

**NOTICE OF MEETING (•) OF THE
COMMISSIONERS COURT OF JACK COUNTY, TEXAS**

• Assistive Listening Devices Available on Request for Use during Court Session
•

Notice is hereby given that a Meeting of the above-named Commissioners Court will be held on **Monday the 12th day of July, 2021 at 10:00 o'clock a.m.**, in the County Courthouse, Jacksboro, Texas, at which time the following subjects* will be discussed and appropriate action taken, to-wit:

These subjects may or may not be discussed in the order shown. All items listed below as part of the called "Consent Agenda Items" require no deliberation by the Court. Each Court member has the prerogative of removing an item from this agenda so that it may be considered separately.

1. Payment of Claims;
2. CONSENT AGENDA ITEMS:
 - (a) Approval of Minutes of Meeting for June 28, 2021;
 - (b) Approval of the addition of Wise Hope, a non-profit organization, to the list of recipients of donations from Jurors;
 - (c) Approval of Memorandum of Agreement between Wichita Falls-Wichita County Public Health District and Jack County;
3. AGENDA ITEMS: 10:00 – **Public Hearing**

Conduct Public Hearing on the Creation of a Reinvestment Zone to be known as Jack County Reinvestment Zone No. 8-Lasso Wind for purposes of tax abatement to provide economic development within the county, as depicted below:

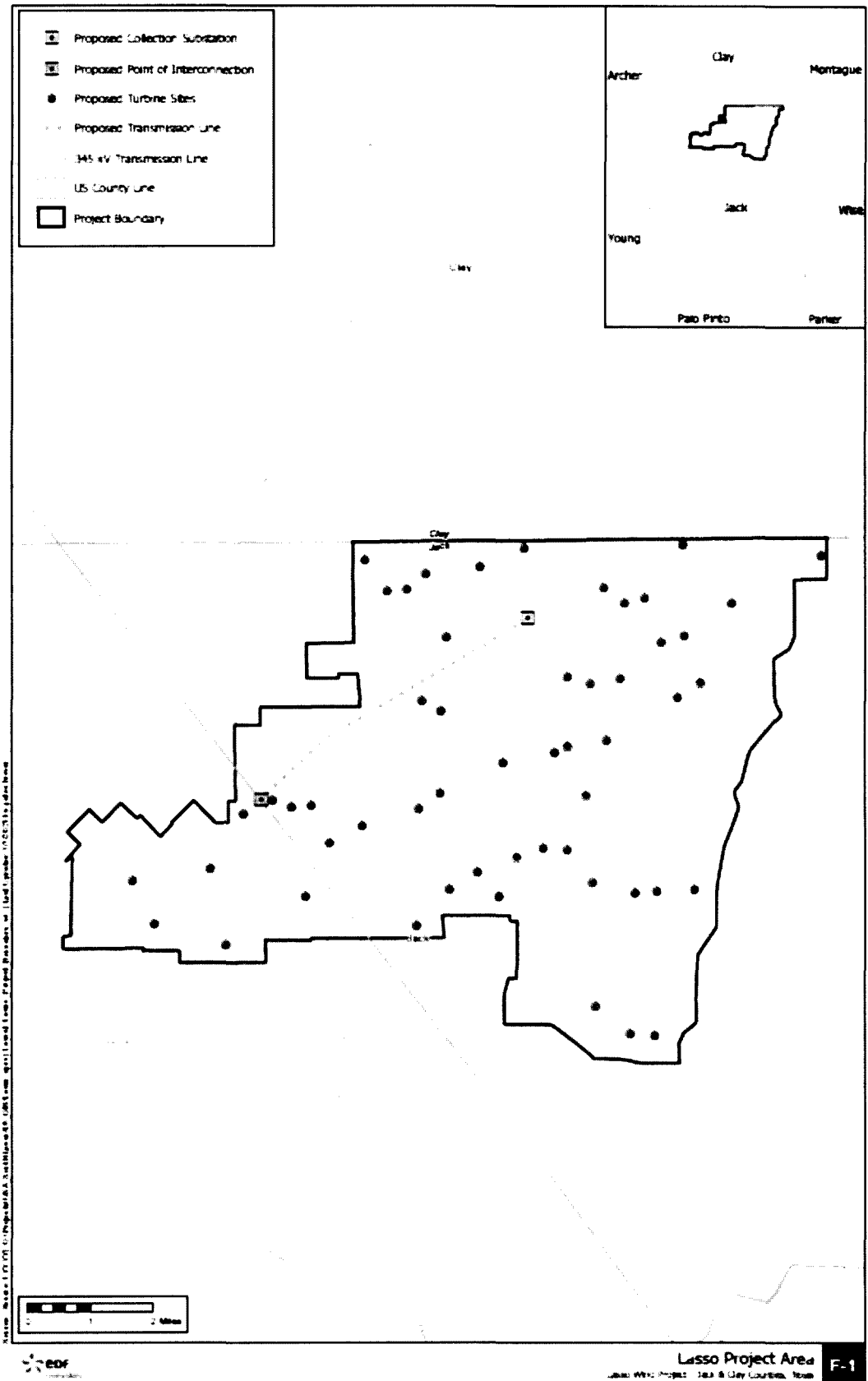
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JUL - 9 2021

**WANESSA JAMES, County Clerk
JACK COUNTY, TEXAS**

BY _____ DEPUTY



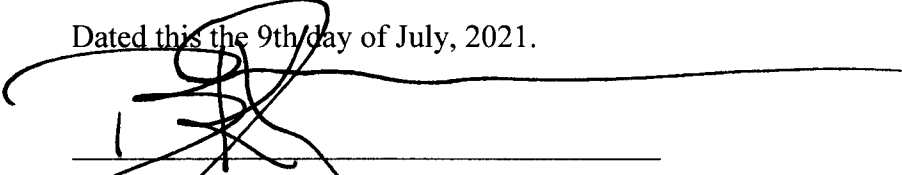
4. Close Public Hearing

5. Reconvene in Regular/Open Session

1. Consider and take possible action to create a reinvestment zone for purposes of tax abatement to provide economic development within the county in accordance with Chapter 312 of the Texas Tax Code, said reinvestment zone to be known as Jack County Reinvestment Zone No. 8-Lasso Wind and located as described and depicted in the application by Tax Abatement Agreement, and in the public notices published in accordance with Chapter 312 of the Texas Tax Code.
2. Consider and take possible action regarding the adoption of a Tax Abatement Agreement with Lasso Wind, LLC, pursuant to Chapter 312, Texas Tax Code.
6. Discussion and approval of the naming of a private road located off of Hwy. #2210 East in Precinct #2, to Hidden Ranch Road, to be added to the Jack County Master Street Address Guide for 911 Addressing;

7. Discussion and update of Courthouse Assembly Room renovation for the Justice of Peace/Commissioners Court;
8. Discussion of Commissioner Precinct Operations;
9. Reports, if any, by other Department Heads;
10. FUTURE AGENDA ITEMS; AND;
11. ADJOURNMENT.

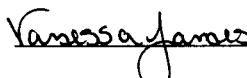
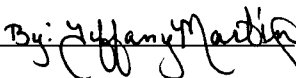
Dated this the 9th/day of July, 2021.



Brian Keith Umphress, Judge of Commissioners Court

I, the undersigned County Clerk, do hereby certify that the above Notice of Meeting of the above named Commissioners Court, is a true and correct copy of said Notice, and that I posted a true and correct copy of said Notice on the bulletin board at the Courthouse door of Jack County, Texas, at a place readily accessible to the general public at all times on the 9th day of July, 2021, and said Notice remained so posted continuously for at least 72 hours preceding the scheduled time of said meeting.

Dated this the 9th day of July, 2021, at 9:08^A.m.

 By: 
Vanessa James, County Clerk of Jack County, Texas



MINUTES

On this the 12th day of July 2021 the Commissioners Court of Jack County, Texas met in Regular Session at 10:01 a.m. beginning with a prayer and the pledge of allegiance to the American flag and Texas flag with the following individuals present:

Brian Keith Umphress	County Judge
Gary Oliver	Commissioner Precinct 1
Darren Francis	Commissioner Precinct 2
Terry Ward	Commissioner Precinct 4
Vanessa James	County Clerk
Lisa Perry	County Auditor
Kin Dungan	Assistant County Auditor
Frank Hefner	EMC/IT
Suzanne Brooks	Chief Deputy County Clerk
Tracie Pippen	District Clerk
Scott Simonton	Deputy Sheriff
Michael Francis	Deputy Sheriff
Jeff Miller	Reserve Constable
Lynn Casteel	Election Administrator
Bob Bass	County Legal Council

The following members of the public were in attendance: Maurine Dickey, Victoria Starr Roland, Ronnie Cafagna, Jason Johnson, Warren E. Pettit, Jeff Jackson, George Coyle, Roby Christie, Dan Combe, Danny R. Moss, Richard D. Williamson, Amee Roland, Harold David Sloan, Robert E. Lamberth, Bryon W. Barton, Mike Almond, Charles Fachtel, Cherry Rushin, Kevin R. Berry, Shawn Pettit, Teri Gitchell, Billy Roland, Brandon Westlake, Chuck York, Scott Cleveland, Lynda Cannedy, Vicki Bean, Tom Scaling, David Bowen, Charles Marley, Harva Kuykendal, Mike Ward, Jeff Lewis, W.C. Gilbert, C.C. Gilbert, Robert Sikes, Rebecca Sikes, Susan Abshier, Mike Moore, Dana Lovejoy-Leierer, James Dafoot, Blake Enlow, Doug Angell, R.J. Allen, Kim Adamick, Yvette Schinder, Kent Hofmeister, Clint Craft, Sam Astrahan, Tommy Gitchell, Nancy Blackmon, Joan Cantwell, James Cantwell, Brandee Barton, Denise Mangum, Elsie Williamson, Tommie Daniels, Keyton Koch, Stephan Burgett, Jim Silveus, Acan Adamcok, Cory Blunt, Emiliano Pelegri, Martha Clement, R.W. Marley, Linda Moore, Jimmy Riddle, Brian Smith, Sally Marshall, Betty Sparkman, John Ramsay, Dickie Rhoten, David Faram

PAYMENT OF ACCOUNTS AND CLAIMS

Judge Umphress made a motion to pay all accounts and claims submitted for approval. Commissioner Ward seconded and the motion passed unanimously. (3-0 Umphress, Francis & Ward)

CONSENT AGENDA ITEMS

- (a) Approval of Minutes of Meeting for June 28, 2021;
- (b) Approval of the addition of Wise Hope, a non-profit organization, to the list of recipients of a donation from Jurors;
- (c) Approval of Memorandum of Agreement between Wichita Falls-Wichita County Public Health District and Jack County;

Judge Umphress made a motion to approve Consent Agenda Items. The motion was seconded by Commissioner Francis and the motion passed unanimously. (3-0 Umphress, Francis & Ward)

TIMED AGENDA ITEMS

None.

10:00 - PUBLIC HEARING-CONDUCT A PUBLIC HEARING ON THE CREATION OF A REINVESTMENT ZONE TO BE KNOWN AS JACK COUNTY REINVESTMENT ZONE NO. 8-LASSO WIND FOR PURPOSES OF TAX ABATEMENT TO PROVIDE ECONOMIC DEVELOPMENT WITHIN THE COUNTY, AS DEPICTED

Commissioner Ward excused himself from the Public Hearing.

The public hearing began at 10:09 a.m.

CLOSE PUBLIC HEARING

Public Hearing Concluded at 11:37

Commissioner Oliver excused himself from the meeting at 11:38 a.m. before a vote on items regarding the reinvestment zone and tax abatement could be heard or or a vote taken.

County legal counsel Bob Bass spoke to the Court.

RECONVENE IN REGULAR/OPEN SESSION

CONSIDER AND TAKE POSSIBLE ACTION TO CREATE A REINVESTMENT ZONE FOR PURPOSES OF TAX ABATEMENT TO PROVIDE ECONOMIC DEVELOPMENT WITHIN THE COUNTY IN ACCORDANCE WITH CHAPTER 312 OF THE TEXAS TAX CODE, SAID REINVESTMENT ZONE TO BE KNOWN AS JACK COUNTY REINVESTMENT ZONE NO.8-LASSO WIND AND LOCATED AS DESCRIBED AND DEPICTED IN THE APPLICATION BY TAX ABATEMENT AGREEMENT, AND IN THE PUBLIC NOTICES PUBLISHED IN ACCORDANCE WITH CHAPTER 312 OF THE TEXAS TAX CODE

No action taken due to lack of quorum.

CONSIDER AND TAKE POSSIBLE ACTION REGARDING THE ADOPTION OF A TAX ABATEMENT AGREEMENT WITH LASSO WIND, LLC, PURSUANT TO CHAPTER 312, TEXAS TAX CODE

No action taken due to lack of quorum.

DISCUSSION AND APPROVAL OF THE NAMING OF A PRIVATE ROAD LOCATED OFF OF HWY #2210 EAST IN PRECINCT #2, TO HIDDEN RANCH ROAD, TO BE ADDED TO THE JACK COUNTY MASTER STREET ADDRESS GUIDE FOR 911 ADDRESSING DISCUSSION AND UPDATE OF COURTHOUSE ASSEMBLY ROOM RENOVATION FOR THE JUSTICE OF THE PEACE/COMMISSIONERS COURT

Commissioner Ward returned to the meeting after the Public Hearing.

Motion was made by Commissioner Francis to name the road Hidden Ranch Lane. The Court, to avoid confusion names all 911 addressing private roads by lane. Motion was seconded by Commissioner Ward and passed unanimously. (3-0 Umphress, Francis & Ward)

DISCUSSION AND UPDATE OF COURTHOUSE ASSEMBLY ROOM RENOVATION FOR THE JUSTICE OF THE PEACE/ COMMISSIONERS COURT

The first hearing downstairs happened this morning the setup worked great. The old IT office was utilized as chambers. Tom Marley will be working on the bench area.

DISCUSSION OF COMMISSIONER PRECINCT OPERATIONS

Discussion made, no action taken.

REPORTS, IF ANY, BY OTHER DEPARTMENT HEADS

No discussion made.

FUTURE AGENDA ITEMS

No items mentioned.

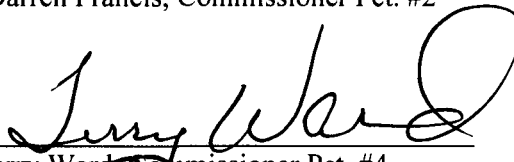
ADJOURNMENT

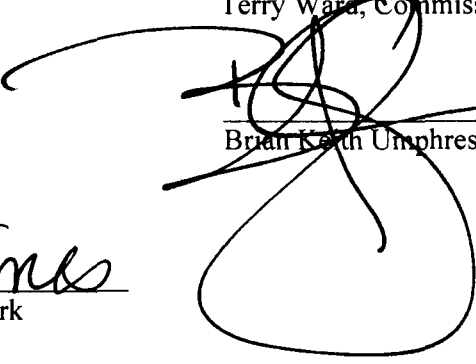
There being no further business motion was made by Commissioner Francis to adjourn. Commissioner Ward seconded the motion to adjourn and the motion passed unanimously. (3-0 Umphress, Francis & Ward)

The meeting was adjourned at 1:13 p.m.

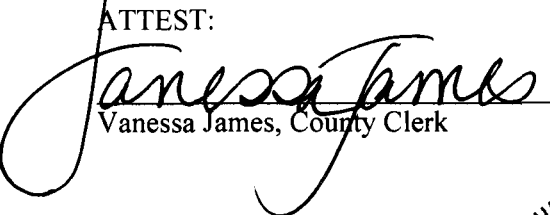

Gary Oliver, Commissioner Pct. #1

Darren Francis, Commissioner Pct. #2


Terry Ward, Commissioner Pct. #4


Brian Keith Umphress, County Judge

ATTEST:


Vanessa James, County Clerk



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JUL 26 2021

VANESSA JAMES, County Clerk
JACK COUNTY, TEXAS

BY _____ DEPUTY

FOR CHECK DATE FROM 07/12/2021 TO 07/12/2021

EMP#	NAME			GROSS WAGES	OVERTIME	O/T HOURS
DEPARTMENT 010-401						
00075	TILLERY	DEBRA	A	1,351.04 ✓	.00	.00
00123	UMPHRESS	BRIAN	K	2,966.54 ✓	.00	.00
DEPARTMENT TOTALS				4,317.58	.00	.00
DEPARTMENT 010-403						
00010	BROOKS	SUZANNE		1,351.04 ✓	.00	.00
00036	JAMES	VANESSA	H	1,778.62 ✓	.00	.00
00011	MARTIN	TIFFANY		1,286.88 ✓	.00	.00
DEPARTMENT TOTALS				4,416.54	.00	.00
DEPARTMENT 010-409						
00127	CASTEEL	SELENA	L	1,351.04 ✓	.00	.00
00144	SHERRIN	KAITLYN	M	978.91 ✓	.00	.00
DEPARTMENT TOTALS				2,329.95	.00	.00
DEPARTMENT 010-410						
00105	HEFNER	FRANKLIN	R	2,287.81 ✓	.00	.00
DEPARTMENT TOTALS				2,287.81	.00	.00
DEPARTMENT 010-435						
00184	DAMRON	ETHEL	S	1,286.88 ✓	.00	.00
00056	PIPPIN	TRACIE	J	1,778.62 ✓	.00	.00
DEPARTMENT TOTALS				3,065.50	.00	.00
DEPARTMENT 010-455						
00028	HESTER	TRACI		1,351.04 ✓	.00	.00
00097	MCLEMORE	SAMANTHA	J	1,286.88 ✓	.00	.00
00070	SPURLOCK	STACY		1,932.47 ✓	.00	.00
DEPARTMENT TOTALS				4,570.39	.00	.00
DEPARTMENT 010-475						
00004	BAILEY	JESSICA		1,432.12 ✓	.00	.00
00017	DIXON	MICHAEL		3,259.39 ✓	.00	.00
DEPARTMENT TOTALS				4,691.51	.00	.00
DEPARTMENT 010-495						
00142	CROW	CANDACE	E	1,351.04 ✓	.00	.00
00018	DUNGAN	KIM	M	1,595.88 ✓	.00	.00
00053	PERRY	LISA		1,870.08 ✓	.00	.00
DEPARTMENT TOTALS				4,817.00	.00	.00
DEPARTMENT 010-497						
00122	CAMPSEY	BRADLEY	G	1,778.62 ✓	.00	.00
DEPARTMENT TOTALS				1,778.62	.00	.00

