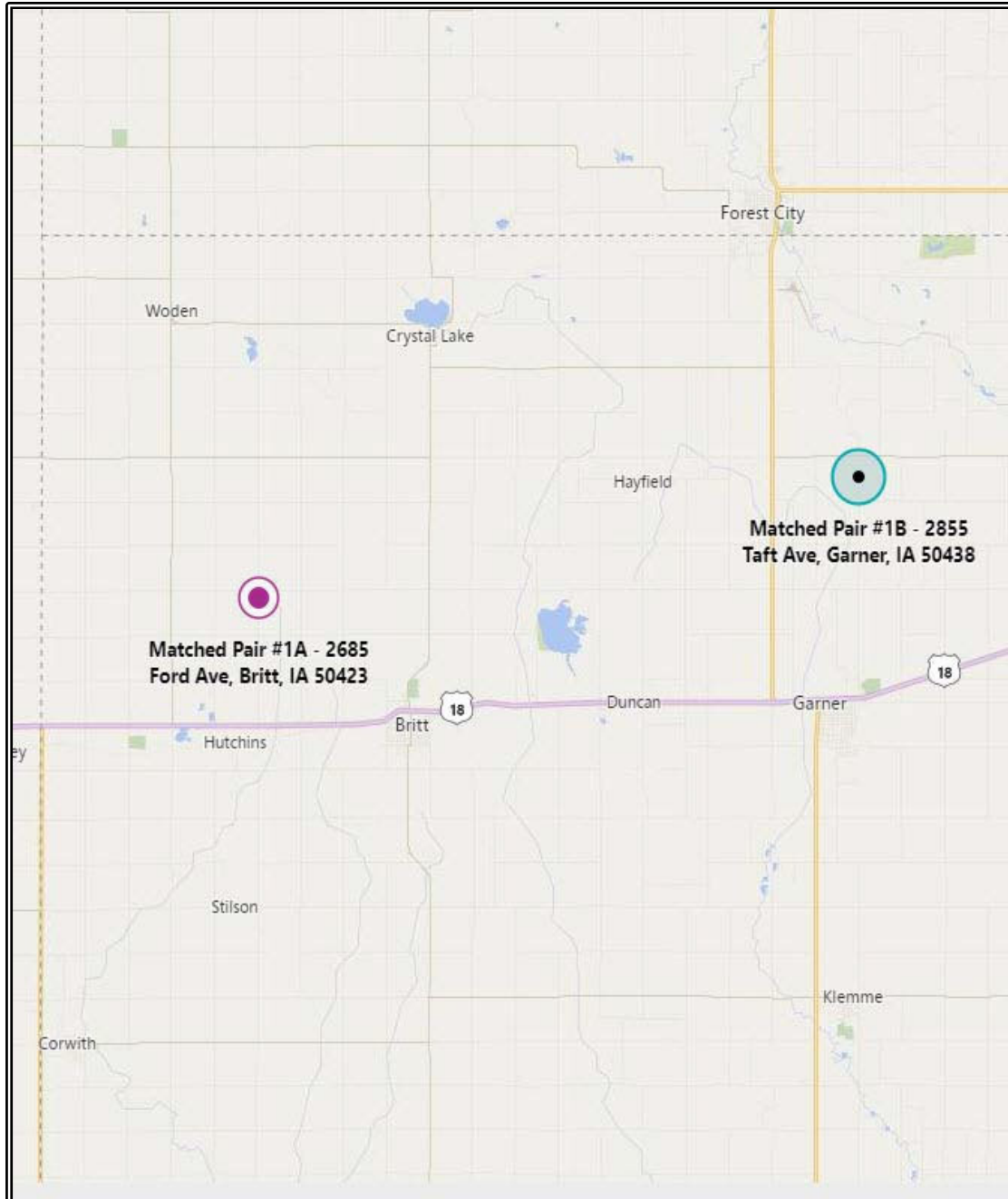
LIVINGSTON COUNTY, ILLINOIS MATCHED PAIR LOCATION MAP