FOR CHECK DATE FROM 07/12/2021 TO 07/12/2021

EMP#	NAME		GROSS WAGES	OVERTIME	O/T HOURS
DEPARTMENT 010-499					
00099	HAUGER	TAMMY	G 1,286.88 ✓	.00	.00
00042	LOW	BETTY	G 1,351.04 ✓	.00	.00
00136	OGLE	TRASI	D 1,223.58 ✓	.00	.00
00063	ROBINSON	SHARON	1,778.62 ✓	.00	.00
DEPARTMENT TOTALS			5,640.12	.00	.00
DEPARTMENT 010-510					
00107	GUTHRIE	DANIELLE	1,238.00 ✓	.00	.00
00057	REDDING	RHONDA	1,353.04 ✓	.00	.00
DEPARTMENT TOTALS			2,591.04	.00	.00
DEPARTMENT 010-551					
00079	WATSON	CLYDE	E 1,847.19 ✓	.00	.00
DEPARTMENT TOTALS			1,847.19	.00	.00
DEPARTMENT 010-560					
00020	FRANCIS	MICHAEL	W 1,833.65 ✓	.00	.00
00182	FREEMAN	OLTON	K 1,528.04 ✓	.00	.00
00160	GOODIN	AMANDA	N 1,743.79 ✓	.00	.00
00030	HOWARD	JEREMY	M 1,551.11 ✓	.00	.00
00043	MAHAN	TERRY	1,504.96 ✓	.00	.00
00102	MCGEE	CODY	S 1,551.11 ✓	.00	.00
00196	MICHAELS	KELLI	B 1,341.23 ✓	.00	.00
00049	MILLER	TAMMY	1,704.23 ✓	.00	.00
00203	PEACE	COLE	J 1,428.04 ✓	.00	.00
00055	PIPPIN	HEATHER	1,364.31 ✓	.00	.00
00058	REGER	CHRIS	1,990.96 ✓	.00	.00
00135	REIS	MARITHEA	E 1,866.31 ✓	.00	.00
00168	SERNA	JESSICA	1,504.96 ✓	.00	.00
00069	SMITH	YVONNE	1,615.92 ✓	.00	.00
00071	SPURLOCK	THOMAS	P 2,121.65 ✓	.00	.00
00202	SWEATLAND	BANNING	R 1,551.11 ✓	.00	.00
00074	THOMPSON	JOHNNY	M 1,833.65 ✓	.00	.00
00077	VANDERKAAY	DAVID	1,833.65 ✓	.00	.00
00129	WALDEN	PARKER	W 1,569.85 ✓	.00	.00
00101	WALLEY	ZACHARY	C 1,569.85 ✓	.00	.00
DEPARTMENT TOTALS			33,008.38	.00	.00
DEPARTMENT 010-561					
00183	BRATHOLE	STEVEN	L 1,341.23 ✓	.00	.00
00141	HOUSE	DANNY	G 1,341.23 ✓	.00	.00
00035	JACKSON	MONTY	1,430.85 ✓	.00	.00
00192	MAYHEW	DARRELL	L 1,302.77 ✓	.00	.00
00191	MERCER	BOBBY	G 1,302.77 ✓	.00	.00
00051	NEWBY	BRIAN	A 1,875.53 ✓	.00	.00
00052	NEWBY	MARIE	L 1,543.46 ✓	.00	.00
00054	PHILLIPS	LOWELL	B 1,341.23 ✓	.00	.00
00186	SIMONTON	STEPHEN	S 1,833.65 ✓	.00	.00
00128	WALDEN	RUSSELL	W 1,341.23 ✓	.00	.00
00181	WOODS	SARAH	N 1,341.23 ✓	.00	.00

FOR CHECK DATE FROM 07/12/2021 TO 07/12/2021

EMP#	NAME		GROSS WAGES	OVERTIME	O/T HOURS
DEPARTMENT TOTALS			15,995.18	.00	.00
DEPARTMENT 010-665					
00014	COX	ALINDA R	675.54 ✓	.00	.00
00027	HEFNER	REBEKAH	1,351.04 ✓	.00	.00
00045	MARTIN	CHARLES	675.54 ✓	.00	.00
DEPARTMENT TOTALS			2,702.12	.00	.00
FUND TOTALS			94,058.93	.00	.00
DEPARTMENT 011-621					
00154	FOJTIK	CHARLES E	1,436.23 ✓	.00	.00
00046	MAXWELL	WINFIELD	1,436.23 ✓	.00	.00
00121	OLIVER	GARY M	1,870.08 ✓	.00	.00
00085	WILSON	JERRY	1,436.23 ✓	.00	.00
DEPARTMENT TOTALS			6,178.77	.00	.00
FUND TOTALS			6,178.77	.00	.00
DEPARTMENT 012-622					
00201	BROCK	EDDIE K	1,436.23 ✓	.00	.00
00008	BROCK	JAMES	1,502.77 ✓	.00	.00
00198	FRANCIS	DARREN L	1,870.08 ✓	.00	.00
00084	WILSON	DAREL	1,436.23 ✓	.00	.00
DEPARTMENT TOTALS			6,245.31	.00	.00
FUND TOTALS			6,245.31	.00	.00
DEPARTMENT 013-623					
00006	BIRDWELL	HENRY D	1,870.08 ✓	.00	.00
00039	KINDER	KENNETH	1,502.77 ✓	.00	.00
00156	MCCOY	JOE	1,353.04 ✓	.00	.00
00197	SMITH	CLIFFORD R	1,436.23 ✓	.00	.00
DEPARTMENT TOTALS			6,162.12	.00	.00
FUND TOTALS			6,162.12	.00	.00
DEPARTMENT 014-624					
00013	COUFAL	TIMOTHY	1,502.77 ✓	.00	.00
00169	GORDON	CURTIS L	1,353.04 ✓	.00	.00
00023	HADDERTON	LANNY	988.80 ✓	.00	.00
00078	WARD	TERRY	1,870.08 ✓	.00	.00
DEPARTMENT TOTALS			5,714.69	.00	.00
FUND TOTALS			5,714.69	.00	.00
GRAND TOTALS			118,359.82	.00	.00

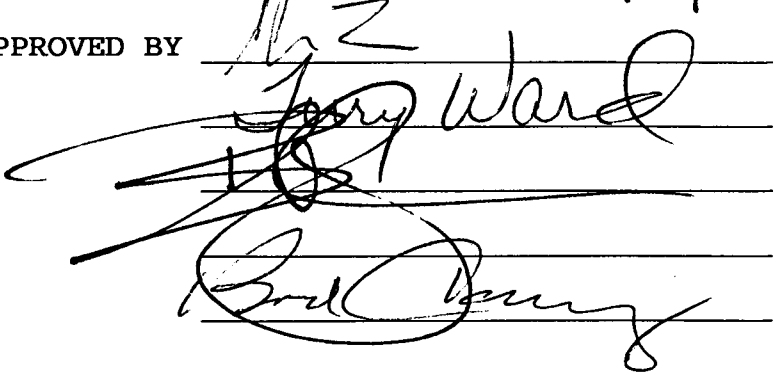
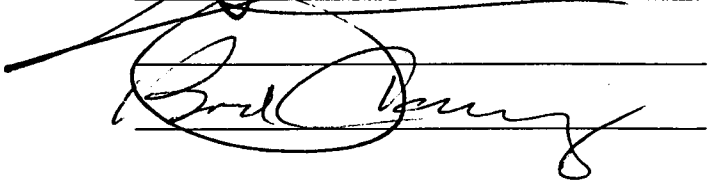
FOR CHECK DATE FROM 07/12/2021 TO 07/12/2021

EMP#	NAME	GROSS WAGES	OVERTIME	O/T HOURS
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THE PRECEDING LIST OF PAYROLL WAS REVIEWED
AND APPROVED FOR PAYMENT BY COMMISSIONER'S COURT.

DATE: 7/12/2021

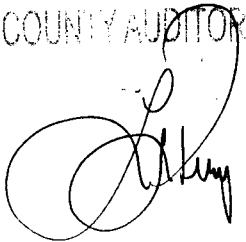
DATE 7/12/2021

APPROVED BY 


RECEIVED

JUL 08 2021

JACK COUNTY AUDITOR



FILED FOR RECORD

_____ O'CLOCK _____ M

JUL 12 2021

VANESSA JAMES, County Clerk
JACK COUNTY, TEXAS

BY _____ DEPUTY

ALL RECORDS FROM 07/12/2021 TO 07/12/2021 DATE-TO-BE-PAID

VENDOR NAME	ACCOUNT NUMBER	ACCOUNT NAME	ITEM/REASON	INVOICE NUMBER	AP DATE	PD	PO NO	AMOUNT
RED RIVER TAAO	2021 010-499-404	DUES	DUES ROBINSON		07/06/21	10		20.00

								20.00
RED RIVER TAAO	2021 010-499-404	DUES	DUES LOW		07/06/21	10		20.00

								20.00
TEXAS DISTRICT COURT ALL SHERRY GRIFIS TRES 200 W HOUSTON ST RM234 MARSHALL TX 75670	2021 010-435-404	DUES	DUES PIPPIN		07/06/21	10		50.00

								50.00
TEXAS DISTRICT COURT ALL SHERRY GRIFIS TRES 200 W HOUSTON ST RM234 MARSHALL TX 75670	2021 010-435-207	SCHOOL/CONFERENCE	CLASS		07/06/21	10		50.00

								50.00
ALINDA COX	2021 010-665-206	TRAVEL ALLOWANCE	JULY 21'		07/06/21	10		440.62

								440.62
AMAZON CAPITAL SERVICES PO BOX 035184 SEATTLE WA 98124	2021 010-400-901	SUPPLIES	CLOCK	11VW-MGLV-6991	07/09/21	10		20.74

								20.74
AQUA ONE P O BOX 8210	2021 010-560-901	OPERATING SUPPLIE	WATER	434042	07/06/21	10		125.00
	2021 010-561-901	SUPPLIES	WATER	434042	07/06/21	10		22.00

AMARILLO TX 79114								147.00
AT&T FAX P O BOX 105414	2021 010-403-604	TELEPHONE	COUNTY CLERK 6441	06/27-07/26	07/07/21	10		45.70
	2021 010-409-604	TELEPHONE	ELECTIONS 2930	06/27-07/26	07/07/21	10		54.28
	2021 010-435-604	TELEPHONE	DISTRICT CLERK 2696	06/27-07/26	07/07/21	10		42.90
ATLANTA GA 30348	2021 010-495-604	TELEPHONE	AUDITORS OFFICE 597	06/27-07/26	07/07/21	10		42.90
	2021 010-499-604	TELEPHONE	TAX A/C OFFICE 532	06/27-07/26	07/07/21	10		45.70

								231.48
AT&T LOCAL 214A850720971 PO BOX 105414	2021 010-665-604	TELEPHONE	CO EXTENSION FAX 20	06/29-07/28	07/07/21	10		45.70
	2021 010-400-604	TELEPHONE	9405672048-516	06/29-07/28	07/07/21	10		45.70
	2021 014-624-604	TELEPHONE	9405672971-732 P4	06/29-07/28	07/07/21	10		40.51
ATLANTA GA 34034	2021 013-623-604	TELEPHONE	9405673981-732 P3	06/29-07/28	07/07/21	10		50.39
	2021 010-455-604	TELEPHONE	JP FAX 5029	06/29-07/28	07/07/21	10		45.70
	2021 011-621-604	TELEPHONE	9405675318-732 P1	06/29-07/28	07/07/21	10		45.70
	2021 010-475-604	TELEPHONE	CO ATTORNEY FAX 630	06/29-07/28	07/07/21	10		50.60
	2021 010-561-604	TELEPHONE	LEC FAX 6536	06/29-07/28	07/07/21	10		45.70
	2021 010-660-604	TELEPHONE	DPS FAX 6540	06/29-07/28	07/07/21	10		59.21
	2021 010-560-604	TELEPHONE	9405676942-911	06/29-07/28	07/07/21	10		255.13

								684.34
AT&T MOBILITY 2872915214	2021 010-455-605	MOBILE PHONE	JP TABLET	05/20-06/19	07/06/21	10		37.00

ALL RECORDS FROM 07/12/2021 TO 07/12/2021 DATE-TO-BE-PAID

VENDOR NAME	ACCOUNT NUMBER	ACCOUNT NAME	ITEM/REASON	INVOICE NUMBER	AP DATE	PD	PO NO	AMOUNT
PO BOX 6463	2021 011-621-605	MOBILE PHONE	PCT 1 WIRELESS/TABL	05/20-06/19	07/06/21	10		77.85
	2021 012-622-605	MOBILE PHONE	PCT 2 WIRELESS/TABL	05/20-06/19	07/06/21	10		114.85
CAROL STREAM IL 60197	2021 013-623-605	MOBILE PHONE	PCT 3 TABLET	05/20-06/19	07/06/21	10		37.00
	2021 014-624-605	MOBILE PHONE	PCT 4 WIRELESS/TABL	05/20-06/19	07/06/21	10		77.85

								344.55
AT&T MOBILITY 2872915221	2021 010-401-605	MOBILE PHONE	COUNTY JUDGE HOTSPOT	05/20-06/19	07/06/21	10		38.25
PO BOX 6463	2021 010-409-604	TELEPHONE	ELECTION HOTSPOT	05/20-06/19	07/06/21	10		38.25
	2021 010-410-605	MOBILE PHONE	IT WIRELESS	05/20-06/19	07/06/21	10		162.02
CAROL STREAM IL 60197	2021 010-455-605	MOBILE PHONE	JP WIRELESS	05/20-06/19	07/06/21	10		85.52
	2021 010-551-605	MOBILE PHONE	CONSTABLE WIRELESS	05/20-06/19	07/06/21	10		42.24
	2021 010-560-605	MOBILE PHONE	SO WIRELESS	05/20-06/19	07/06/21	10		835.06
	2021 010-561-605	MOBILE PHONES	JAIL WIRELESS	05/20-06/19	07/06/21	10		177.95
	2021 010-660-604	TELEPHONE	HWY PATROL WIRELESS	05/20-06/19	07/06/21	10		128.95
	2021 010-661-604	TELEPHONE	JCRFD WIRELESS	05/20-06/19	07/06/21	10		164.97

								1,673.21
AUTO-CHLOR SERVICES LLC	2021 010-561-702	SERVICE AGREEMENT	MONTHLY SERVICE	6592702	07/06/21	10		209.90
DEPT 205								-----
P O BOX 4869								
HOUSTON TX 77210								209.90
BANE MACHINERY	2021 013-623-902	AUTO PARTS/TIRES	PARTS	12097776	07/06/21	10		598.91
PO BOX 77859								-----
FORT WORTH TX 76177								598.91
BREAKTHROUGH COMMUNICATI	2021 010-661-307	MISCELLANEOUS	RENT 7/1-7/31	80001414	07/06/21	10		195.76
2020 SOUTH LAS VEGAS TRA								-----
FORT WORTH TX 76108								195.76
BRUCKNER TRUCK SALES INC	2021 012-622-902	AUTO PARTS/TIRES	FUEL FILTER HOUSING	XA114001885	07/06/21	10		375.04
CORPORATE BILLING LLC	2021 012-622-902	AUTO PARTS/TIRES	U JOINT	XA114001967	07/09/21	10		21.52
DEPT 100 PO BOX 830604								-----
BIRMINGHAM AL 35283								396.56
BRYSON SENIOR CITIZEN FU	2021 010-400-486	COUNTY ASSISTANCE	JULY 21'		07/06/21	10		75.00
BOX 494								-----
BRYSON TX 76427								75.00
CARD SERVICE CENTER 0023	2021 010-435-901	OPERATING SUPPLIES	ADOBE CREDIT		07/06/21	10		14.84
PO BOX 569100	2021 010-435-901	OPERATING SUPPLIES	ADOBE		07/06/21	10		194.72

DALLAS TX 75356								179.88
CARD SERVICE CENTER 0049	2021 010-499-207	SCHOOL/CONFERENCE	WAL MART GROC		07/06/21	10		49.59
PO BOX 569100	2021 010-499-207	SCHOOL/CONFERENCE	MEAL		07/06/21	10		42.00
	2021 010-499-207	SCHOOL/CONFERENCE	MEAL		07/06/21	10		61.00
DALLAS TX 75356	2021 010-499-207	SCHOOL/CONFERENCE	MEAL		07/06/21	10		23.06
	2021 010-499-207	SCHOOL/CONFERENCE	HOTEL		07/06/21	10		325.44
	2021 010-499-207	SCHOOL/CONFERENCE	CLASS		07/06/21	10		30.00

ALL RECORDS FROM 07/12/2021 TO 07/12/2021 DATE-TO-BE-PAID

VENDOR NAME	ACCOUNT NUMBER	ACCOUNT NAME	ITEM/REASON	INVOICE NUMBER	AP DATE	PD	PO NO	AMOUNT
	2021 010-499-207	SCHOOL/CONFERENCE	CLASS		07/06/21	10		60.00

								591.09
CARD SERVICE CENTER 0297	2021 010-403-207	SCHOOL/CONFERENCE	CLASS		07/06/21	10		200.00
PO BOX 569100	2021 010-403-207	SCHOOL/CONFERENCE	HOTEL		07/06/21	10		331.49

DALLAS TX 75356								531.49
CARD SERVICE CENTER 0866	2021 010-560-207	SCHOOL/CONFERENCE	HOTEL		07/06/21	10		247.37
PO BOX 569100								-----
DALLAS TX 75356								247.37
CARD SERVICE CENTER 0908	2021 010-560-901	OPERATING SUPPLIE	SPY POINT		07/06/21	10		16.24
PO BOX 569100	2021 010-560-803	FURNITURE/EQUIPMEN	RADAR		07/06/21	10		500.00
	2021 010-560-701	AUTO REPAIR/INSPE	12 SUPPLIES		07/06/21	10		23.59
DALLAS TX 75356	2021 010-560-903	GAS/OIL	FUEL		07/06/21	10		20.00
	2021 010-560-307	MISCELLANEOUS	CAR WASH		07/06/21	10		12.00

								571.83
CARD SERVICE CENTER 0924	2021 010-561-705	BUILDING REPAIR	PAINT SUPPLIES		07/06/21	10		420.44
PO BOX 569100	2021 010-561-207	JAIL SCHOOL	MEAL		07/06/21	10		10.92
	2021 010-561-207	JAIL SCHOOL	MEAL		07/06/21	10		10.87
DALLAS TX 75356	2021 010-561-207	JAIL SCHOOL	MEAL		07/06/21	10		20.73
	2021 010-561-207	JAIL SCHOOL	MEAL		07/06/21	10		12.54
	2021 010-561-207	JAIL SCHOOL	MEAL		07/06/21	10		18.71

								494.21
CARD SERVICE CENTER 0940	2021 010-551-911	UNIFORM/BADGE	SHIRT		07/06/21	10		223.93
PO BOX 569100	2021 010-551-911	UNIFORM/BADGE	BADGE S		07/06/21	10		472.00
	2021 010-551-701	AUTO REPAIR/INSPE	CAR WASH		07/06/21	10		4.00
DALLAS TX 75356	2021 010-551-911	UNIFORM/BADGE	PANTS PATCH SHOES		07/06/21	10		375.91

								1,075.84
CARD SERVICE CENTER 1088	2021 011-621-901	OPERATING SUPPLIE	TAX		07/06/21	10		1.52-
PO BOX 569100	2021 011-621-901	OPERATING SUPPLIE	PUMP		07/06/21	10		137.98
	2021 011-621-901	OPERATING SUPPLIE	RANGER PRO		07/06/21	10		130.00

DALLAS TX 75356								266.46
CARD SERVICE CENTER 1096	2021 010-410-803	FURNITURE/EQUIPMEN	LADDER ITDEPT		07/06/21	10		139.99
PO BOX 569100								-----
DALLAS TX 75356								139.99
CARD SERVICE CENTER 1146	2021 010-401-901	OPERATING SUPPLIE	TAX		07/06/21	10		14.84-
P O BOX 569100	2021 010-401-207	SCHOOL/CONFERENCE	MEAL		07/06/21	10		7.49
	2021 010-401-207	SCHOOL/CONFERENCE	MEAL		07/06/21	10		25.13

ALL RECORDS FROM 07/12/2021 TO 07/12/2021 DATE-TO-BE-PAID

VENDOR NAME	ACCOUNT NUMBER	ACCOUNT NAME	ITEM/REASON	INVOICE NUMBER	AP DATE	PD	PO NO	AMOUNT
DALLAS	TX 75356	2021 010-401-207	SCHOOL/CONFERENCE MEAL		07/06/21	10		25.60
		2021 010-401-207	SCHOOL/CONFERENCE MEAL		07/06/21	10		5.98
		2021 010-401-207	SCHOOL/CONFERENCE MEAL		07/06/21	10		11.66
		2021 010-401-207	SCHOOL/CONFERENCE FUEL		07/06/21	10		17.19
		2021 010-401-207	SCHOOL/CONFERENCE HOTEL		07/06/21	10		489.50

								567.71
CARD SERVICE CENTER 1153		2021 010-560-701	AUTO REPAIR/INSPE TAGS		07/06/21	10		74.00
P O BOX 569100		2021 010-560-701	AUTO REPAIR/INSPE TAGS		07/06/21	10		1.85
		2021 010-499-207	SCHOOL/CONFERENCE TRASI CLASS		07/06/21	10		810.00
DALLAS	TX 75356	2021 011-621-704	HEAVY EQUIPMENT TAGS		07/06/21	10		7.50
		2021 011-621-704	HEAVY EQUIPMENT TAGS		07/06/21	10		1.00

								894.35
CARD SERVICE CENTER 1195		2021 010-409-207	SCHOOL/CONFERENCE FEE		07/06/21	10		8.78
PO BOX 569100		2021 010-409-207	SCHOOL/CONFERENCE CLASS		07/06/21	10		325.00

DALLAS	TX 75356							333.78
CARD SERVICE 0347		2021 010-560-901	OPERATING SUPPLIE FORENSIC SUPPLIES		07/06/21	10		79.38
P O BOX 569100		2021 010-560-207	SCHOOL/CONFERENCE MEAL		07/06/21	10		8.87

DALLAS	TX 75356							88.25
CARD SERVICES 1252		2021 010-561-901	SUPPLIES ANT KILLER		07/06/21	10		26.97
P O 569100		2021 010-561-904	GROCERIES GROC		07/06/21	10		125.92
		2021 010-561-207	JAIL SCHOOL MEAL		07/06/21	10		10.65
DALLAS	TX 75356	2021 010-561-903	GAS/OIL FUEL		07/06/21	10		58.00
		2021 010-561-207	JAIL SCHOOL MEAL		07/06/21	10		13.52
		2021 010-561-207	JAIL SCHOOL MEAL		07/06/21	10		22.14
		2021 010-561-903	GAS/OIL FUEL		07/06/21	10		64.55
		2021 010-561-207	JAIL SCHOOL MEAL		07/06/21	10		10.80
		2021 010-561-207	JAIL SCHOOL MEAL		07/06/21	10		18.71
		2021 010-561-904	GROCERIES GROC		07/06/21	10		179.93

								531.19
CARD SERVICES 1278		2021 010-560-803	FURNITURE/EQUIPMEN STALKER 2X DUAL		07/06/21	10		700.00
P O BOX 569100		2021 010-560-803	FURNITURE/EQUIPMEN CHAIRS 2		07/06/21	10		407.98

DALLAS	TX 75356							1,107.98
CD HARTNETT COMPANY		2021 010-561-904	GROCERIES GROC	691842	07/09/21	10		68.36
PO BOX 1989		2021 010-561-904	GROCERIES GROC	0691545	07/09/21	10		593.32
		2021 010-561-904	GROCERIES GROC	691545	07/09/21	10		2,905.94
WEATHERFORD	TX 76086	2021 010-561-901	SUPPLIES GROC	691545	07/09/21	10		23.95

								3,591.57
CHARLIE MARTIN		2021 010-665-206	TRAVEL ALLOWANCE JULY 21'		07/06/21	10		538.54

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VENDOR NAME	ACCOUNT NUMBER	ACCOUNT NAME	ITEM/REASON	INVOICE NUMBER	AP DATE	PD	PO NO	AMOUNT

								538.54
CITY DRUG STORE	2021 010-561-306	MEDICAL EXPENSE	TEST STRIPS	728570	07/06/21	10		58.39
104 EAST BELKNAP	2021 010-561-306	MEDICAL EXPENSE	TEST STRIPS	729041	07/06/21	10		16.20
	2021 010-561-306	MEDICAL EXPENSE	EAR DROPS	729466	07/06/21	10		21.87

JACKSBORO TX 76458								96.46
COKER FUNERAL HOME	2021 010-455-302	AUTOPSIES	DE LA CRUZ FIRST CA		07/06/21	10		974.75
152 STATE HWY 148	2021 010-455-302	AUTOPSIES	CABRERA FIRST CALL		07/06/21	10		1,194.50
	2021 010-400-486	COUNTY ASSISTANCE	CABRERACREATION		07/06/21	10		950.00
JACKSBORO TX 76458	2021 010-455-302	AUTOPSIES	ALLISON FIRST CALL		07/06/21	10		1,039.50
	2021 010-400-486	COUNTY ASSISTANCE	ALLISON CREMATION		07/06/21	10		950.00

								5,108.75
DR. ROBERT COOPER	2021 010-400-486	COUNTY ASSISTANCE	JULY 21'		07/06/21	10		500.00
934 S SAVAGE CREEK LANE								-----
WEATHERFORD TX 76087								500.00
FICA TAXES	2021 010-202-100	SALARIES PAYABLE	FICA TAXES	07122021	07/12/21	10		5,430.82
	2021 010-401-201	SOCIAL SECURITY	FICA TAXES	07122021	07/12/21	10		213.17
	2021 010-403-201	SOCIAL SECURITY	FICA TAXES	07122021	07/12/21	10		268.45
	2021 010-409-201	FICA	FICA TAXES	07122021	07/12/21	10		142.04
	2021 010-410-201	FICA	FICA TAXES	07122021	07/12/21	10		91.91
	2021 010-435-201	SOCIAL SECURITY	FICA TAXES	07122021	07/12/21	10		186.85
	2021 010-455-201	SOCIAL SECURITY	FICA TAXES	07122021	07/12/21	10		272.52
	2021 010-475-201	SOCIAL SECURITY	FICA TAXES	07122021	07/12/21	10		288.70
	2021 010-495-201	SOCIAL SECURITY	FICA TAXES	07122021	07/12/21	10		290.22
	2021 010-497-201	SOCIAL SECURITY	FICA TAXES	07122021	07/12/21	10		108.87
	2021 010-499-201	SOCIAL SECURITY	FICA TAXES	07122021	07/12/21	10		283.24
	2021 010-510-201	SOCIAL SECURITY	FICA TAXES	07122021	07/12/21	10		147.43
	2021 010-551-201	SOCIAL SECURITY	FICA TAXES	07122021	07/12/21	10		111.79
	2021 010-560-201	SOCIAL SECURITY	FICA TAXES	07122021	07/12/21	10		1,918.71
	2021 010-561-201	SOCIAL SECURITY	FICA TAXES	07122021	07/12/21	10		953.28
	2021 010-665-201	SOCIAL SECURITY	FICA TAXES	07122021	07/12/21	10		153.64
	2021 011-202-100	SALARIES PAYABLE	FICA TAXES	07122021	07/12/21	10		329.84
	2021 011-621-201	SOCIAL SECURITY	FICA TAXES	07122021	07/12/21	10		329.84
	2021 012-202-100	SALARIES PAYABLE	FICA TAXES	07122021	07/12/21	10		366.81
	2021 012-622-201	SOCIAL SECURITY	FICA TAXES	07122021	07/12/21	10		366.81
	2021 013-202-100	SALARIES PAYABLE	FICA TAXES	07122021	07/12/21	10		372.65
	2021 013-623-201	SOCIAL SECURITY	FICA TAXES	07122021	07/12/21	10		372.65
	2021 014-202-100	SALARIES PAYABLE	FICA TAXES	07122021	07/12/21	10		289.41
	2021 014-624-201	SOCIAL SECURITY	FICA TAXES	07122021	07/12/21	10		289.41

								13,579.06
FIT TAXES	2021 010-202-100	SALARIES PAYABLE	FIT TAXES	07122021	07/12/21	10		6,290.77
	2021 011-202-100	SALARIES PAYABLE	FIT TAXES	07122021	07/12/21	10		403.50
	2021 012-202-100	SALARIES PAYABLE	FIT TAXES	07122021	07/12/21	10		266.86
	2021 013-202-100	SALARIES PAYABLE	FIT TAXES	07122021	07/12/21	10		435.12
	2021 014-202-100	SALARIES PAYABLE	FIT TAXES	07122021	07/12/21	10		389.01

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VENDOR NAME	ACCOUNT NUMBER	ACCOUNT NAME	ITEM/REASON	INVOICE NUMBER	AP DATE	PD PO NO	AMOUNT

							7,785.26
FLORANCE PAINT BODY SHO	2021 010-560-701	AUTO REPAIR/INSPE	REPAIRS 19	1013	07/06/21	10	1,062.57
PO BOX 412							-----
JACKSBORO TX 76458							1,062.57
FORT BELKNAP ELECTRIC CO	2021 013-623-603	ELECTRICITY	5/20-6/20	0320800100	07/06/21	10	50.34
PO BOX 486							-----
OLNEY TX 76374							50.34
FOUR STARS	2021 010-560-903	GAS/OIL	OIL FILTER 24	20387	07/06/21	10	69.95
PO BOX 210	2021 010-560-902	AUTO PARTS/TIRES	FILTERS	20387	07/06/21	10	32.20
	2021 010-560-701	AUTO REPAIR/INSPE	SERVICE	20387	07/06/21	10	133.55
HENRIETTA TX 76365	2021 010-560-903	GAS/OIL	SERVICE	20409	07/06/21	10	140.50

							376.20
G A L HORTICULTURE SERVI	2021 010-400-705	BUILDING REPAIR	MOW	022172	07/06/21	10	285.00
P O BOX 850	2021 010-400-705	BUILDING REPAIR	MOW	022210	07/09/21	10	220.00

JACKSBORO TX 76458							505.00
GRABLE OIL CO	2021 011-621-903	GAS/OIL	FUEL	206705	07/06/21	10	2,895.00
PO BOX 306	2021 013-623-903	GAS/OIL	FUEL	206534	07/06/21	10	2,099.50
	2021 013-623-903	GAS/OIL	FUEL	207212	07/06/21	10	1,822.50
JACKSBORO TX 76458	2021 010-560-903	GAS/OIL	KEY		07/06/21	10	4,330.67
	2021 010-561-903	GAS/OIL	KEY		07/06/21	10	546.02
	2021 010-551-903	GAS/OIL	KEY		07/06/21	10	282.04
	2021 010-410-903	GAS/OIL	KEY		07/06/21	10	250.40
	2021 012-622-903	GAS/OIL	FUEL	206682	07/09/21	10	1,376.40
	2021 012-622-903	GAS/OIL	FUEL	207305	07/09/21	10	572.70
	2021 012-622-903	GAS/OIL	FUEL	207417	07/09/21	10	1,632.65
	2021 014-624-903	GAS/OIL	FUEL	207338	07/09/21	10	3,984.00
	2021 013-623-903	GAS/OIL	FUEL	207266	07/06/21	10	240.00
	2021 013-623-903	GAS/OIL	FUEL	207418	07/06/21	10	356.07

							20,387.95
HOLT CAT	2021 012-622-902	AUTO PARTS/TIRES	PARTS VALVE G	PIMB0089060	07/06/21	10	712.78
PO BOX 650345							-----
DALLAS TX 75265							712.78
HUDSON IMAGING	2021 010-435-702	SERVICE AGREEMENT	SERVICE	035970	07/06/21	10	27.00
PO DRAWER 2190-76307	2021 010-403-702	SERVICE AGREEMENT	SERVICE	035971	07/06/21	10	11.00
	2021 010-475-702	SERVICE AGREEMENT	SERVICE	035835	07/06/21	10	23.16
WICHITA FALLS TX 76301	2021 010-495-702	SERVICE AGREEMENT	SERVICE	035836	07/06/21	10	9.48
	2021 010-401-702	SERVICE AGREEMENT	SERVICE	035837	07/06/21	10	32.00
	2021 010-665-702	SERVICE AGREEMENT	SERVICE	035838	07/06/21	10	32.00
	2021 010-660-702	SERVICE AGREEMENT	SERVICE	035839	07/06/21	10	36.00
	2021 010-401-702	SERVICE AGREEMENT	SERVICE	035840	07/06/21	10	28.66
	2021 010-455-702	SERVICE AGREEMENT	SERVICE	035841	07/06/21	10	51.96

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	2021 010-560-702	SERVICE AGREEMENT	SERVICE	035843	07/06/21	10		22.93
	2021 010-560-702	SERVICE AGREEMENT	SERVICE	035842	07/06/21	10		28.33

								302.52
J-A-C ELECTRIC CO-OP INC 1784 FM 172	2021 014-624-603	ELECTRICITY	ACCT# 301500-002	05/20-06/07	07/06/21	10		61.65
	2021 010-661-603	ELECTRICITY	ACCT# 301500-005	05/20-06/20	07/06/21	10		80.92

HENRIETTA TX 76365								142.57
JACK CO AUTOMOTIVE SUPPL 514 NORTH MAIN	2021 011-621-902	AUTO PARTS/TIRES	HOSE OIL	002-150772	07/06/21	10		243.91
	2021 012-622-901	OPERATING SUPPLIE	FILTERS BRAKE CLEAN	002-150005	07/06/21	10		82.16
	2021 012-622-902	AUTO PARTS/TIRES	OIL CAP	002-150124	07/06/21	10		11.99
JACKBORO TX 76458	2021 012-622-901	OPERATING SUPPLIE	LEAK STOP	002-150172	07/06/21	10		109.06
	2021 013-623-901	OPERATING SUPPLIE	FUSES	002-150023	07/06/21	10		4.88
	2021 013-623-902	AUTO PARTS/TIRES	GREASE	002-150284	07/06/21	10		81.80
	2021 013-623-901	OPERATING SUPPLIE	CHEMICAL DYN	002-150684	07/06/21	10		19.29
	2021 014-624-901	OPERATING SUPPLIE	ANT RED 50	002-149975	07/06/21	10		42.76
	2021 014-624-901	OPERATING SUPPLIE	VALVE KIT	002-150222	07/06/21	10		26.49

								622.34
JACK CO SO SCHOOL ZONE DARE	2021 010-306-560	SCHOOL ZONE FEE	SCHOOL ZONE FEE	APR'21	07/09/21	10		46.11

								46.11
JDR GARAGE 976 S MAIN ST JACKSBORO TX 76458	2021 011-621-701	AUTO REPAIR/INSPE	BRAKES	3137	07/06/21	10		978.90

								978.90
KEVIN WOLF INSURANCE & R PO BOX 457 JACKSBORO TX 76458	2021 010-561-301	JAIL BOND	NOTARY NEWBY	5267	07/09/21	10		104.06

								104.06
LANGUAGE LINE SERVICES PO BOX 202564 DALLAS TX 75320	2021 010-560-307	MISCELLANEOUS	TRANSLATION	10263772	07/06/21	10		16.82

								16.82
LEXIS-NEXIS PO BOX 733106 DALLAS TX 75373	2021 035-650-907	LAW BOOKS	6/1-6/30	3093320828	07/06/21	10		297.00

								297.00
LYNN CASTEEL	2021 010-410-207	SCHOOL/CONFERENCE	MEALS/MILEAGE		07/06/21	10		373.12

								373.12
MARTIN MARIETTA MATERIAL P O BOX 677061	2021 011-621-503	SAND/GRAVEL	GRAVEL	32390647	07/06/21	10		474.60
	2021 011-621-503	SAND/GRAVEL	GRAVEL	32373847	07/06/21	10		636.65
	2021 011-621-503	SAND/GRAVEL	GRAVEL	32342727	07/06/21	10		620.27
DALLAS TX 75267	2021 011-621-503	SAND/GRAVEL	GRAVEL	32428893	07/06/21	10		614.81
	2021 011-621-503	SAND/GRAVEL	GRAVEL	32446865	07/09/21	10		463.05

								2,809.38
MEDICARE TAXES	2021 010-202-100	SALARIES PAYABLE	MEDICARE TAXES	07122021	07/12/21	10		1,270.12

ALL RECORDS FROM 07/12/2021 TO 07/12/2021 DATE-TO-BE-PAID

VENDOR NAME	ACCOUNT NUMBER	ACCOUNT NAME	ITEM/REASON	INVOICE NUMBER	AP DATE	PD PO NO	AMOUNT
	2021 010-401-201	SOCIAL SECURITY	MEDICARE TAXES	07122021	07/12/21	10	49.86
	2021 010-403-201	SOCIAL SECURITY	MEDICARE TAXES	07122021	07/12/21	10	62.78
	2021 010-409-201	FICA	MEDICARE TAXES	07122021	07/12/21	10	33.21
	2021 010-410-201	FICA	MEDICARE TAXES	07122021	07/12/21	10	21.50
	2021 010-435-201	SOCIAL SECURITY	MEDICARE TAXES	07122021	07/12/21	10	43.70
	2021 010-455-201	SOCIAL SECURITY	MEDICARE TAXES	07122021	07/12/21	10	63.73
	2021 010-475-201	SOCIAL SECURITY	MEDICARE TAXES	07122021	07/12/21	10	67.52
	2021 010-495-201	SOCIAL SECURITY	MEDICARE TAXES	07122021	07/12/21	10	67.87
	2021 010-497-201	SOCIAL SECURITY	MEDICARE TAXES	07122021	07/12/21	10	25.46
	2021 010-499-201	SOCIAL SECURITY	MEDICARE TAXES	07122021	07/12/21	10	66.23
	2021 010-510-201	SOCIAL SECURITY	MEDICARE TAXES	07122021	07/12/21	10	34.48
	2021 010-551-201	SOCIAL SECURITY	MEDICARE TAXES	07122021	07/12/21	10	26.15
	2021 010-560-201	SOCIAL SECURITY	MEDICARE TAXES	07122021	07/12/21	10	448.74
	2021 010-561-201	SOCIAL SECURITY	MEDICARE TAXES	07122021	07/12/21	10	222.95
	2021 010-665-201	SOCIAL SECURITY	MEDICARE TAXES	07122021	07/12/21	10	35.94
	2021 011-202-100	SALARIES PAYABLE	MEDICARE TAXES	07122021	07/12/21	10	77.14
	2021 011-621-201	SOCIAL SECURITY	MEDICARE TAXES	07122021	07/12/21	10	77.14
	2021 012-202-100	SALARIES PAYABLE	MEDICARE TAXES	07122021	07/12/21	10	85.80
	2021 012-622-201	SOCIAL SECURITY	MEDICARE TAXES	07122021	07/12/21	10	85.80
	2021 013-202-100	SALARIES PAYABLE	MEDICARE TAXES	07122021	07/12/21	10	87.16
	2021 013-623-201	SOCIAL SECURITY	MEDICARE TAXES	07122021	07/12/21	10	87.16
	2021 014-202-100	SALARIES PAYABLE	MEDICARE TAXES	07122021	07/12/21	10	67.69
	2021 014-624-201	SOCIAL SECURITY	MEDICARE TAXES	07122021	07/12/21	10	67.69

							3,175.82
MOBILE PHONE OF TEXAS IN PO BOX 2247 WICHITA FALLS TX 76307	2021 010-560-702	SERVICE AGREEMENT	TOWER RENT - JUL'21	253-46995	07/06/21	10	410.88

							410.88
NAPA 409 E 2ND ST ODESSA TX 79761	2021 010-561-902	AUTO PARTS/TIRES	UNIT 1 RADIATOR REP	3979-338534	07/06/21	10	220.99

							220.99
NASH HARDWARE 128 N CHURCH ST JACKSBORO TX 76458	2021 011-621-901	OPERATING SUPPLIE	RAIN GAGE	152476	07/06/21	10	14.99
	2021 011-621-901	OPERATING SUPPLIE	SACKRETE	152598	07/06/21	10	35.43
	2021 010-410-901	OPERATING SUPPLIES	IT DEPT	152534	07/06/21	10	35.36
	2021 010-410-901	OPERATING SUPPLIES	BOLTS	152537	07/06/21	10	3.00
	2021 010-561-901	SUPPLIES	8 PK D BATT	152574	07/06/21	10	16.99
	2021 010-510-705	BUILDING REPAIR	4TH FLOOR PAINT	152603	07/06/21	10	52.27
	2021 010-510-705	BUILDING REPAIR	4TH FLOOR PAINT	152616	07/06/21	10	42.99
	2021 010-410-901	OPERATING SUPPLIES	EMT	152656	07/06/21	10	20.99
	2021 010-510-901	OPERATING SUPPLIE	9V BATT RAKE HOE	152711	07/06/21	10	42.77
	2021 010-510-705	BUILDING REPAIR	BRUSHES	152744	07/06/21	10	13.97
	2021 010-510-901	OPERATING SUPPLIE	TAX OFFICE BULBS	152805	07/06/21	10	6.98
	2021 010-410-901	OPERATING SUPPLIES	IT FISH TAIL	152834	07/06/21	10	22.99

							308.73
NTJPCA PO BOX 1135	2021 010-455-207	SCHOOL/CONFERENCE	MAHLER		07/06/21	10	100.00
	2021 010-455-207	SCHOOL/CONFERENCE	MCLEMORE		07/06/21	10	100.00
	2021 010-455-207	SCHOOL/CONFERENCE	SPURLOCK		07/06/21	10	100.00

GRANBURY TX 76048							300.00
O'REILLY AUTOMOTIVE INC	2021 010-560-901	OPERATING SUPPLIE	HOSE	0791181831	07/09/21	10	41.97