HENRY COUNTY, ILLINOIS MATCHED PAIR LOCATION MAP



FREEBORN COUNTY, MINNESOTA MATCHED PAIR LOCATION MAP



HANCOCK COUNTY, IOWA MATCHED PAIR LOCATION MAP

IMPROVED SALE PHOTOGRAPHS



101 2nd Avenue



308 Oscar Avenue North



16002 South Dakota Highway 15

48645 South Dakota Highway 22



17265 460th Avenue

South Dakota County Assessor Survey Analysis

A survey of assessors in 8 counties in South Dakota which wind farms currently are operational has been undertaken. The supervisors or deputy supervisors of assessments were interviewed. The interviews were intended to allow the assessment officials to share their experiences regarding the impact of the wind 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 on November 7, 2017, and updated April 12, 2018.

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 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, two assessor's offices have experienced a real estate tax appeal based upon wind farm-related concerns, but the appeals were denied by both counties, Aurora County and Campbell County. As of the date of this report, there are more than 7 wind farms with 400 wind turbines within these counties. 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 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 or deputy supervisors of assessments were interviewed. Each of the interviewees was familiar with the wind farm(s) located within their respective county. The following is the list of County Supervisors of Assessments contacted:

1. Aurora County	Ms. Leah Vissia	605-942-7164
2. Brookings County	Mr. Jacob Brehmer (Deputy)	605-696-8220
3. Campbell County	Ms. Jill Hoogeveen	605-955-3577
4. Charles Mix County	Ms. Denise Weber	605-487-7382
5. Day County	Ms. Dari Schlotte	605-345-9502
6. Hyde County	Ms. Carrie Stevenson	605-852-2070
7. Jerauld County	Ms. Janice Bender	605-539-9701
8. McPherson County	Ms. Lanette Butler	605-439-3663

A map indicating the number of wind farms in each of these counties is included in this memorandum. A second map illustrates the number of the wind farms located in each of these counties.

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 wind 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 wind farms.

Aurora, Brookings, Day, and McPherson Counties' Supervisors of Assessments all stated that a majority of the wind turbines were placed with grazing and pasture land used for raising cattle. Each one of the assessors made it a point to note that they had personally witnessed the cows grazing right alongside turbines, indicating that the turbines had no effect, of any kind, on the animals.

Ms. Lanette Butler, the McPherson County Supervisor of Assessments, lives proximate to wind farm and is a participating land owner with five wind turbines on her property. She also stated that she is a former employee of Acciona Energia (owner of Tatanka Wind) prior to becoming the McPherson County Supervisor of Assessments and has been pleased with the work the company performs and the strict policies the company carries out for noise and wildlife safety. She also stated that the only way the turbines are audibly noticeable is on very quiet days with very minimal wind.

Residential Assessed Values, Complaints/Tax Appeal Filings

The assessors reported that there have been no successful tax appeal filings based upon wind farm issues. Although there have been two counties with tax appeals that were denied by the county boards in Aurora County and Campbell County

Ms. Carrie Stevenson, the Hyde County Supervisor of Assessments, did mention that the morning on the day the survey was taken Hyde County held its County Commissioners meeting. The topic of some of the meeting revolved around wind farms in the county. In attendance were approximately 30 residents, or a little over 2% of the total population of Hyde County. These residents showed up to voice their various complaints to the County Commissioners. The complaints were listened to and validated, yet in the end, there were no changes to property values given.