ALL RECORDS FROM 07/12/2021 TO 07/12/2021 DATE-TO-BE-PAID

VENDOR NAME	ACCOUNT NUMBER	ACCOUNT NAME	ITEM/REASON	INVOICE NUMBER	AP DATE	PD	PO NO	AMOUNT
PO BOX 9464	2021 010-560-902	AUTO PARTS/TIRES	HOSE	0791181831	07/09/21	10		114.96
	2021 010-560-701	AUTO REPAIR/INSPE	MOLDING	5783-189358	07/09/21	10		3.99
SPRINGFIELD MO 65801	2021 010-560-901	OPERATING SUPPLIE	WIPER FLUID	5783-189358	07/09/21	10		10.47
	2021 010-560-901	OPERATING SUPPLIE	FREEON ANTI FREEZE	5783-189825	07/09/21	10		33.96
	2021 014-624-903	GAS/OIL	BLUE DEF	5783-190255	07/09/21	10		51.96

								257.31
OMNIBASE SERVICES OF TEX PO BOX 421449 HOUSTON TX 77242	2021 099-400-457	OMNI BASE SERVIC	2ND QUARTER 2021		07/09/21	10		244.62

								244.62
PATTERSON WATER-PERRIN P O BOX 910 COLLINSVILLE TX 76233	2021 012-622-602	WATER	79 5/27-6/28		07/06/21	10		52.85

								52.85
POWERPLAN OIB 21310 NETWORK PLACE CHICAGO IL 60673	2021 013-623-902	AUTO PARTS/TIRES	PARTS FILTERS	P6601519	07/06/21	10		621.08

								621.08
PRITCHARD & ABBOTT INC 4900 OVERTON COMMONS COU FORT WORTH TX 76132	2021 010-499-304	TAX COMPUTER	JULY'21 INSTALLMENT	2276	07/06/21	10		10,487.50

								10,487.50
PRO TECH AUTO DIESEL LLC 2105 N MAIN JACKSBORO TX 76458	2021 010-560-903	GAS/OIL	OIL CHG K-9	210629002	07/06/21	10		82.96

								82.96
PURSLEY TRUCKING INC 710 SYNTERRA ESTATE LOOP JACKSBORO TX 76458	2021 022-627-502	EQUIPMENT HIRE	HAULING CTIF 22 PCT	4541	07/06/21	10		1,440.00

								1,440.00
QUILL CORPORATION PO BOX 37600	2021 010-400-901	SUPPLIES	FORKS	17666262	07/06/21	10		20.69
	2021 010-455-901	OPERATING SUPPLIE	PEN REFILLS	17666262	07/06/21	10		6.44
	2021 010-510-901	OPERATING SUPPLIE	FILE POCKETS	17666262	07/06/21	10		23.94
PHILADELPHIA PA 19101	2021 010-560-901	OPERATING SUPPLIE	FILE POCKETS	17666262	07/06/21	10		7.98
	2021 010-455-901	OPERATING SUPPLIE	ADDRESS LABELS	17666262	07/06/21	10		12.79
	2021 010-499-901	OPERATING SUPPLIE	ADDRESS LABELS	17666262	07/06/21	10		33.99
	2021 010-475-901	OPERATING SUPPLIE	TAPE	17666262	07/06/21	10		30.22
	2021 010-475-901	OPERATING SUPPLIE	DVDR	17666262	07/06/21	10		27.54
	2021 010-475-901	OPERATING SUPPLIE	64 GB THUMB	17669441	07/06/21	10		62.69
	2021 010-510-901	OPERATING SUPPLIE	DUSTER	17811766	07/06/21	10		19.78
	2021 010-400-901	SUPPLIES	TP	17811766	07/06/21	10		62.09
	2021 010-495-901	OPERATING SUPPLIE	RULED NOTE PADS	17811766	07/06/21	10		22.08
	2021 010-400-901	SUPPLIES	SPOONS	17811766	07/06/21	10		20.51
	2021 010-495-901	OPERATING SUPPLIE	D BATTERYS	17811766	07/06/21	10		20.69
	2021 010-560-901	OPERATING SUPPLIE	TONER	17604594	07/06/21	10		102.94
	2021 010-400-901	SUPPLIES	CUPS	17815689	07/09/21	10		49.49
	2021 010-455-901	OPERATING SUPPLIE	TABLE CLOTH	17874626	07/09/21	10		12.23
	2021 010-495-901	OPERATING SUPPLIE	COPY PAPER	17683219	07/06/21	10		1,552.44

								2,088.53
REGINALD R WILSON	2021 010-401-302	ATTORNEY FEES	13870-71 TUCKER MIS		07/06/21	10		400.00

ALL RECORDS FROM 07/12/2021 TO 07/12/2021 DATE-TO-BE-PAID

VENDOR NAME	ACCOUNT NUMBER	ACCOUNT NAME	ITEM/REASON	INVOICE NUMBER	AP DATE	PD PO NO	AMOUNT
ATTY AT LAW 813 8TH ST SUITE 920 WICHITA FALLS TX 76301							----- 400.00
SECURITY BENEFIT GROUP PO BOX 219141 KANSAS CITY MO 64121	2021 010-202-100	SALARIES PAYABLE	SFR 457	07122021	07/12/21	10	----- 660.00 ----- 660.00
SKYLINK 1008 W THOMPSON JACKSBORO TX 76458	2021 095-400-307	MISC CH SECURITY E CABLE SECURITY CAME		014	07/06/21	10	----- 1,200.00 ----- 1,200.00
STERICYCLE INC PO BOX 6575 CAROL STREAM IL 60197	2021 010-561-702	SERVICE AGREEMENT SERVICE		4010223318	07/06/21	10	----- 88.56 ----- 88.56
T&S AUTO SERVICE 627 N MAIN JACKSBORO TX 76458	2021 010-560-902 2021 010-560-701 2021 010-560-901	AUTO PARTS/TIRES THERMO AUTO REPAIR/INSPE 2 HR LABOR OPERATING SUPPLIE ANTIFREEZE 7		685374 685374 685374	07/09/21 07/09/21 07/09/21	10 10 10	----- 30.21 140.00 54.00 ----- 224.21
TDCJ CASHIER PO BOX 4015 HUNTSVILLE TX 77342	2021 010-455-901	OPERATING SUPPLIE PRINTING		UI483132	07/06/21	10	----- 90.00 ----- 90.00
TERMINIX PO BOX 802155 CHICAGO IL 60680	2021 010-560-702 2021 010-561-702	SERVICE AGREEMENT SERVICE SERVICE AGREEMENT SERVICE		409492883 409492883	07/06/21 07/06/21	10 10	----- 48.20 192.80 ----- 241.00
TEXAS ASSOCIATION OF COU UNEMPLOYMENT FUND PO BOX 487 SAN ANTONIO TX 78292	2021 010-400-204	UNEMPLOYMENT INSUR 2ND QUARTER 2021		D-2021-3-1190	07/06/21	10	----- 701.85 ----- 701.85
TEXHOMA BAIL BONDS P O BOX 428 VERNON TX 76385	2021 010-302-100	SHERIFF FEES REFUND BOND			07/06/21	10	----- 15.00 ----- 15.00
THE GALLERY #574 114 EAST BELKNAP JACKSBORO TX 76458	2021 010-400-486	COUNTY ASSISTANCE HEFNER		009224	07/06/21	10	----- 49.00 ----- 49.00
THOMSON REUTERS - WEST PO BOX 6292 CAROL STREAM IL 60197	2021 010-475-907	LAW BOOKS JULY 21'		844698933	07/06/21	10	----- 173.00 ----- 173.00
TX CHILD SUPPORT SDU PO BOX 659791 SAN ANTONIO TX 78265	2021 010-202-100	SALARIES PAYABLE CHILD SUPPORT		07122021	07/12/21	10	----- 593.19 ----- 593.19
VERIZON WIRELESS PO BOX 660108	2021 010-401-605 2021 010-409-604	MOBILE PHONE TELEPHONE	ACCT# 342051871-000 ACCT# 342051871-000	06/24-07/23 06/24-07/23	07/06/21 07/06/21	10 10	----- 82.05 189.95

ALL RECORDS FROM 07/12/2021 TO 07/12/2021 DATE-TO-BE-PAID

APPROVAL PAGE

THE PRECEDING LIST OF BILLS PAYABLE WAS REVIEWED
AND APPROVED FOR PAYMENT BY COMMISSIONER'S COURT

DATE:

7/12/2021

CO JUDGE UMPHRESS

COMM #1 OLIVER

COMM #2 BROCK

COMM #3 BIRDWELL

COMM #4 WARD

CO TREAS CAMPSEY

Left the Meeting,
Absent.
Jerry Birdwell
Barry Campsey

FILED FOR RECORD

_____ O'CLOCK _____ M

JUL 12 2021

VANESSA JAMES, County Clerk
JACK COUNTY, TEXAS

BY _____ DEPUTY

23 speaking
50 non

SIGN-IN SHEET FOR PUBLIC COMMENT TO THE COMMISSIONERS COURT OF JACK COUNTY

In order to provide for orderly access to the Commissioners Court, you are asked to complete the information below prior to the convening of the Court. You will be called on by issue and position. Each speaker will be allowed 5 minutes and the Court reserves the right to limit the number of speakers on an issue and limit further the length of time to each speaker.

Date: July 12, 2021 -

	Name	Address	Phone #	Issue	For	Against
20	CHUCK YORK	1252 8 OAK RD Bowie TX 76230		Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
21	Scott Cleland	632 Raymond Edwards Henrietta TX	940 235 2365	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
22	Rynka Kennedy	505 Emma Ln Henrietta, TX	941 782-3111	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
23	Willie Bran	320 W Bellnap Jacksboro	940-229-9730	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
24	Tom Srafiag	363 Vickers Ln Bellevue Tx 76228	(214) 403-8003	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
25	DAVID BOWEN	2022 OLD VASHTI RD. Bowie, TX. 76230	940-393 0467	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
26	Charles Marley	732 Villaview Ln Coppell TX 75019	469-939 1131	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
27	Hansa Kunkelal	236 N. 12th Jacksboro TX 76458	817-988 8996	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind	✓	
28	MIKE WIND	4950 FM 2190 JACKSBORO TX 76458	940-567- 1007	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		
29	Jeff Lewis	PO Box 65 Jacksboro, TX 76458	903 918-6988	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓

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TO THE
COMMISSIONERS COURT OF JACK COUNTY

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Date: July 12, 2021 -

	Name	Address	Phone #	Issue	For	Against
11	W. C. Gilbert	Bowie TX 76230 21185 State Hwy 59	940 928-2498	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
12	C. C. Hulbert	4038 Hantlee Field Rd Denton, TX 76208	940 453-7632	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
13	Robert & Rebecca Siler	BOWIE		Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		
14	Susan Abshire	301 ELVIS RD BOWIE TX 76234	432 352 4328	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
15	Mike Moore	301 ELVIS RD BOWIE	409- 163-0002	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
16	Dana Lovejoy-Leider	1600 Henderson Ranch Rd Bridgeport, TX 76426	214-317- 9882	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
17	James DeFoot	9280 Post Oak Rd	469 644 165	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
18	Blake Enlow	404 E. Williams St Bowie TX	940 872-1151	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		
19	Doug Angelo	665 S. Main JACKSON		Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		
20	R. J. Allen	Bellville 1414 Ed Williams Ty	254 339 7415	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		

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Date: July 12, 2021 -

	Name	Address	Phone #	Issue	For	Against
1	Kim Adamink	842 W Jane Rd	940 567 2396	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		X
2	Yvette Schindler	1410 Frog Nollar	817-946-7810	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		X
3	Kent Hofmeister	61 Downs Lake Cir, Dis	214-747-6115	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		
4	Clint Craft	810 Craft Ln 76458	940 567 2817	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind	X	
5	Sam Astorhan	6605 S Peer Orchard	(609) 750-2721	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind	✓	
6	Teri Gitchell	11476 FM 2127	817-688-6681	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
7	Tommy Gitchell	11	817-999-1814	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
8	Nancy Blackmon	Box 72 Bowie, TX	940-872-4874	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
9	Joan Cantwell	3084 FM 174 - Bowie	940-841-1625	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
10	James Cantwell	3084 FM 174 - Bowie	940-841-4615	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓

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Date: July 12, 2021 -

	Name	Address	Phone #	Issue	For	Against
1	Brandon Burton	2244 Buysworth Rd. Bowie TX	512-514-3318	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
2	Denise Mangum	700 Log House Rd Bowie, TX 76230	281-541-1620	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind	✓	
3	Elsie Williamson	P.O. Box 274 Arlington TX 76008	817-444-4032	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind	✓	
4	TOMMIE DANIELS	714 S. Ave. F. OLNEY TX	817-682-2218	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind	✓	
5	Kynton Koch	2481 Prospect Rd Bowie TX	409-757-2578	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind	✓	
6	Stephen Burgett	4651 Pecan Place Dr McKinney TX 75071	972-741-4836	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
7	Jim Silvers	3400 BARNUM JACKSON		Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
8	ALAN ADAMCK	862 W TRICE AVE BOWIE TX 76230	817-532-3271	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
9	Cory Blunt	5174 N University Dr Pflugerville TX	801-918-9345	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind	✓	
10	EMILIANO PELEGRI	601 TRAVIS ST #1700, HOUSTON	281-920-9777	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind	✓	

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Date: July 12, 2021 -

	Name	Address	Phone #	Issue	For	Against
1	Martha Jensen	P.O. Box 897	940-507-1157	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
2	RW Mark	PO 452	507-0590	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
3	Zonda Moore	1590 W TRUCE	567-2559	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
4	Joe Reddy	206 S. 7TH	567-5625	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
5	Brian Smith	1684 Lapland Rd Meadowland, 76086	214-866-7110	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		
6	Larry Muecke	18656 East Oak Rd Bowie	476-2532	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
7	Betsy Sparkman	146 Lapland Rd. Bowie	940-476-2470	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
8	John Ramsey	15697 BM 2127	940-692-6697	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓
9	Dickson Hutton	23822 FM 2127 Bowie TX	940-206-6648	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind	✓	
10	David Laram	23035 HWY 148 BOWIE TX	817-223-4009	Public Hearing-Jack County Reinvestment Zone No. 8 - Lasso Wind		✓

COMMISSIONERS' COURT OF JACK COUNTY, TEXAS
PUBLIC PARTICIPATION/WITNESS FORM



INSTRUCTIONS: TO ADDRESS THE COURT ON AN ISSUE, PLEASE FILL OUT THIS FORM COMPLETELY AND GIVE IT TO THE COUNTY CLERK PRIOR TO THE PUBLIC COMMENT PERIOD. PLEASE PRINT LEGIBLY AND IF YOU ARE HANDING OUT ANY MATERIAL OR DOCUMENTS TO THE COURT, PLEASE MAKE SURE YOU GIVE THE SAME TO THE CLERK TO PLACE INTO THE RECORD.

PUBLIC COMMENTS ARE LIMITED TO THREE (3) MINUTES

I AM APPEARING BEFORE THIS COURT TO SPEAK

☐

FOR

☒

AGAINST

☐

NEUTRALLY

REGARDING THE FOLLOWING SUBJECT MATTER:

☐

AGENDA ITEM #

Windmill

☒

PUBLIC COMMENT Regarding:

Windmill

(subject matter)

NAME (Please Print Legibly):

Maurine Dickey

ADDRESS:

7032 Prideaux Rd

PHONE: (214)

415-7946

In appearing before this court, I represent (check both if applicable):

☒

I am a Jack County Property Owner

AND/OR

☒

I am a Jack County Registered Voter

I hereby swear that the above information and statements are true and correct. I further swear or affirm that the testimony I give before this court will be true and accurate.

Date

July 12

Signature of Participant / Witness

M Dickey

COMMISSIONERS' COURT OF JACK COUNTY, TEXAS
PUBLIC PARTICIPATION/WITNESS FORM



INSTRUCTIONS: TO ADDRESS THE COURT ON AN ISSUE, PLEASE FILL OUT THIS FORM COMPLETELY AND GIVE IT TO THE COUNTY CLERK **PRIOR** TO THE PUBLIC COMMENT PERIOD. PLEASE PRINT LEGIBLY AND IF YOU ARE HANDING OUT ANY MATERIAL OR DOCUMENTS TO THE COURT, PLEASE MAKE SURE YOU GIVE THE SAME TO THE CLERK TO PLACE INTO THE RECORD.

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I AM APPEARING BEFORE THIS COURT TO SPEAK



FOR



AGAINST



NEUTRALLY

REGARDING THE FOLLOWING SUBJECT MATTER:



AGENDA ITEM # _____



PUBLIC COMMENT Regarding:

(subject matter)

NAME (Please Print Legibly): Victoria Starr Roland
ADDRESS: 2481 Prospect Rd Bowie Tx 76230
PHONE: (940) 282-8828

In appearing before this court, I represent (check both if applicable) :



I am a Jack County Property Owner AND/OR



I am a Jack County Registered Voter

I hereby swear that the above information and statements are true and correct. I further swear or affirm that the testimony I give before this court will be true and accurate.

07/12/2021

Date

Victoria Starr Roland
Signature of Participant / Witness

COMMISSIONERS' COURT OF JACK COUNTY, TEXAS
PUBLIC PARTICIPATION/WITNESS FORM



INSTRUCTIONS: TO ADDRESS THE COURT ON AN ISSUE, PLEASE FILL OUT THIS FORM COMPLETELY AND GIVE IT TO THE COUNTY CLERK **PRIOR** TO THE PUBLIC COMMENT PERIOD. PLEASE PRINT LEGIBLY AND IF YOU ARE HANDING OUT ANY MATERIAL OR DOCUMENTS TO THE COURT, PLEASE MAKE SURE YOU GIVE THE SAME TO THE CLERK TO PLACE INTO THE RECORD.

PUBLIC COMMENTS ARE LIMITED TO THREE (3) MINUTES

I AM APPEARING BEFORE THIS COURT TO SPEAK

☐

FOR

☒

AGAINST

☐

NEUTRALLY

REGARDING THE FOLLOWING SUBJECT MATTER:

☒

AGENDA ITEM #

3

☐

PUBLIC COMMENT Regarding:

(subject matter)

NAME (Please Print Legibly) :

Ronnie Catagay

ADDRESS:

2959 Puddin Valley Rd. Bowie TX

PHONE:

940 476 2211

In appearing before this court, I represent (check both if applicable) :

☒

I am a Jack County Property Owner

AND/OR

☐

I am a Jack County Registered Voter

I hereby swear that the above information and statements are true and correct. I further swear or affirm that the testimony I give before this court will be true and accurate.

7-12-21

Date

[Signature]
Signature of Participant / Witness

COMMISSIONERS' COURT OF JACK COUNTY, TEXAS
PUBLIC PARTICIPATION/WITNESS FORM



INSTRUCTIONS: TO ADDRESS THE COURT ON AN ISSUE, PLEASE FILL OUT THIS FORM COMPLETELY AND GIVE IT TO THE COUNTY CLERK PRIOR TO THE PUBLIC COMMENT PERIOD. PLEASE PRINT LEGIBLY AND IF YOU ARE HANDING OUT ANY MATERIAL OR DOCUMENTS TO THE COURT, PLEASE MAKE SURE YOU GIVE THE SAME TO THE CLERK TO PLACE INTO THE RECORD.

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I AM APPEARING BEFORE THIS COURT TO SPEAK

☐

FOR

☐

AGAINST

☒

NEUTRALLY

REGARDING THE FOLLOWING SUBJECT MATTER:

☒

AGENDA ITEM #

3

☐

PUBLIC COMMENT Regarding:

(subject matter)

NAME (Please Print Legibly):

JASON JOHNSON

ADDRESS:

918 W College JACKSBORO

PHONE: ()

940 452 2640

In appearing before this court, I represent (check both if applicable) :

☒

I am a Jack County Property Owner

AND/OR

☒

I am a Jack County Registered Voter

I hereby swear that the above information and statements are true and correct. I further swear or affirm that the testimony I give before this court will be true and accurate.

7/12/2021

Date

Jason Johnson
Signature of Participant/Witness

COMMISSIONERS' COURT OF JACK COUNTY, TEXAS
PUBLIC PARTICIPATION/WITNESS FORM



INSTRUCTIONS: TO ADDRESS THE COURT ON AN ISSUE, PLEASE FILL OUT THIS FORM COMPLETELY AND GIVE IT TO THE COUNTY CLERK **PRIOR** TO THE PUBLIC COMMENT PERIOD. PLEASE PRINT LEGIBLY AND IF YOU ARE HANDING OUT ANY MATERIAL OR DOCUMENTS TO THE COURT, PLEASE MAKE SURE YOU GIVE THE SAME TO THE CLERK TO PLACE INTO THE RECORD.

PUBLIC COMMENTS ARE LIMITED TO THREE (3) MINUTES

I AM APPEARING BEFORE THIS COURT TO SPEAK

☒ FOR

☐ AGAINST

☐ NEUTRALLY

REGARDING THE FOLLOWING SUBJECT MATTER:

☒ AGENDA ITEM # 3

☐ PUBLIC COMMENT Regarding:

SUPPORT THE PROJECT
(subject matter)

NAME (Please Print Legibly): WARREN E. PETTIT

ADDRESS: 3440 FLORENCE RD. PONDER, TX 76259

PHONE: (817) 994-7256

In appearing before this court, I represent (check both if applicable) :

☐

I am a Jack County Property Owner

AND/OR

☐

I am a Jack County Registered Voter

I hereby swear that the above information and statements are true and correct. I further swear or affirm that the testimony I give before this court will be true and accurate.

7-12-2021

Date

Warren E. Pettit

Signature of Participant / Witness

COMMISSIONERS' COURT OF JACK COUNTY, TEXAS
PUBLIC PARTICIPATION/WITNESS FORM



INSTRUCTIONS: TO ADDRESS THE COURT ON AN ISSUE, PLEASE FILL OUT THIS FORM COMPLETELY AND GIVE IT TO THE COUNTY CLERK **PRIOR** TO THE PUBLIC COMMENT PERIOD. PLEASE PRINT LEGIBLY AND IF YOU ARE HANDING OUT ANY MATERIAL OR DOCUMENTS TO THE COURT, PLEASE MAKE SURE YOU GIVE THE SAME TO THE CLERK TO PLACE INTO THE RECORD.

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I AM APPEARING BEFORE THIS COURT TO SPEAK

☒ FOR

☐ AGAINST

☐ NEUTRALLY

REGARDING THE FOLLOWING SUBJECT MATTER:

☒ AGENDA ITEM # 3

☐ PUBLIC COMMENT Regarding:

(subject matter)

NAME (Please Print Legibly):

Jeff Jackson

ADDRESS:

2260 FM 4 Jackson TX 76458

PHONE:

940 507-0089

In appearing before this court, I represent (check both if applicable) :



I am a Jack County Property Owner

AND/OR



I am a Jack County Registered Voter

I hereby swear that the above information and statements are true and correct. I further swear or affirm that the testimony I give before this court will be true and accurate.

Date

7/12/21

Signature of Participant / Witness

[Signature]

COMMISSIONERS' COURT OF JACK COUNTY, TEXAS
PUBLIC PARTICIPATION/WITNESS FORM



INSTRUCTIONS: TO ADDRESS THE COURT ON AN ISSUE, PLEASE FILL OUT THIS FORM COMPLETELY AND GIVE IT TO THE COUNTY CLERK **PRIOR** TO THE PUBLIC COMMENT PERIOD. PLEASE PRINT LEGIBLY AND IF YOU ARE HANDING OUT ANY MATERIAL OR DOCUMENTS TO THE COURT, PLEASE MAKE SURE YOU GIVE THE SAME TO THE CLERK TO PLACE INTO THE RECORD.

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I AM APPEARING BEFORE THIS COURT TO SPEAK

☐

FOR

☒

AGAINST

☐

NEUTRALLY

REGARDING THE FOLLOWING SUBJECT MATTER:

☒

AGENDA ITEM #

3

☐

PUBLIC COMMENT Regarding:

Wind Farms

(subject matter)

NAME (Please Print Legibly) :

George Coyle

ADDRESS:

20311 State Hwy 59 Bowie TX

PHONE:

(409) 782 0706

In appearing before this court, I represent (check both if applicable) :

☒

I am a Jack County Property Owner

AND/OR

☒

I am a Jack County Registered Voter

I hereby swear that the above information and statements are true and correct. I further swear or affirm that the testimony I give before this court will be true and accurate.

07-12-2021

Date

A handwritten signature in black ink, appearing to be "D. Coyle", written over a horizontal line.

Signature of Participant / Witness

COMMISSIONERS' COURT OF JACK COUNTY, TEXAS
PUBLIC PARTICIPATION/WITNESS FORM



INSTRUCTIONS: TO ADDRESS THE COURT ON AN ISSUE, PLEASE FILL OUT THIS FORM COMPLETELY AND GIVE IT TO THE COUNTY CLERK **PRIOR** TO THE PUBLIC COMMENT PERIOD. PLEASE PRINT LEGIBLY AND IF YOU ARE HANDING OUT ANY MATERIAL OR DOCUMENTS TO THE COURT, PLEASE MAKE SURE YOU GIVE THE SAME TO THE CLERK TO PLACE INTO THE RECORD.

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I AM APPEARING BEFORE THIS COURT TO SPEAK

☐

FOR

☒

AGAINST

☐

NEUTRALLY

REGARDING THE FOLLOWING SUBJECT MATTER:

☒

AGENDA ITEM #

3

☐

PUBLIC COMMENT Regarding:

TAX ABATEMENT

(subject matter)

NAME (Please Print Legibly):

Roby Christie

ADDRESS:

6633 Prideaux 76458

PHONE:

940 781-8547

In appearing before this court, I represent (check both if applicable) :

☒

I am a Jack County Property Owner

AND/OR

☒

I am a Jack County Registered Voter

I hereby swear that the above information and statements are true and correct. I further swear or affirm that the testimony I give before this court will be true and accurate.

7-12-2021

Date

Roby Christie

Signature of Participant / Witness

COMMISSIONERS' COURT OF JACK COUNTY, TEXAS
PUBLIC PARTICIPATION/WITNESS FORM



INSTRUCTIONS: TO ADDRESS THE COURT ON AN ISSUE, PLEASE FILL OUT THIS FORM COMPLETELY AND GIVE IT TO THE COUNTY CLERK **PRIOR** TO THE PUBLIC COMMENT PERIOD. PLEASE PRINT LEGIBLY AND IF YOU ARE HANDING OUT ANY MATERIAL OR DOCUMENTS TO THE COURT, PLEASE MAKE SURE YOU GIVE THE SAME TO THE CLERK TO PLACE INTO THE RECORD.

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I AM APPEARING BEFORE THIS COURT TO SPEAK

☒ FOR

☐ AGAINST

☐ NEUTRALLY

REGARDING THE FOLLOWING SUBJECT MATTER:

☒ AGENDA ITEM # 3

☐ PUBLIC COMMENT Regarding:

(subject matter)

NAME (Please Print Legibly):

Dan Combe

ADDRESS:

12822 Hwy 148,

PO Box 92794

PHONE:

(817) 800-0007

52 TX 76092

In appearing before this court, I represent (check both if applicable) :



I am a Jack County Property Owner

AND/OR



I am a Jack County Registered Voter

I hereby swear that the above information and statements are true and correct. I further swear or affirm that the testimony I give before this court will be true and accurate.

Date

7-12-2021

Signature of Participant / Witness

[Signature]

COMMISSIONERS' COURT OF JACK COUNTY, TEXAS
PUBLIC PARTICIPATION/WITNESS FORM



INSTRUCTIONS: TO ADDRESS THE COURT ON AN ISSUE, PLEASE FILL OUT THIS FORM COMPLETELY AND GIVE IT TO THE COUNTY CLERK **PRIOR** TO THE PUBLIC COMMENT PERIOD. PLEASE PRINT LEGIBLY AND IF YOU ARE HANDING OUT ANY MATERIAL OR DOCUMENTS TO THE COURT, PLEASE MAKE SURE YOU GIVE THE SAME TO THE CLERK TO PLACE INTO THE RECORD.

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I AM APPEARING BEFORE THIS COURT TO SPEAK

☐

FOR

☒

AGAINST

☐

NEUTRALLY

REGARDING THE FOLLOWING SUBJECT MATTER:

☐

AGENDA ITEM #

3

☐

PUBLIC COMMENT Regarding:

(subject matter)

NAME (Please Print Legibly) :

DANNY R. MOSS

ADDRESS:

1525 WEST TRUCK RD

PHONE:

(817) 614-4322

In appearing before this court, I represent (check both if applicable) :

☐

I am a Jack County Property Owner

AND/OR

☐

I am a Jack County Registered Voter

I hereby swear that the above information and statements are true and correct. I further swear or affirm that the testimony I give before this court will be true and accurate.

Date

7-12-21

Signature of Participant / Witness

[Signature]

COMMISSIONERS' COURT OF JACK COUNTY, TEXAS
PUBLIC PARTICIPATION/WITNESS FORM



INSTRUCTIONS: TO ADDRESS THE COURT ON AN ISSUE, PLEASE FILL OUT THIS FORM COMPLETELY AND GIVE IT TO THE COUNTY CLERK **PRIOR** TO THE PUBLIC COMMENT PERIOD. PLEASE PRINT LEGIBLY AND IF YOU ARE HANDING OUT ANY MATERIAL OR DOCUMENTS TO THE COURT, PLEASE MAKE SURE YOU GIVE THE SAME TO THE CLERK TO PLACE INTO THE RECORD.

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I AM APPEARING BEFORE THIS COURT TO SPEAK

☒ FOR

☐ AGAINST

☐ NEUTRALLY

REGARDING THE FOLLOWING SUBJECT MATTER:

☒ AGENDA ITEM # 3

☐ PUBLIC COMMENT Regarding:

(subject matter)

NAME (Please Print Legibly) :

Richard D Williamson

ADDRESS:

P.O. Box 224

PHONE:

(817) 522 9046

In appearing before this court, I represent (check both if applicable) :



I am a Jack County Property Owner

AND/OR



I am a Jack County Registered Voter

I hereby swear that the above information and statements are true and correct. I further swear or affirm that the testimony I give before this court will be true and accurate.

Date

7/12/2021

Signature of Participant / Witness

[Signature]

COMMISSIONERS' COURT OF JACK COUNTY, TEXAS
PUBLIC PARTICIPATION/WITNESS FORM



INSTRUCTIONS: TO ADDRESS THE COURT ON AN ISSUE, PLEASE FILL OUT THIS FORM COMPLETELY AND GIVE IT TO THE COUNTY CLERK **PRIOR** TO THE PUBLIC COMMENT PERIOD. PLEASE PRINT LEGIBLY AND IF YOU ARE HANDING OUT ANY MATERIAL OR DOCUMENTS TO THE COURT, PLEASE MAKE SURE YOU GIVE THE SAME TO THE CLERK TO PLACE INTO THE RECORD.

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I AM APPEARING BEFORE THIS COURT TO SPEAK



FOR



AGAINST



NEUTRALLY

REGARDING THE FOLLOWING SUBJECT MATTER:



AGENDA ITEM # 3



PUBLIC COMMENT Regarding:

(subject matter)

NAME (Please Print Legibly) : Arnee Roland

ADDRESS: 2481 Prospect Rd

PHONE: 940 366-2057

In appearing before this court, I represent (check both if applicable) :



I am a Jack County Property Owner

AND/OR



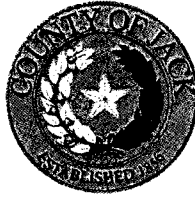
I am a Jack County Registered Voter

I hereby swear that the above information and statements are true and correct. I further swear or affirm that the testimony I give before this court will be true and accurate.

7/15/2021
Date

Arnee Roland
Signature of Participant / Witness

COMMISSIONERS' COURT OF JACK COUNTY, TEXAS
PUBLIC PARTICIPATION/WITNESS FORM



INSTRUCTIONS: TO ADDRESS THE COURT ON AN ISSUE, PLEASE FILL OUT THIS FORM COMPLETELY AND GIVE IT TO THE COUNTY CLERK **PRIOR** TO THE PUBLIC COMMENT PERIOD. PLEASE PRINT LEGIBLY AND IF YOU ARE HANDING OUT ANY MATERIAL OR DOCUMENTS TO THE COURT, PLEASE MAKE SURE YOU GIVE THE SAME TO THE CLERK TO PLACE INTO THE RECORD.

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I AM APPEARING BEFORE THIS COURT TO SPEAK



FOR



AGAINST



NEUTRALLY

REGARDING THE FOLLOWING SUBJECT MATTER:



AGENDA ITEM #

3



PUBLIC COMMENT Regarding:

(subject matter)

NAME (Please Print Legibly) :

HAROLD DAVID SLOAN

ADDRESS:

2287 FM 2950, SEARCY, TX 76457

PHONE:

(210) 862-2714

In appearing before this court, I represent (check both if applicable) :



I am a Jack County Property Owner

AND/OR



I am a Jack County Registered Voter

I hereby swear that the above information and statements are true and correct. I further swear or affirm that the testimony I give before this court will be true and accurate.

Date

7-12-21

Signature of Participant / Witness

A handwritten signature in black ink, appearing to read "Harold Sloan", is written over a horizontal line.

COMMISSIONERS' COURT OF JACK COUNTY, TEXAS
PUBLIC PARTICIPATION/WITNESS FORM



INSTRUCTIONS: TO ADDRESS THE COURT ON AN ISSUE, PLEASE FILL OUT THIS FORM COMPLETELY AND GIVE IT TO THE COUNTY CLERK **PRIOR** TO THE PUBLIC COMMENT PERIOD. PLEASE PRINT LEGIBLY AND IF YOU ARE HANDING OUT ANY MATERIAL OR DOCUMENTS TO THE COURT, PLEASE MAKE SURE YOU GIVE THE SAME TO THE CLERK TO PLACE INTO THE RECORD.

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☐

FOR

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AGAINST

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NEUTRALLY

REGARDING THE FOLLOWING SUBJECT MATTER:

☒

AGENDA ITEM #

3

☒

PUBLIC COMMENT Regarding:

Wind Turbines
(subject matter)

NAME (Please Print Legibly) :

Robert E Lambeth

ADDRESS:

Highway 148 714 Sanctuary Way, Heath, TX 75032

PHONE:

(972) 345-1498

In appearing before this court, I represent (check both if applicable) :

☒

I am a Jack County Property Owner

AND/OR

☐

I am a Jack County Registered Voter

I hereby swear that the above information and statements are true and correct. I further swear or affirm that the testimony I give before this court will be true and accurate.

Date

7/12/21

Signature of Participant / Witness

Robert E Lambeth

COMMISSIONERS' COURT OF JACK COUNTY, TEXAS
PUBLIC PARTICIPATION/WITNESS FORM



INSTRUCTIONS: TO ADDRESS THE COURT ON AN ISSUE, PLEASE FILL OUT THIS FORM COMPLETELY AND GIVE IT TO THE COUNTY CLERK **PRIOR** TO THE PUBLIC COMMENT PERIOD. PLEASE PRINT LEGIBLY AND IF YOU ARE HANDING OUT ANY MATERIAL OR DOCUMENTS TO THE COURT, PLEASE MAKE SURE YOU GIVE THE SAME TO THE CLERK TO PLACE INTO THE RECORD.

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I AM APPEARING BEFORE THIS COURT TO SPEAK

☐

FOR

☒

AGAINST

☐

NEUTRALLY

REGARDING THE FOLLOWING SUBJECT MATTER:

☐

AGENDA ITEM # _____

☐

PUBLIC COMMENT Regarding:

TAX ABATEMENTS .

(subject matter)

NAME (Please Print Legibly) :

BRYON W. BARTON

ADDRESS:

2249 BUGSCUFFLE ROAD .

PHONE:

(512) 689-8688

In appearing before this court, I represent (check both if applicable) :

☐

I am a Jack County Property Owner AND/OR

☐

I am a Jack County Registered Voter

I hereby swear that the above information and statements are true and correct. I further swear or affirm that the testimony I give before this court will be true and accurate.

12 June 2021

Date

[Signature]
Signature of Participant / Witness

COMMISSIONERS' COURT OF JACK COUNTY, TEXAS
PUBLIC PARTICIPATION/WITNESS FORM



INSTRUCTIONS: TO ADDRESS THE COURT ON AN ISSUE, PLEASE FILL OUT THIS FORM COMPLETELY AND GIVE IT TO THE COUNTY CLERK **PRIOR** TO THE PUBLIC COMMENT PERIOD. PLEASE PRINT LEGIBLY AND IF YOU ARE HANDING OUT ANY MATERIAL OR DOCUMENTS TO THE COURT, PLEASE MAKE SURE YOU GIVE THE SAME TO THE CLERK TO PLACE INTO THE RECORD.

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I AM APPEARING BEFORE THIS COURT TO SPEAK

☐

FOR

☒

AGAINST

☐

NEUTRALLY

REGARDING THE FOLLOWING SUBJECT MATTER:

☐

AGENDA ITEM #

3

☐

PUBLIC COMMENT Regarding:

(subject matter)

NAME (Please Print Legibly) :

Mike Almond

ADDRESS:

000 Boyd Ln

PHONE:

(214) 929-7811

In appearing before this court, I represent (check both if applicable) :

☒

I am a Jack County Property Owner

AND/OR

☐

I am a Jack County Registered Voter

I hereby swear that the above information and statements are true and correct. I further swear or affirm that the testimony I give before this court will be true and accurate.

7-12-2021

Date

Mike Almond
Signature of Participant / Witness

COMMISSIONERS' COURT OF JACK COUNTY, TEXAS
PUBLIC PARTICIPATION/WITNESS FORM



INSTRUCTIONS: TO ADDRESS THE COURT ON AN ISSUE, PLEASE FILL OUT THIS FORM COMPLETELY AND GIVE IT TO THE COUNTY CLERK **PRIOR** TO THE PUBLIC COMMENT PERIOD. PLEASE PRINT LEGIBLY AND IF YOU ARE HANDING OUT ANY MATERIAL OR DOCUMENTS TO THE COURT, PLEASE MAKE SURE YOU GIVE THE SAME TO THE CLERK TO PLACE INTO THE RECORD.

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I AM APPEARING BEFORE THIS COURT TO SPEAK

☐

FOR

☒

AGAINST

☐

NEUTRALLY

REGARDING THE FOLLOWING SUBJECT MATTER:

☐

AGENDA ITEM # _____

☐

PUBLIC COMMENT Regarding:

(subject matter)

NAME (Please Print Legibly) : CHARLES FECHTEL

ADDRESS: 600 PALMER RD.

PHONE: (____) _____

In appearing before this court, I represent (check both if applicable) :

☐

I am a Jack County Property Owner

AND/OR

☐

I am a Jack County Registered Voter

I hereby swear that the above information and statements are true and correct. I further swear or affirm that the testimony I give before this court will be true and accurate.

Date

Charles Fechtel
Signature of Participant / Witness

COMMISSIONERS' COURT OF JACK COUNTY, TEXAS
PUBLIC PARTICIPATION/WITNESS FORM



INSTRUCTIONS: TO ADDRESS THE COURT ON AN ISSUE, PLEASE FILL OUT THIS FORM COMPLETELY AND GIVE IT TO THE COUNTY CLERK **PRIOR** TO THE PUBLIC COMMENT PERIOD. PLEASE PRINT LEGIBLY AND IF YOU ARE HANDING OUT ANY MATERIAL OR DOCUMENTS TO THE COURT, PLEASE MAKE SURE YOU GIVE THE SAME TO THE CLERK TO PLACE INTO THE RECORD.

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I AM APPEARING BEFORE THIS COURT TO SPEAK

☐

FOR

☒

AGAINST

☐

NEUTRALLY

REGARDING THE FOLLOWING SUBJECT MATTER:

☒

AGENDA ITEM #

3

tax abatement

☐

PUBLIC COMMENT Regarding:

(subject matter)

NAME (Please Print Legibly) :

Cherry Bushin

ADDRESS:

1407 W. Archer Jackson

PHONE:

(942) 507 - 3240

In appearing before this court, I represent (check both if applicable) :

☒

I am a Jack County Property Owner

AND/OR

☒

I am a Jack County Registered Voter

I hereby swear that the above information and statements are true and correct. I further swear or affirm that the testimony I give before this court will be true and accurate.