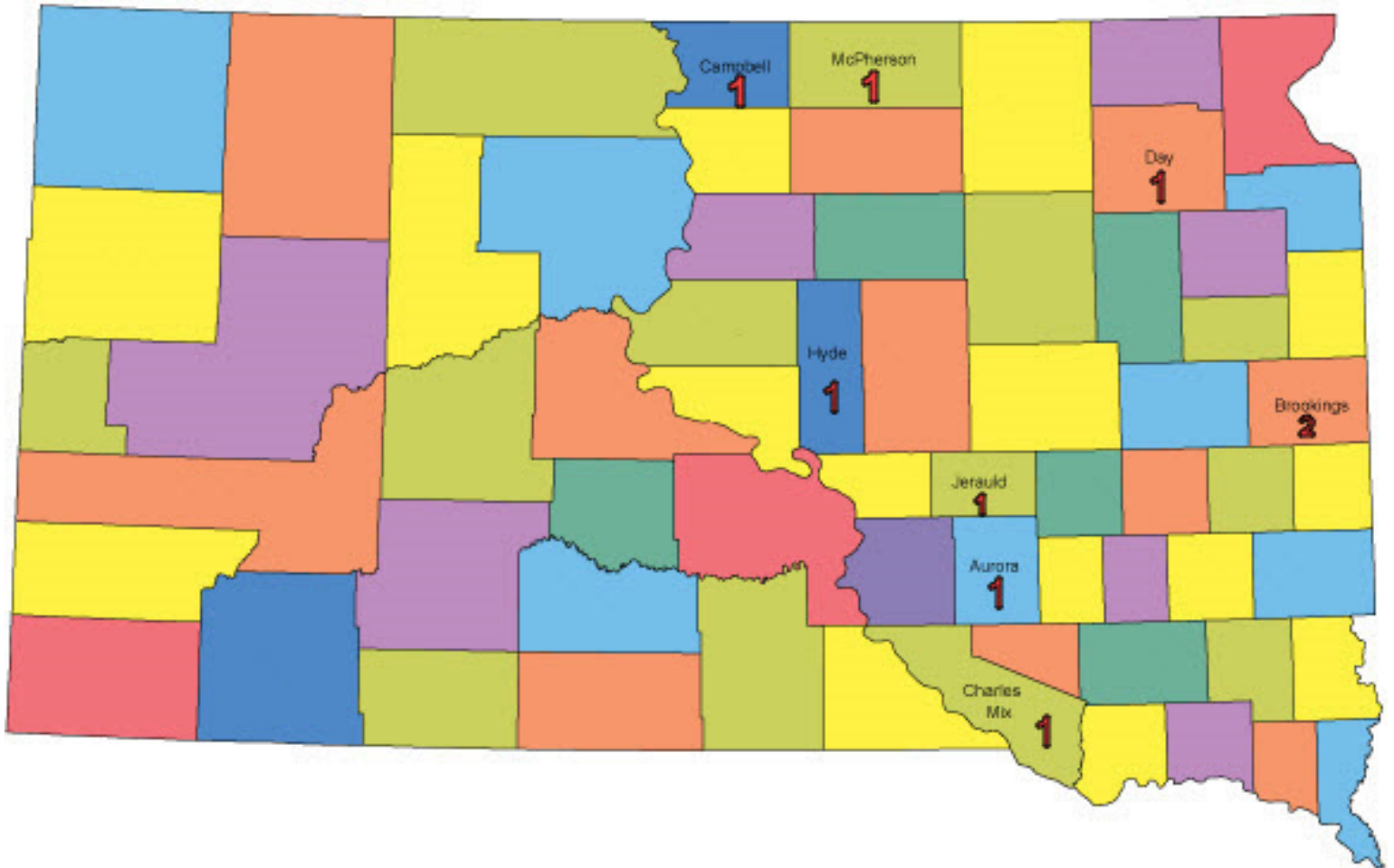
Consistently, the assessors reported that whatever initial concern there may have been regarding property values during the planning and approval stages of the various wind farms dissipated once the wind farm was constructed. Repeatedly, the assessors would state that the revenue that would come into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

Based on this survey, it does not appear that the Supervisors of Assessments in the 6 surveyed in South Dakota have reason to believe that the location of wind turbines in their county has had a negative impact on property values.