Date

7/12/21

Signature of Participant / Witness

Cherry Bushin

COMMISSIONERS' COURT OF JACK COUNTY, TEXAS
PUBLIC PARTICIPATION/WITNESS FORM



INSTRUCTIONS: TO ADDRESS THE COURT ON AN ISSUE, PLEASE FILL OUT THIS FORM COMPLETELY AND GIVE IT TO THE COUNTY CLERK **PRIOR** TO THE PUBLIC COMMENT PERIOD. PLEASE PRINT LEGIBLY AND IF YOU ARE HANDING OUT ANY MATERIAL OR DOCUMENTS TO THE COURT, PLEASE MAKE SURE YOU GIVE THE SAME TO THE CLERK TO PLACE INTO THE RECORD.

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I AM APPEARING BEFORE THIS COURT TO SPEAK

☐

FOR

☒

AGAINST

☐

NEUTRALLY

REGARDING THE FOLLOWING SUBJECT MATTER:

☐

AGENDA ITEM # _____

☐

PUBLIC COMMENT Regarding:

Wind Turbine Abatement
(subject matter)

NAME (Please Print Legibly):

KEVIN R BERRY

ADDRESS:

13428 State Hwy 148

PHONE:

(940) 507-1687

In appearing before this court, I represent (check both if applicable) :

☒

I am a Jack County Property Owner AND/OR

☐

I am a Jack County Registered Voter

I hereby swear that the above information and statements are true and correct. I further swear or affirm that the testimony I give before this court will be true and accurate.

12 July 2021
Date

Kevin R Berry
Signature of Participant / Witness

COMMISSIONERS' COURT OF JACK COUNTY, TEXAS
PUBLIC PARTICIPATION/WITNESS FORM



INSTRUCTIONS: TO ADDRESS THE COURT ON AN ISSUE, PLEASE FILL OUT THIS FORM COMPLETELY AND GIVE IT TO THE COUNTY CLERK **PRIOR** TO THE PUBLIC COMMENT PERIOD. PLEASE PRINT LEGIBLY AND IF YOU ARE HANDING OUT ANY MATERIAL OR DOCUMENTS TO THE COURT, PLEASE MAKE SURE YOU GIVE THE SAME TO THE CLERK TO PLACE INTO THE RECORD.

PUBLIC COMMENTS ARE LIMITED TO THREE (3) MINUTES

I AM APPEARING BEFORE THIS COURT TO SPEAK



FOR



AGAINST



NEUTRALLY

REGARDING THE FOLLOWING SUBJECT MATTER:



AGENDA ITEM # 3



PUBLIC COMMENT Regarding:

Support the project
(subject matter)

NAME (Please Print Legibly) : Shawn Pettit

ADDRESS: 3440 Florence Rd, Ponder, TX

PHONE: (817) 994-7256

In appearing before this court, I represent (check both if applicable) :



I am a Jack County Property Owner

AND/OR



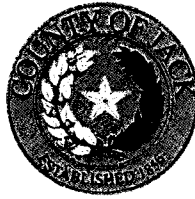
I am a Jack County Registered Voter

I hereby swear that the above information and statements are true and correct. I further swear or affirm that the testimony I give before this court will be true and accurate.

7-12-24
Date

Shawn Pettit
Signature of Participant / Witness

COMMISSIONERS' COURT OF JACK COUNTY, TEXAS
PUBLIC PARTICIPATION/WITNESS FORM



INSTRUCTIONS: TO ADDRESS THE COURT ON AN ISSUE, PLEASE FILL OUT THIS FORM COMPLETELY AND GIVE IT TO THE COUNTY CLERK **PRIOR** TO THE PUBLIC COMMENT PERIOD. PLEASE PRINT LEGIBLY AND IF YOU ARE HANDING OUT ANY MATERIAL OR DOCUMENTS TO THE COURT, PLEASE MAKE SURE YOU GIVE THE SAME TO THE CLERK TO PLACE INTO THE RECORD.

PUBLIC COMMENTS ARE LIMITED TO THREE (3) MINUTES

I AM APPEARING BEFORE THIS COURT TO SPEAK

☐

FOR

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AGAINST

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NEUTRALLY

REGARDING THE FOLLOWING SUBJECT MATTER:

☐

AGENDA ITEM # _____

☐

PUBLIC COMMENT Regarding:

Tax Abatement
(subject matter)

NAME (Please Print Legibly) :

Teri Gitchell

ADDRESS:

114716 Fm 2127

PHONE:

(817) 688-6681

In appearing before this court, I represent (check both if applicable) :

☒

I am a Jack County Property Owner

AND/OR

☐

I am a Jack County Registered Voter

I hereby swear that the above information and statements are true and correct. I further swear or affirm that the testimony I give before this court will be true and accurate.

Date

7-12-21

Signature of Participant / Witness

Teri Gitchell

COMMISSIONERS' COURT OF JACK COUNTY, TEXAS
PUBLIC PARTICIPATION/WITNESS FORM



INSTRUCTIONS: TO ADDRESS THE COURT ON AN ISSUE, PLEASE FILL OUT THIS FORM COMPLETELY AND GIVE IT TO THE COUNTY CLERK **PRIOR** TO THE PUBLIC COMMENT PERIOD. PLEASE PRINT LEGIBLY AND IF YOU ARE HANDING OUT ANY MATERIAL OR DOCUMENTS TO THE COURT, PLEASE MAKE SURE YOU GIVE THE SAME TO THE CLERK TO PLACE INTO THE RECORD.

PUBLIC COMMENTS ARE LIMITED TO THREE (3) MINUTES

I AM APPEARING BEFORE THIS COURT TO SPEAK



FOR



AGAINST



NEUTRALLY

REGARDING THE FOLLOWING SUBJECT MATTER:



AGENDA ITEM #

3



PUBLIC COMMENT Regarding:

(subject matter)

NAME (Please Print Legibly):

Billy Poland

ADDRESS:

2481 Prosper R.D. Bowie T-Xc

PHONE:

(409) 476-2231

In appearing before this court, I represent (check both if applicable) :



I am a Jack County Property Owner

AND/OR



I am a Jack County Registered Voter

I hereby swear that the above information and statements are true and correct. I further swear or affirm that the testimony I give before this court will be true and accurate.

Date

July 12 2021

Signature of Participant / Witness

B.B. Poland

COMMISSIONERS' COURT OF JACK COUNTY, TEXAS
PUBLIC PARTICIPATION/WITNESS FORM



INSTRUCTIONS: TO ADDRESS THE COURT, PLEASE COME TO THE COURT DURING THE PUBLIC PARTICIPATION PERIOD. COMPLETELY AND GIVE IT TO THE COURT CLERK. PLEASE PRINT LEGIBLY AND IF YOU ARE APPEARING IN PERSON, PLEASE BRING TWO COPIES TO THE COURT, PLEASE MAKE SURE YOU GIVE ONE COPY TO THE COURT CLERK.

PUBLIC COMMENTS ARE INVITED

I AM APPEARING BEFORE THIS COURT TO

☐

FOR

☐

AGAINST

REGARDING THE FOLLOWING SUBJECT MATTER:

☐

AGENDA ITEM #

3

☐

PUBLIC COMMENT Regarding:

(subject matter)

NAME (Please Print Legibly) :

BRANDON WESTLAKE

ADDRESS:

1349 MARTIN ST., HOUSTON, TX

PHONE:

(713) 922-2998

In appearing before this court, I represent (check both if applicable) :

☐

I am a Jack County Property Owner AND/OR

☐

I am a Jack County Registered Voter

I hereby swear that the above information and statements are true and correct. I further swear or affirm that the testimony I give before this court will be true and accurate.

Date

7/12/21

Signature of Participant / Witness

[Handwritten Signature]

2021 Jack County – County Judge/Windfarm Research
n= 200 registered voters
65%+ text message to cell, 35%- IVR to live land
Field date 6/28-6/29/2021

Screen & Introduction

Q0. Hi, this is ____ with Anderson Williams Research and we are reaching out to you today to get your opinion on questions that will be considered on July 12th by the Jack County Commissioner's Court. For statistical purposes, can you please confirm if you are...
[VOTERNAME]?

1. Press 1 for Yes
2. Press 2 for No

Turnout

T1. On a scale of 1 to 7, how often do you vote in your local Jack County elections? Please use your phone's keypad to enter a number from 1 to 7, where 1 means you never vote and 7 means you vote in every local election?
[CODE NUMERIC 1-7]

Propensity	Respondents	137
	Certain to vote	51.8%
	Uncertain to vote	48.2%

Basic Questions

Q1. Do you support or oppose building new wind farms in Jack County?

1. Press 1 for Strongly Support
2. Press 2 for Somewhat Support
3. Press 3 for Somewhat Oppose
4. Press 4 for Strongly Oppose
5. Press 5 if you are Unsure

Support New Wind Farms	Support	29.9%
	Oppose	58.4%
	Strong Support	18.2%
	Some Support	11.7%
	Unsure	11.7%
	Some Oppose	10.2%
	Strong Oppose	48.2%

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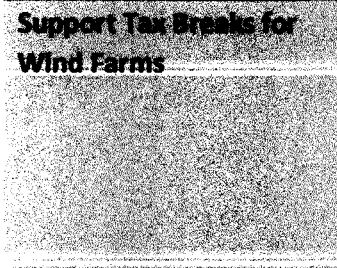
JUL 12 2021

VANESSA JAMES, County Clerk
JACK COUNTY, TEXAS

BY _____ DEPUTY


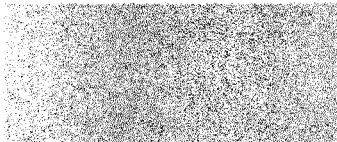
Q2. Do you support or oppose the Jack County Commissioner's Court giving tax breaks to a proposed wind farm?

1. Press 1 for Strongly Support
2. Press 2 for Somewhat Support
3. Press 3 for Somewhat Oppose
4. Press 4 for Strongly Oppose
5. Press 5 if you are Unsure

	Support	23.5%
	Oppose	68.2%
	Strong Support	14.4%
	Some Support	9.1%
	Unsure	8.3%
	Some Oppose	9.8%
	Strong Oppose	58.3%

Q3. Do you have a favorable or unfavorable opinion of County Judge Brian Umphress?

1. Press 1 for Very Favorable.
2. Press 2 for Somewhat Favorable
3. Press 3 for Somewhat Unfavorable
4. Press 4 for Very Unfavorable
5. Press 5 if you have No Opinion of Brian Umphress
6. Press 6 if you have Never Heard of Brian Umphress

	Name ID	90.4%
	Favorable	51.2%
	Unfavorable	9.6%
	Very Favorable	33.6%
	Somewhat Favorable	17.6%
	No Opinion	29.6%
	Somewhat Unfavorable	4.8%
	Very Unfavorable	4.8%
	Never Heard Of	9.6%

More or Less

- Q4. Would you be more or less likely to vote to reelect Judge Brian Umphress, if he supported building new wind farms and offering tax breaks to the companies that build them?
- 1. Press 1 for Much Less Likely
 - 2. Press 2 for Less Likely
 - 3. Press 3 for More Likely
 - 4. Press 4 for Much More Likely
 - 5. Press 5 if this would have No Effect on your vote

Effect of Tax Break on Umphress Re-Elect	More Likely	14.3%
	Less Likely	52.9%
	Much More	5.9%
	Some More	8.4%
	No Effect	32.8%
	Some Less	16.8%
	Much Less	36.1%

Message Tests

Now I'm going to read a series of short statements about wind farms. Please, using your phone's keypad, tell me how strongly you AGREE or DISAGREE with each statement on a scale from 1 to 7, where 1 means that you strongly DISAGREE with the statement and 7 means that you strongly AGREE. The first one is...

- Q5. The Jack County Commissioners should impose standard safety restrictions such as setbacks on any new turbines built in Jack County. Please answer using your keypad, 1 through 7.

Impose Standard Safety Restrictions	Agree	48.0%
	Disagree	45.1%
	1	10.8%
	2	2.9%
	4	31.4%
	5	6.9%
	6	5.9%
	7	42.2%

- Q6. Wind farms produce little additional electricity and are hurting the reliability of the Texas electrical grid. Please answer using your keypad, 1 through 7.

Wind Farms Hurt Texas Grid Reliability	Agree	49.5%
	Disagree	26.9%
	1	18.3%
	2	5.4%
	3	3.2%
	4	23.7%
	5	5.4%
	6	7.5%
	7	36.6%

- Q7. Wind farms are an eyesore and lower the property value of the surrounding land. Please answer using your keypad, 1 through 7.

Wind Farms Lower Property Values	Agree	55.4%
	Disagree	30.4%
	1	21.7%
	2	1.1%
	3	7.6%
	4	14.1%
	5	3.3%
	6	3.3%
	7	48.9%

- Q8. The noise pollution and safety hazards of 650-foot-tall wind turbines harm the quality of life for our neighbors who live near them. Please answer using your keypad, 1 through 7.

Wind Farms Harm Quality of Life	Agree	59.3%
	Disagree	24.2%
	1	18.7%
	2	3.3%
	3	2.2%
	4	16.5%
	5	6.6%
	6	6.6%
	7	46.2%

- Q9. The Jack County Commissioners should reject tax breaks for wind farms like the commissioners in neighboring Montague and Clay counties have. Please answer using your keypad, 1 through 7.

Reject Wind Farms Like Montague & Clay Did	Agree	66.7%
	Disagree	18.4%
	1	14.9%
	2	1.1%
	3	2.3%
	4	14.9%
	5	5.7%
	6	4.6%
	7	56.3%

- Q10. Wind turbines are a safe and environmentally friendly means of energy production and Jack County should support their construction. Please answer using your keypad, 1 through 7.

Jack Should Support Wind Farms	Agree	27.4%
	Disagree	57.1%
	1	47.6%
	2	3.6%
	3	6.0%
	4	15.5%
	5	6.0%
	6	4.8%
	7	16.7%

- Q11. We should not be giving a foreign, French-owned company tax breaks to build wind turbines in Jack County. Please answer using your keypad, 1 through 7.

No Tax Breaks for French Company	Agree	76.5%
	Disagree	18.5%
	1	14.8%
	2	1.2%
	3	2.5%
	4	4.9%
	5	4.9%
	6	2.5%
	7	69.1%

Generic Reelect Test

Q12. Would you vote to reelect your County Commissioner and County Judge if they supported the building of new wind farms through tax incentives?

1. Press 1 if you would definitely reelect your Commissioner and Judge
2. Press 2 if you would definitely vote to NOT reelect your Commissioner and Judge
3. Press 3 if you would consider other candidates before making a decision

Re-Elect County Comm & Judge if they supported wind farms?		
Definitely Re-Elect		26.9%
Consider Other Candidates		32.1%
Definitely Not Re-Elect		41.0%

Demographic Panel

Now I have just a few more questions for demographic purposes only:

D1. Thinking back to the recent November General Election for the President, did you vote for Donald Trump, Joe Biden, or Another Candidate?

1. Press 1 for Democrat, Joe Biden
2. Press 2 for Republican, Donald Trump
3. Press 3 for Another Candidate not listed
4. Press 4 if you are unsure
5. Press 5 if you did not vote for anyone in this contest

D2. What is your current age?

1. Press 1 for 18 to 24
2. Press 2 for 25 to 34
3. Press 3 for 35 to 44
4. Press 4 for 45 to 54
5. Press 5 for 55 to 64
6. Press 6 for 65 or older

D3. What is your gender?

1. Press 1 for female
2. Press 2 for male
3. Press 3 for other

2021 Jack County – County Judge/Windfarm Research
n= 200 registered voters
65%+ text message to cell, 35%- IVR to live land
Field date 6/28-6/29/2021



D4. Which of the following best describes your race or ethnicity?

1. Press 1 for White
2. Press 2 for Black
3. Press 3 for Hispanic
4. Press 4 for Asian
5. Press 5 for another race or ethnicity not listed

Thanks for your time! Have a nice day.

**THE POTENTIAL TAX ABATEMENT AGREEMENT
BETWEEN JACK COUNTY and LASSO WIND, LLC**

**Summary of Estimated Tax Revenues, Landowner Income/Royalties, and
Economic Impact to Local/Regional Businesses**

**Dr. Jason Johnson
Associate Professor & Extension Economist
Department of Agricultural Economics & Texas A&M AgriLife Extension**

July 8, 2021

FILED FOR RECORD

_____ O'CLOCK _____ M

JUL 12 2021

**VANESSA JAMES, County Clerk
JACK COUNTY, TEXAS**

BY _____ DEPUTY

**Department of Agricultural Economics
Texas A&M AgriLife Extension
1229 North US Hwy. 281
Stephenville, Texas 76401**

Tel. 254.968.4144 | Fax. 254.965.3759 | JLJOHNSON@tamu.edu

Educational programs of the Texas A&M AgriLife Extension Service are open to all people without regard to race, color, sex, disability, religion, age, or national origin.
The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Courts of Texas Cooperating

What this report is...

This report provides estimates of the various economic implications from a proposed Tax Abatement Agreement for the designation of a Reinvestment Zone and creation of the LASSO WIND project. In compiling this information, the author relied upon the most recent information available regarding entity taxing authorities, current tax rates, projected project size and scope, and the tax abatement request.

This report quantifies estimated Jack County landowner income accruing during the pre-operating period 2022-2024, with installation of wind turbine generators beginning in Q1 of 2024 and completed by Dec. 31, 2024. Following commencement of commercial operations in 2025, the analysis then accounts for Jack County landowner royalties and the tax revenue generation to Jack County taxing entities (County, School, Hospital, Jack County WCID). These income/royalty/revenue streams are estimated for a 3-year pre-operating period (2022-2024) and 25-year operating period (2025-2049).

This proposed project is planned and expected to endure beyond 25 operational years and substantial royalties/revenues to all beneficiaries can be projected for the years beyond this 2022-2049 study period. However, according to the proposed TAX ABATEMENT AGREEMENT (Article 2 (f) Continued Operations following Abatement), continued routine commercial operations are committed for a period of fifteen (15) years after the end of the abatement period. Therefore, 2049 represents the project commitment endpoint according to the agreement and ending point for this analysis.

What this report is not...

This report summarizes the estimated income/royalties/revenues from a proposed LASSO WIND project in Jack County. It is not an endorsement for or against this specific project as a catalyst for economic development and growth. Further, this analysis does not offer any guidance as to whether a tax abatement is necessary or required for the proposed LASSO WIND project to be viable in Jack County. In other words, the proposed project might be viable and imminent even without tax abatement. Alternatively, refusal to provide a tax abatement might cancel the proposed project entirely resulting in no new revenue for tax entities, landowners and Jack County businesses. Negotiating points/issues between LASSO WIND, LLC and the respective landowners and taxing entities are beyond the scope of this analysis. However, it must be noted that recent decisions by neighboring Clay and Montague counties to adopt resolutions refusing to offer tax abatements for wind farm projects provides a unique opportunity for Jack County to be relatively more attractive for a project that was initially designed to straddle both Jack and Clay counties.

This report is not a dissertation. A conscious effort was made to provide economic estimates based on available information, facts and data with minimal discussion or subjective observations. Non-economic factors and opinions that cannot be supported by research-based data are not included in this analysis. The numbers speak for themselves and readers are assumed to be able to draw their own conclusions about the merits of the proposed tax abatement application and economic implications of the proposed project on various entities.

SUMMARY OF ESTIMATES

There is no dispute that wind farm projects in Jack County have contributed significantly to the county, school, and hospital budgets. In 2021, the three operating wind farm projects ranked 2nd (Keechi), 3rd (Senate) and 7th (Barton Chapel) on the list of top Jack County tax payers (by market value). The following pages/tables in this report provide the details behind the summary figures provided in Table 1 which summarizes the estimated tax revenues, landowner income and broader economic impact from the proposed LASSO WIND project.

Table 1. Summary of Estimated Tax Revenues, Royalty Payments to Jack County Landowners, and Economic Impact to New and Existing Local/Regional Businesses, 2022-2049.