South Dakota



Map of South Dakota Counties Surveyed

Wind Farm Count by County

25 Turbines or Higher



Note: As depicted on this map from the AWEA, as of the date of this survey, the locations of certain wind farms are approximations. In some instances, the wind farms are incorrectly shown to be located in adjacent counties. This map also shows the locations of smaller wind farms, but for the accuracy of this study we have only focused on the farms with 25 turbines 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

Business Parks Distribution Centers	Industrial Properties Manufacturing Facilities Research Facilities	Self-storage Facilities Warehouses
Auto Sales/Service Facilities Banquet Halls Big Box Stores	Commercial Properties Gasoline Stations Hotels and Motels Office Buildings	Restaurants Shopping Centers Theaters
Bowling Alleys Cemeteries Farms Golf Courses Lumber Yards	Special-Purpose Properties Nurseries Riverboat Gambling Facilities Schools Stadium Expansion Issues	Tank Farms Underground Gas Aquifers Utility Corridors Waste Transfer Facilities Wind Farms
Apartment Complexes Condominium Conversions	Residential Properties Condominium Developments Single-family Residences	Subdivision Developments Townhouse Developments
Agricultural Alleys Commercial	Vacant Land Easements Industrial Residential	Rights of Way Streets Vacations
Corporations Financial Institutions	Clients Law Firms Not-for-profit Associations	Private Parties 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 (9/19)
Indiana Certified General Real Estate Appraiser, License Number CG41600008 (6/20)
Wisconsin Certified General Real Estate Appraiser, License Number 1874-10 (12/19)
Minnesota Certified General Real Estate Appraiser, License Number 40330656 (8/20)
Pennsylvania Certified General Real Estate Appraiser, License Number GA004181 (6/19)
Iowa Certified General Real Estate Appraiser, License Number CG03468 (6/19)
South Dakota Certified General Real Estate Appraiser, License Number 1467CG (9/19)
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	250 acres, Island Lake
20 acres, residential, Glenview	450 acres, residential, Wauconda
25 acres, Hinsdale	475± acres, various uses, Lake County
55 acres, mixed-use, Darien	650 acres, Hawthorne Woods
68 acres, Roosevelt Road and the Chicago River	650 acres, Waukegan/Libertyville
75 acres, I-88 at I-355, Downers Grove	800 acres, Woodridge
100± acres, various uses, Lake County	900 acres, Matteson
100 acres, Western Springs	1,000± acres, Batavia area
140 acres, Flossmoor	2,000± acres, Northern Lake County
142 acres, residential, Lake County	5,000 acres, southwest suburban Chicago area
160 acres, residential, Cary	Landfill expansion, Lake County
200 acres, mixed-use, Bartlett	

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

Energy Projects

Oakwood Hills Energy Center, McHenry County Illinois, market impact analysis
Walnut Ridge Wind Farm, Bureau County, Illinois, market impact analysis
Radford's Run Wind Farm, Macon County, Illinois, market impact analysis
Twin Groves Wind Farm, McLean County, Illinois, market impact analysis
Otter Creek Wind Farm, LaSalle County, Illinois, market impact analysis
Pleasant Ridge Wind Farm, Livingston County, Illinois, consulting
Commonwealth Edison, high tension lines, market impact analysis
Lackawanna Power Plant, Lackawanna County, Pennsylvania, market impact analysis
Brookhaven, South Dakota, solar energy production facility, consulting

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 Race Track, Major Industrial Property in Manawa, Class A Office Buildings and Vacant Land

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, Coblenz &
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
Forest Preserve of Cook County
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.

EDUCATION

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

CERTIFICATIONS

NAHB Certified Green Build Professional
OSHA Safety Certified
USPAP Certified

CONSTRUCTION

Professional in the construction industry for 10 years

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

MaROUS & COMPANY

Wind Projects

- Illinois
- Iowa
- South Dakota
- South Dakota

Solar Projects

- Maryland
- Wisconsin

- Vacant Land
- Auto Dealerships
- Religious Facilities
- Residential
- Commercial
- Retail

For more details visit: [linkedin.com/in/joemarous](https://www.linkedin.com/in/joemarous)