	Estimated Tax Revenues without Tax Abatement 2024 - 2049	NET PRESENT VALUE (in 2022 Dollars)	Estimated Tax Revenues with Tax Abatement 2024 - 2049	NET PRESENT VALUE (in 2022 Dollars)
COUNTY	\$11,901,806	\$9,954,037	\$8,773,907	\$7,116,499
SCHOOL	\$32,374,256	\$27,076,104	\$23,866,018	\$19,483,341
HOSPITAL	\$7,149,390	\$5,979,370	\$5,270,468	\$4,302,617
JACK Co. WCID	\$271,745	\$227,273	\$200,328	\$163,540
TOTALS	\$51,697,197	\$43,236,784	\$38,110,721	\$31,065,997

	Minimum Royalty Payments Estimated Income to Jack County Landowners 2022 - 2049	Projected Royalty Payments Estimated Income to Jack County Landowners 2022 - 2049
JACK COUNTY LANDOWNERS	\$37,086,406	\$50,699,717
	NET PRESENT VALUE (in 2022 Dollars) \$28,803,939	NET PRESENT VALUE (in 2022 Dollars) \$37,978,140

	Minimum Regional Impact \$11,536,913	direct spending in the region \$15,771,769
NEW & EXISTING LOCAL/REGIONAL BUSINESSES	\$6,334,173	contribution to regional GDP \$8,659,258
	\$1,813,525	increase in regional HH income \$2,479,216
	70.5	full, part-time, & seasonal jobs 96.3

The tax abatement proposal translates to an effective tax abatement of 40.69% for the first 10 years of the project operating period (2025-2034). During this abatement period, the county would retain, thru PILOT payments, 59.31% of the taxes that would normally be collected based on estimated project value. In year 11 (2035) and beyond, the full tax rate would apply. The other impacted tax entities (School, Hospital, Jack Co WCID) also have the option, BUT NOT THE OBLIGATION, to extend some type of abatement. This report quantifies, for each taxing entity, a side-by-side estimate of tax revenues for the LASSO WIND project without tax abatement and with a proposed tax abatement (of 40.69%) during the first 10 years of the project.

Additionally, this report quantifies the estimated income and royalties to Jack County landowners for participation in the LASSO WIND project as well as the estimated economic impact to new and existing regional and local businesses. The estimated landowner royalties are presented in two possible scenarios: the minimum royalty payments provided for in the lease agreement and a projected royalty payment estimate which is based on assumed electricity generation projections. The resulting economic impact estimates related to broader economic activity follow directly from the minimum and projected landowner royalty estimate scenarios. Because the estimated revenues/incomes/royalties span a 2022-2024 pre-operating period and a 2025-2049 commenced operations period, the net present value is presented using a discount rate of 1.7 percent, so all estimates can be considered on a 2022 US Dollar basis.

Estimated County Tax Revenues

Table 2. Estimated County Tax Revenues without Tax Abatement and with an Effective Tax Abatement of 40.69% during 2025-2034.

TAX YEAR	OPERATING YEAR	EST. PROJECT VALUE	Proposed		County Rate = \$0.52439	
			PILOT \$/MW	PILOT Payment	COUNTY TAX REVENUES without ABATEMENT	COUNTY TAX REVENUES with ABATEMENT
2025	1	\$207,360,000	\$1,900	\$456,000	\$1,087,375	\$456,000
2026	2	\$190,771,200	\$1,900	\$456,000	\$1,000,385	\$456,000
2027	3	\$175,509,504	\$1,900	\$456,000	\$920,354	\$456,000
2028	4	\$161,468,744	\$1,900	\$456,000	\$846,726	\$456,000
2029	5	\$148,551,244	\$1,900	\$456,000	\$778,988	\$456,000
2030	6	\$136,667,145	\$1,900	\$456,000	\$716,669	\$456,000
2031	7	\$125,733,773	\$1,900	\$456,000	\$659,335	\$456,000
2032	8	\$115,675,071	\$1,900	\$456,000	\$606,589	\$456,000
2033	9	\$106,421,066	\$1,900	\$456,000	\$558,061	\$456,000
2034	10	\$97,907,380	\$1,900	\$456,000	\$513,417	\$456,000
2035	11	\$90,074,790			\$472,343	\$472,343
2036	12	\$82,868,807			\$434,556	\$434,556
2037	13	\$76,239,302			\$399,791	\$399,791
2038	14	\$70,140,158			\$367,808	\$367,808
2039	15	\$64,528,945			\$338,383	\$338,383
2040	16	\$59,366,630			\$311,313	\$311,313
2041	17	\$54,617,299			\$286,408	\$286,408
2042	18	\$50,247,915			\$263,495	\$263,495
2043	19	\$46,228,082			\$242,415	\$242,415
2044	20	\$42,529,836			\$223,022	\$223,022
2045	21	\$39,127,449			\$205,180	\$205,180
2046	22	\$35,997,253			\$188,766	\$188,766
2047	23	\$33,117,473			\$173,665	\$173,665
2048	24	\$30,468,075			\$159,772	\$159,772
2049	25	\$28,030,629			\$146,990	\$146,990
TOTALS					\$11,901,806	\$8,773,907

Estimated School Tax Revenues

Table 3. Estimated School Tax Revenues without Tax Abatement and with an Effective Tax Abatement of 40.69% during 2025-2034.

			School Rate = \$1.4264	
TAX YEAR	OPERATING YEAR	EST. PROJECT VALUE	SCHOOL TAX REVENUES	SCHOOL TAX REVENUES
			without ABATEMENT	with ABATEMENT
2025	1	\$207,360,000	\$2,957,783	\$1,754,379
2026	2	\$190,771,200	\$2,721,160	\$1,614,029
2027	3	\$175,509,504	\$2,503,468	\$1,484,907
2028	4	\$161,468,744	\$2,303,190	\$1,366,114
2029	5	\$148,551,244	\$2,118,935	\$1,256,825
2030	6	\$136,667,145	\$1,949,420	\$1,156,279
2031	7	\$125,733,773	\$1,793,467	\$1,063,777
2032	8	\$115,675,071	\$1,649,989	\$978,675
2033	9	\$106,421,066	\$1,517,990	\$900,381
2034	10	\$97,907,380	\$1,396,551	\$828,350
2035	11	\$90,074,790	\$1,284,827	\$1,284,827
2036	12	\$82,868,807	\$1,182,041	\$1,182,041
2037	13	\$76,239,302	\$1,087,477	\$1,087,477
2038	14	\$70,140,158	\$1,000,479	\$1,000,479
2039	15	\$64,528,945	\$920,441	\$920,441
2040	16	\$59,366,630	\$846,806	\$846,806
2041	17	\$54,617,299	\$779,061	\$779,061
2042	18	\$50,247,915	\$716,736	\$716,736
2043	19	\$46,228,082	\$659,397	\$659,397
2044	20	\$42,529,836	\$606,646	\$606,646
2045	21	\$39,127,449	\$558,114	\$558,114
2046	22	\$35,997,253	\$513,465	\$513,465
2047	23	\$33,117,473	\$472,388	\$472,388
2048	24	\$30,468,075	\$434,597	\$434,597
2049	25	\$28,030,629	\$399,829	\$399,829
TOTALS			\$32,374,256	\$23,866,018

Estimated Hospital Tax Revenues

Table 4. Estimated Hospital Tax Revenues without Tax Abatement and with an Effective Tax Abatement of 40.69% during 2025-2034.

			Hospital Rate = \$0.315	
TAX YEAR	OPERATING YEAR	EST. PROJECT VALUE	HOSPITAL TAX REVENUES	HOSPITAL TAX REVENUES
			without ABATEMENT	with ABATEMENT
2025	1	\$207,360,000	\$653,184	\$387,430
2026	2	\$190,771,200	\$600,929	\$356,435
2027	3	\$175,509,504	\$552,855	\$327,920
2028	4	\$161,468,744	\$508,627	\$301,687
2029	5	\$148,551,244	\$467,936	\$277,552
2030	6	\$136,667,145	\$430,502	\$255,348
2031	7	\$125,733,773	\$396,061	\$234,920
2032	8	\$115,675,071	\$364,376	\$216,126
2033	9	\$106,421,066	\$335,226	\$198,836
2034	10	\$97,907,380	\$308,408	\$182,929
2035	11	\$90,074,790	\$283,736	\$283,736
2036	12	\$82,868,807	\$261,037	\$261,037
2037	13	\$76,239,302	\$240,154	\$240,154
2038	14	\$70,140,158	\$220,941	\$220,941
2039	15	\$64,528,945	\$203,266	\$203,266
2040	16	\$59,366,630	\$187,005	\$187,005
2041	17	\$54,617,299	\$172,044	\$172,044
2042	18	\$50,247,915	\$158,281	\$158,281
2043	19	\$46,228,082	\$145,618	\$145,618
2044	20	\$42,529,836	\$133,969	\$133,969
2045	21	\$39,127,449	\$123,251	\$123,251
2046	22	\$35,997,253	\$113,391	\$113,391
2047	23	\$33,117,473	\$104,320	\$104,320
2048	24	\$30,468,075	\$95,974	\$95,974
2049	25	\$28,030,629	\$88,296	\$88,296
TOTALS			\$7,149,390	\$5,270,468

Estimated Jack County WCID Tax Revenues

Table 5. Estimated Jack County WCID Tax Revenues without Tax Abatement and with an Effective Tax Abatement of 40.69% during 2025-2034.

			WCID Rate = \$0.011973	
TAX YEAR	OPERATING YEAR	EST. PROJECT VALUE	Jack Co WCID TAX REVENUES	Jack Co WCID TAX REVENUES
			without ABATEMENT	with ABATEMENT
2025	1	\$207,360,000	\$24,827	\$14,726
2026	2	\$190,771,200	\$22,841	\$13,548
2027	3	\$175,509,504	\$21,014	\$12,464
2028	4	\$161,468,744	\$19,333	\$11,467
2029	5	\$148,551,244	\$17,786	\$10,550
2030	6	\$136,667,145	\$16,363	\$9,706
2031	7	\$125,733,773	\$15,054	\$8,929
2032	8	\$115,675,071	\$13,850	\$8,215
2033	9	\$106,421,066	\$12,742	\$7,558
2034	10	\$97,907,380	\$11,722	\$6,953
2035	11	\$90,074,790	\$10,785	\$10,785
2036	12	\$82,868,807	\$9,922	\$9,922
2037	13	\$76,239,302	\$9,128	\$9,128
2038	14	\$70,140,158	\$8,398	\$8,398
2039	15	\$64,528,945	\$7,726	\$7,726
2040	16	\$59,366,630	\$7,108	\$7,108
2041	17	\$54,617,299	\$6,539	\$6,539
2042	18	\$50,247,915	\$6,016	\$6,016
2043	19	\$46,228,082	\$5,535	\$5,535
2044	20	\$42,529,836	\$5,092	\$5,092
2045	21	\$39,127,449	\$4,685	\$4,685
2046	22	\$35,997,253	\$4,310	\$4,310
2047	23	\$33,117,473	\$3,965	\$3,965
2048	24	\$30,468,075	\$3,648	\$3,648
2049	25	\$28,030,629	\$3,356	\$3,356
TOTALS			\$271,745	\$200,328

Estimated Revenue to Participating Jack County Landowners

Table 6. Estimated Income and Royalties to Participating Jack County Landowners in the proposed LASSO WIND Project, 2022-2049.

Project Acres		28294	Wind Turbine Generators	60
TAX YEAR			MINIMUM OPERATING PAYMENTS	PROJECTED ROYALTY PAYMENTS
2022			\$1,046,878	\$1,046,878
2023	PRE OPERATING PERIOD		\$169,764	\$169,764
2024			\$769,764	\$769,764
2025			\$1,080,000	\$1,080,000
2026			\$1,080,000	\$1,080,000
2027	COMMENCEMENT OF COMMERCIAL OPERATIONS		\$1,080,000	\$1,080,000
2028			\$1,080,000	\$1,080,000
2029			\$1,080,000	\$1,080,000
2030			\$1,215,000	\$1,215,000
2031			\$1,215,000	\$1,215,000
2032			\$1,215,000	\$1,215,000
2033			\$1,215,000	\$1,215,000
2034			\$1,215,000	\$1,215,000
2035			\$1,350,000	\$1,350,000
2036			\$1,350,000	\$1,350,000
2037			\$1,350,000	\$1,350,000
2038			\$1,350,000	\$1,350,000
2039			\$1,350,000	\$1,350,000
2040			\$1,485,000	\$2,259,949
2041			\$1,485,000	\$2,316,447
2042			\$1,485,000	\$2,374,358
2043			\$1,485,000	\$2,433,717
2044			\$1,485,000	\$2,494,560
2045			\$1,890,000	\$3,540,357
2046			\$1,890,000	\$3,628,866
2047			\$1,890,000	\$3,719,587
2048			\$1,890,000	\$3,812,577
2049			\$1,890,000	\$3,907,892
TOTALS			\$37,086,406	\$50,699,717

Economic Impact from Landowner Income/Royalties

From an economic development/impact framework, revenue accruing to landowners does not define the endpoint of impact, it actually sets in motion spending that benefits a broader array of beneficiaries. In order to quantify the economic impact of the lease income and royalties accruing to Jack County landowners, the IMPLAN economic model was utilized to assess the implications for Jack County (IMPLAN Group, LLC. IMPLAN 2019 Data and Application. Huntersville, NC. IMPLAN.com). IMPLAN is an input-output economic model commonly used to estimate the impact of “shocks” to an economy and to analyze their resulting ripple effects. IMPLAN is designed to provide decision makers the ability to analyze economic legislation repercussions, tax incentives and jobs supported (<https://implan.com/application/>).

In order to assess the true economic impact of a “royalty windfall” to landowners an IMPLAN analysis was utilized to evaluate the impact of a \$1 million royalty payment in Jack County. Results indicated that every \$1 Million in royalties to Jack County landowners results in \$311,182 of output (direct spending in the region). This output estimate includes \$170,795 of value-added (contribution to regional gross domestic product) and \$48,900 of labor income (impact on the incomes of households in the region) and supports 1.9 jobs (for new and existing local businesses). An IMPLAN “job” is a full, part-time, or seasonal job. In this study, IMPLAN uses purchasing patterns associated with industries people spend their money in locally (i.e., Jack County) and jobs where those businesses and their employees make their purchases. The income associated with an IMPLAN job is the average wage for the local region. More detailed explanation of the estimated impact components is attached as Appendix A: Economic Impact Analysis: A Brief Introduction.

Applying these IMPLAN estimates to the minimum operating payments to Jack County landowners (\$37.1 Million), results in \$11.5 Million of direct spending in the region. As a result of this direct spending, there is an estimated \$6.3 Million contributed to regional gross domestic product (GDP), a \$1.8 Million increase in regional household incomes and support for over 70 jobs. Similarly, if Jack County landowners realize, not the minimum, but projected royalty payments of \$50.7 Million, IMPLAN economic impact estimates increase proportionately. This would be \$15.7 Million of direct spending including \$8.6 Million contributed to GDP, \$2.5 Million increase in household income, and support for over 96 jobs.

Factors that Make the Study Estimates Conservative or Understated

The estimates provided in this analysis represent a conservative perspective. The most obvious conservative assumption is consideration of only a 25-year operation period given that the expected lifespan of a wind farm project is more likely to be 30-40 years. Terminating the study period in 2049, ignores a remaining estimated project value of \$28 Million subject to continued depreciation and taxation by Jack County entities. Termination in 2049 also substantially ignores the highest royalty producing years of the project accruing to Jack County landowners. Since royalty percentages paid to landowners increase over time, ignoring years beyond 2049 also ignores over half of the expected royalties projected to landowners. Jack County landowner income estimates also did not recognize other project-related sources of income (i.e., Met Tower Rent, Substation payments, laydown payments, etc.). Economic impact estimates are likely understated because the IMPLAN analysis examined oil/gas royalties as a proxy for wind royalties to landowners. It could be argued that mineral rights owners are more apt to be absentee recipients compared to wind royalty recipients. Therefore, oil/gas royalty recipients likely spend more outside of the local area whereas wind royalty recipients are more likely to be county residents and spend a higher proportion of their windfall locally.

The second factor that might reveal the study estimates to be understated involves the, yet to be determined, ramifications of a 500 MW project initially designed to span Clay and Jack counties. As a result of Clay County choosing to refuse tax abatements to wind farm projects, there is a genuine economic incentive to expand the Reinvestment Zone footprint and increase placement of wind generating turbines in Jack County if an acceptable tax abatement agreement can be reached. This analysis evaluated a project comprised of 240 MW capacity with 60 wind generating turbines located on Jack County landowner properties. Obviously, if the Reinvestment Zone footprint expands and/or additional wind generating turbines are installed in Jack County, then the estimated project value (and thus tax base), PILOT payments (based on \$/MW capacity), and Landowner income/royalties would increase proportionately. Jack County stands to benefit directly from the decision of neighboring counties to pre-emptively refuse tax abatement proposals from wind project applicants.

Impact of the Proposed Project on Land Values

Finally, during prior meetings about the proposed project, the mention of “impact on land values” was a recurring topic. Depending on one’s opinion, it is easy to find some type of “study” to validate that perspective. A diligent effort was made to identify any Jack County or surrounding county data that could provide evidence that the presence/introduction of wind farms significantly discounted land values. No actual land sales data was found or provided that showed actual land sales transactions reflected a “wind farm” discount. With three ongoing wind farm projects in Jack County, if a genuine wind farm discount existed, examples would have been readily available. Additionally, a review of current Jack County land tracts available for sale, in clear view of existing projects, does not reflect any land value discount in the offering price. Proximity to the Dallas/Fort Worth metroplex, the pandemic rush to escape highly populated area quarantine restrictions, and extremely low interest rates have resulted in robust Jack County real estate market demand.

For additional insight into current local/regional real estate prices, I have included the most recent industry discussion and report detailing Land Market Area real estate values. The Texas Chapter of the American Society of Farm Managers and Rural Appraisers annually publishes “Texas Rural Land Value Trends,” providing aggregated sales data, cash rental rates and land trend observations. The relevant data and discussion for the Land Market Area encompassing Jack and Clay counties - Region 3 and adjacent counties (Montague, Wise, Parker, Palo Pinto counties – Region 4 is attached (Appendix B with full report website identified).

There are many studies addressing the impact of wind farms on land values. Studies cited are often outdated, related to observations in foreign land markets, or rely on a flawed subjective methodology where aesthetic preferences impose modified land values impacts with no actual sales data for validation. The most credible current study from an objective research-based source was presented at the 2019 29th Annual Outlook for Texas Land Markets. Dr. Erin Kiella, formerly with Texas A&M University’s Texas Real Estate Center (now with Real Property Analytics, <https://rpa-inc.com/consultants/erin-kiella/>) addressed the presence of wind farm projects in Texas and resulting land value trends. In short, the presence/visibility of wind farms might be a deal breaker for a few land purchase/sale transactions, but have not had any adverse impact on Texas land values in counties where wind farms are most prevalent. Relevant talking points from this presentation are attached as Appendix C and a full copy of the entire presentation can be found at:

<https://assets.recenter.tamu.edu/Documents/presentations/EK-Land20190425.pdf> and also at:

<https://rpa-inc.com/wp-content/uploads/2020/03/EK-Land20190425.pdf>.

APPENDIX A

Economic Impact Analysis: A Brief Introduction

Rebekka Dudensing and Dan Hanselka, Dept. of Ag Economics

The direct value of industry sales or employment is an important measure of an industry's strength. However, an industry's sales or employment figures alone fails to capture the full economic contribution of an industry or an event. When a business makes a sale to a final consumer, a portion of production expenses are paid to the business's local suppliers and wages are paid to employees. Business owners and employees also spend part of their profits and wages in the local economy—eating at local restaurants and buying groceries, clothing and movie tickets. As money circulates through the local economy, it multiplies the original direct expenditure to a larger total economic output.

Economic impact analysis (or economic contribution analysis) is based on the idea that a dollar spent in a region stimulates additional economic activity, or multiplies as it circulates through the economy. This *multiplier effect* recognizes that the total effect on output, employment, personal income, and government revenue in the region is greater than the initial dollar spent. For example, a tourist's expenditure at a souvenir shop contributes not only to that business, but to its suppliers, its suppliers' suppliers, each of their employees' incomes, and tax revenues. Of course, some of the original expenditure leaks out of the regional economy, for example as inventory is imported from other regions, employees commute from other regions, and businesses and households pay state and federal taxes. The portion of the money that remains in the local economy throughout these transactions constitutes the net economic gain. Larger regions contain more economic linkages, which is why large cities and multi-county regions generally have larger multipliers than do small towns or single counties.

Multipliers are calculated based on the purchasing patterns of industries and institutions in the regional economy. Each industry and region combination has a unique spending pattern and a unique multiplier.

Multipliers include three components. The *direct effect* on the economy is the initial economic activity measured—for example, the tourist's expenditure at the gift shop or total annual cotton crop losses due to a severe drought. The direct effect results in two types of secondary effects.

The *indirect effect* results from the purchase of inputs among local industries. The *induced effect* results from the expenditure of institutions such as households and governments benefitting from the increased activity among local businesses.

Four types of multiplier effects are generally reported in impact analyses. *Output or sales multipliers* measure the effect of direct spending (or loss) on overall economic activity in the region. The output multiplier provides the largest economic impact value and therefore is reported in many studies; however, the output multiplier says nothing about how the event affects the welfare of households or the profitability of businesses.

The *value-added multiplier* is a more appropriate measure of regional welfare. The value-added multiplier measures the event's contribution to regional gross domestic product (GDP). It is the value added to the regional economy or the return to local resources used in the production of the event.

The *labor income or personal income multiplier* measures the effect of the event on the incomes of households in the region and is appropriate for discerning the benefit of an event to a region's residents. Labor income is a component of value added, which is part of output, so these figures cannot be summed.

The *employment multiplier* measures the effect of the event on regional employment. Calculation of the employment multiplier assumes that existing employees are fully occupied and does not distinguish between full-time and part-time workers.

Texas A&M AgriLife Extension Service

AgriLifeExtension.tamu.edu

More Extension publications can be found at AgriLifeBookstore.org

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The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Courts of Texas Cooperating.

APPENDIX B

TEXAS

RURAL LAND VALUE TRENDS

 2020

ASPMRA



American Society
of Farm Managers
& Rural Appraisers

TEXAS CHAPTER



<https://www.txasfmra.com/rural-land-trends>

REGION 3

Region Three encompasses a large area and stretches from the Texas-Oklahoma border, on the north, to the Rio Grande and Republic of Mexico, on the south. With the exception of Region Five, all of the other reporting regions abut at least a portion of Region Three. General highlights of the overall regional market are as follows.

General highlights of the overall regional market are as follows.

- Stability would be the name for 2020. However, this would be considered a win due to the pandemic and resulting slow down of the US economy. The prices for farmland and pasture were stable. The primary reason for stability in farmland is the increased cost of production. This has offset any increase in commodity prices.
- Larger rangeland properties have seen some demand in 2020. This was primarily during the latter part of the year when the effects of the pandemic were mitigated and fears of inflation could have pushed some buyers into the rural real estate market. However, this increased demand did not result in an increase in prices.
- Solar and wind development has continued in North Texas and Central Texas. This is particularly in Knox County. Most of these wind farms are new versus expansion of old farms. It seems that this area has continued to receive demand for solar and wind due to several factors. The amount of oil and gas drilling in Region III as compared to farther west would have less effect on those areas that are either covered with solar panels or wind turbines. Additionally, the number of transmission lines in the area allows for a larger number of solar and wind farms.



North Texas

Archer, Baylor, Childress, Clay, Collingsworth, Cottle, Dickens, Donley, Foard, Hall, Hardeman, Jack, King, Knox, Motley, Throckmorton, Wheeler, Wichita, Wilbarger and Young Counties

Farmland prices continue to see a stabilization. Many of the producers in this area are concerned about commodity prices and, additionally, the higher commodity prices are offset by higher production costs. This has led to a stabilization of farmland prices in the North Texas area.

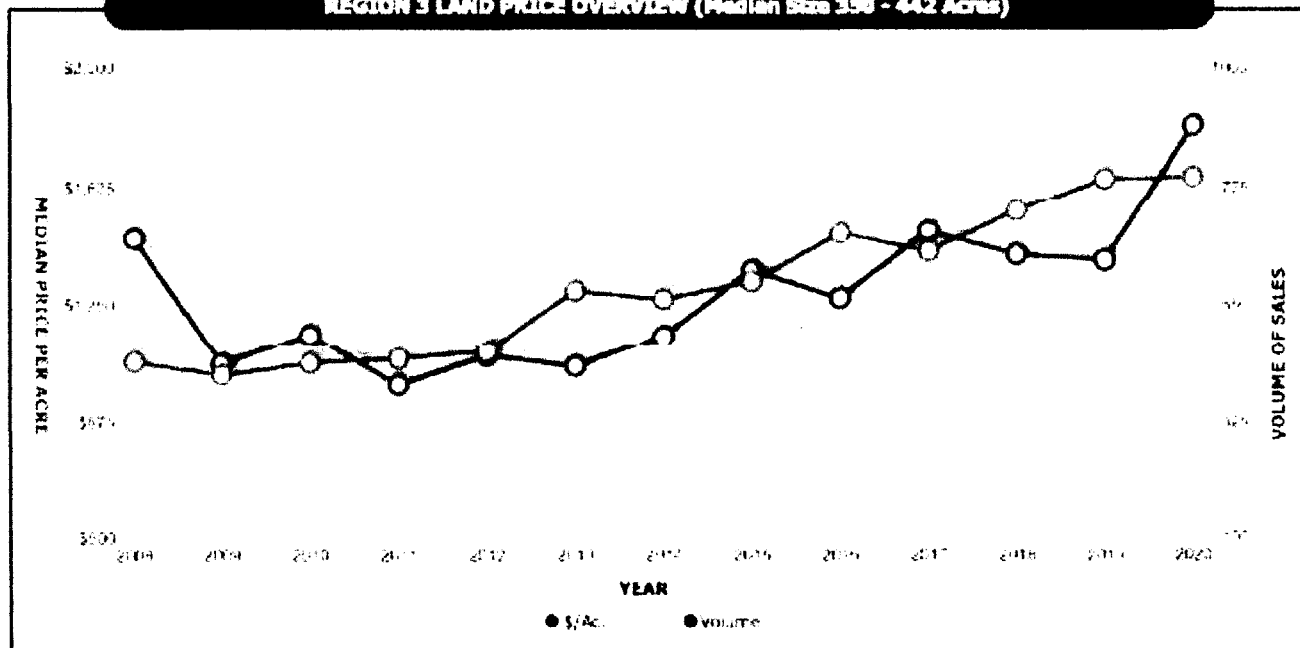
The rangeland prices were stable again with no increase or decrease in prices. Larger tracts continue to face some resistance from buyers.

Central Texas

Coke, Concho, Fisher, Haskell, Jones, Kent, Mitchell, Nolan, Runnels, Scurry, Shackelford, Stephens, Stonewall, Taylor and Tom Green Counties

The land prices in the eastern portion of Central Texas have stabilized in 2020. There was not a large increase in any of the land values. This was due primarily to the large jump in 2019. The difference would be a slight increase in Class II and Class III dry cropland from \$4,000 to \$4,500 per acre. There is continued demand for farmland, but the demand has slowed significantly due to the lack of drilling in the western area, which resulted in increased income to farmers in 2019 from water sales and damages.

REGION 3 LAND PRICE OVERVIEW (Median Size 338 - 442 Acres)



North Texas

Land Use or Class	Value Ranges	Activity/Trend	Rental Range	Activity/Trend
Irrigated Cropland	\$1,200 to \$2,000	Stable/Stable	\$40 to \$90	Stable/Stable
Class II & III Dry Crop	\$900 to \$1,600	Stable/Stable	\$30 to \$50	Stable/Stable
Class IV & V Dry Crop	\$800 to \$900	Stable/Stable	\$15 to \$30	Stable/Stable
Rangeland > 2,000 Acres	\$700 to \$1,500	Stable/Stable	\$8 to \$12	Stable/Stable
Rangeland < 2,000 Acres	\$700 to \$2,000	Active/Stable	\$8 to \$15	Stable/Stable
Hunting Lease Rangeland			\$6 to \$15	Stable/Stable

Rangeland lease rates per animal unit year long range from \$150 to \$240

Central Texas

Land Use or Class	Value Ranges	Activity/Trend	Rental Range	Activity/Trend
Irrigated Cropland	\$1,500 to \$7,000	Active/Increasing	\$50 to \$125	Active/Stable
Class I & III Dry Crop	\$1,000 to \$4,500	Stable/Increasing	\$35 to \$50	Active/Stable
Class V & V Dry Crop	\$850 to \$2,500	Stable/Stable	\$20 to \$35	Active/Stable
Rangeland > 2,000 Acres	\$900 to \$2,000	Stable/Stable	\$5 to \$15	Stable/Stable
Rangeland < 2,000 Acres	\$900 to \$2,500	Stable/Stable	\$5 to \$15	Stable/Stable
Hunting Lease Rangeland			\$6 to \$15	Stable/Stable

Rangeland lease rates per animal unit year long range from \$150 to \$240

South Central Texas

Land Use or Class	Value Ranges	Activity/Trend	Rental Range	Activity/Trend
Irrigated Cropland	\$1,000 to \$2,000	Stable/Stable	\$50 to \$75	Stable/Stable
Dry Cropland	\$700 to \$900	Stable/Stable	\$25 to \$55	Stable/Stable
Rangeland > 2,000 Acres	\$400 to \$1,400	Stable/Stable	\$4 to \$10	Stable/Stable
Rangeland < 2,000 Acres	\$500 to \$2,000	Stable/Stable	\$4 to \$10	Stable/Stable
Hunting Lease (Rangeland)			\$2 to \$15	Stable/Stable

Rangeland lease rates per animal unit year long range from \$150 to \$200



REGION 4

On the north and east sides, Region Four is bordered by the states of Oklahoma, Arkansas and Louisiana. The Dallas-Fort Worth metroplex is located in the northwest quadrant of the region; the Houston metropolitan area is located approximately eighty miles south of the region's southern boundary. Due to the diverse nature of the area, Region Four has been divided into four sub-regions.

Highlights of the overall regional market precede a brief discussion of each sub-region.

- In most counties, prices have begun to increase. Real estate brokers reported marketing time had lessened to a more reasonable days on the market. In 2019 and 2020 demand increased in the recreational areas near Dallas and north of Houston. Rental demand for pasture and recreational leases exceeded the supply.
- In many counties, the continuing subdivision of wooded and pasture tracts into rural residential or recreational tracts, almost eliminated sales that were larger than 300 acres. This subdivision has increased, and well located tracts with substantial road frontage continue to be sold for subdivision.
- Wooded tracts, with good recreational qualities, consistently commanded prices on par with good pasture lands.
- In the North and Northeast Texas areas, most buyers were from the Dallas-Fort Worth metroplex.
- In the Piney Woods, the influence of the International Paper and Louisiana Pacific &
- Temple-Inland sell-offs has now moved to long term or end users with TIMOs (Timberland Investment Management Organizations) owning large timber tracts and acquiring others. Some of these end users have now re-sold their tracts at higher prices.

North Texas

Cooke, Ellis, Fannin, Grayson, Hunt, Kaufman, Montague, Rains, Somervell, and Van Zandt Counties

In that there is a total lack of rural lands in Dallas, Tarrant, Collin, Denton, Parker, Rockwall, Hood, and Johnson counties, these counties were not considered in the development of the sub-region's value trends. Beyond these counties, transitional land sales along highway, tollway, and interstate corridors in all directions from the Dallas Fort Worth Metroplex have not been reported due to developmental influences. These fringe counties and corridors are becoming an extension of the Dallas-Fort Worth metroplex and development is occurring rapidly.

In the North Texas land market, 2020 saw a frenzy of sales activity and strong value increases across essentially all rural property types. This was

at least partially attributable to the COVID-19 pandemic as urban dwellers looked to escape the close proximities of the metroplex for rural home sites, recreational retreats, etc. Overall land values increased at an accelerated pace over years past while average tract size continued its downward trajectory. Land tracts smaller than 100 acres continue to make up the bulk of the market within the North Texas sub-region. Smaller tracts now account for over 90 percent of all transactions in 2020, up several percentage points over 2019, according to MLS data. Values and number of sales for tracts less than 100 acres continued their upward trend in 2020 with very strong demand. Land tracts larger than 100 acres showed more moderate, but still strong value increases while the number of sales slid further from 2019. The decrease in number of sales is due largely to lower supply of actively listed large tracts in North Texas as compared to years past, even though demand for large tracts remains high.

The North Texas land market is generally dominated by investors from the Dallas-Fort Worth metroplex in all segments and across all property types. Local producers provide a secondary market base which must compete with metroplex investors. Land values of the region are principally a function of proximity to the Dallas-Fort Worth metroplex or interstate and major highway corridors for ease of access to and from the metroplex. Secondly, investors commonly pay premiums for properties with enhanced recreational appeal in the form of above average topography, live water creeks, springs, lakes, or suitability to develop lakes and other surface water on the site. The emphasis on aesthetic and recreational appeal has negated the use of traditional land classes based on productivity. Highest value rural land in this market will typically have a mixture of multiple land types allowing the owner several different uses of the property. Production type properties which are exclusively cropland or open pastureland commonly lack aesthetic or recreational characteristics and therefore are the least desirable within the market. For these property types, sales activity has remained stable and value trends have shown moderate increases, keeping with the general market.

Buyer motivation is typically for recreational pursuits and rural residential on either a permanent or temporary basis, coupled with investment. Most buyers will also conduct some sort of small scale agricultural operation as a hobby farm or lease to an area producer to maintain tax exemptions. Rental rates for land is varied with many landlords requiring only property upkeep and maintaining the agricultural exemption while others report cash rates within the reported ranges.

Although occurring throughout the fringe area, major growth trends of the metroplex continue to be north along the Highway 75 and Preston Road corridors. Growth in this area is driven by population and job growth brought in part by economic growth and continued corporate relocations into the northern metroplex. These areas tend to contain the highest amount of value growth with developers and investors being the primary drivers of that market. Recreational and full/part time residential users are forced to seek suitable properties outside of those corridors.

North Texas

Dry Cropland > 200 Acres	\$2,750 to \$5,500	Increase/Increase	\$40 to \$60	Stable/Stable
Improved Pasture > 200 Acres	\$2,750 to \$7,000	Increase/Increase	\$15 to \$25	Stable/Stable
Native Pasture > 200 Acres	\$2,750 to \$7,000	Increase/Increase	\$10 to \$20	Stable/Stable
Hardwood Timber > 200 Acres	\$2,250 to \$3,000	Increase/Increase	\$6 to \$12	Stable/Stable

These hardwood tracts reflect only fair timber quality and income is from hunting leases
Dallas, Tarrant, Collin, Denton, Parker, Rockwall, Hood and Johnson Counties Not included in development of value trends due to there being almost a total lack of rural lands within the counties

APPENDIX C

<https://assets.recenter.tamu.edu/Documents/presentations/EK-Land20190425.pdf>
<https://rpa-inc.com/wp-content/uploads/2020/03/EK-Land20190425.pdf>

Wind Turbines: Killing the market or just a few deals?

29th Annual Outlook for Texas Land Markets

Erin M. Kiella, PhD
Asst. Research Economist

April 25, 2019



What do the academics say?

- Academic literature has shown *no statistical evidence* of adverse property value effects due to views of or proximity to wind turbines.
- Various statistical methodologies, datasets and regions have been considered.
- “Neither the view of wind energy facilities nor the distance of the home to those facilities was found to have any consistent, measurable, and significant effect on the selling prices of nearby homes.”
- Fear of the unknown
 - “Anticipation stigma” effect- lower community support for proposed wind facilities before construction but support increases once facilities are operational.
 - Similarly another article found those who live closer to turbines support turbines more than respondents who live further away.
- Showed homes’ property values increased due to the facilities driving economic investment and tax revenue which benefited all surrounding property owners.

What about appraisers?

- Consider the income capitalization and highest and best use.

Income Capitalization

- Land receiving income from wind energy production will receive a higher price, *ceteris paribus*, than similar land not receiving income from wind turbines.

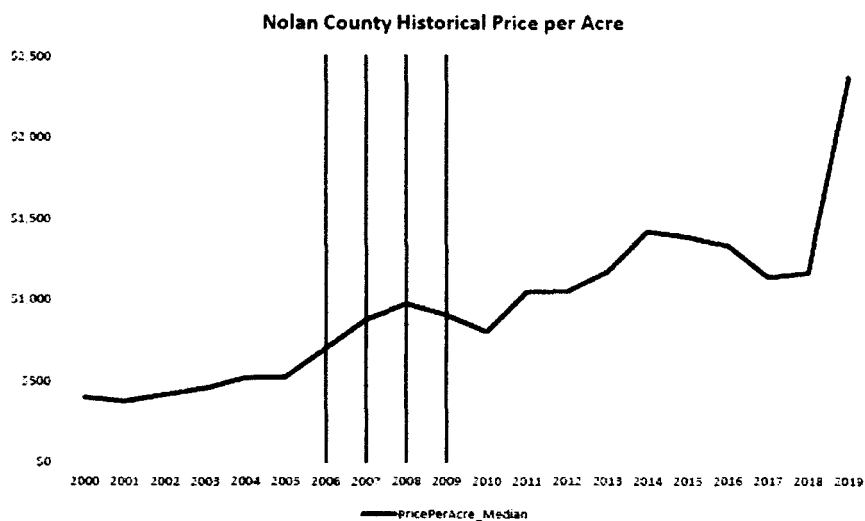
Highest & Best Use

- High ag production areas
 - Pan Handle, South Texas, etc.
 - Will not see declines in prices as the use of the land has largely been unchanged but instead the land now has an added income source.
- Residential land
 - Hill country, proximity to metro areas
 - Land selling at a premium for residential and view shed use are more likely to be affected by the addition of wind turbines.
 - Market data has not shown to support any diminution in value from wind turbines.

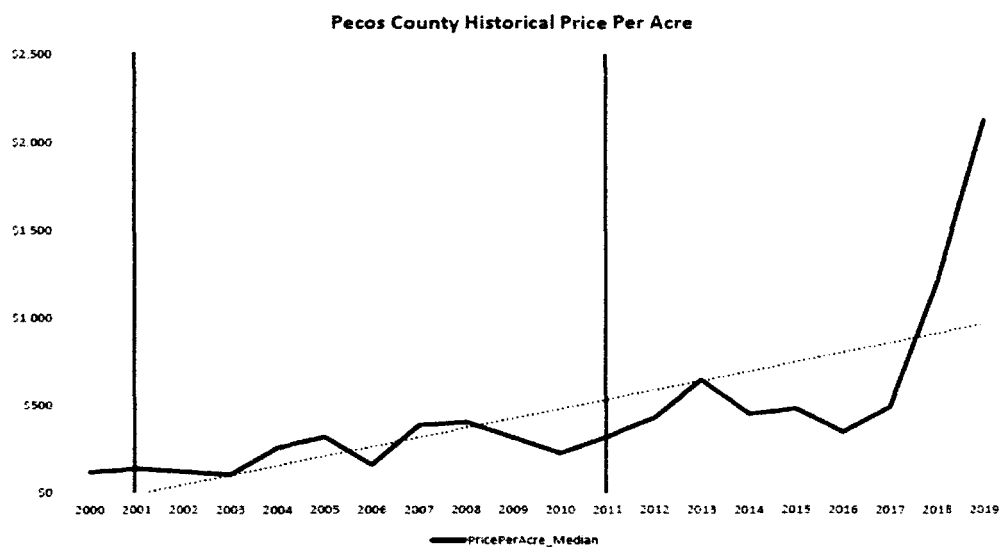
Texas' largest wind farms

Nolan County (1,743)		Pecos County (217)	
Roscoe	<ul style="list-style-type: none">• 634 wind turbines• Completed in 2009	Sherbino	<ul style="list-style-type: none">• 110 wind turbines• Completed in 2011
Horse Hollow	<ul style="list-style-type: none">• 421 wind turbines• Completed in 2006	Desert Sky	<ul style="list-style-type: none">• 107 wind turbines• Completed in 2001
Sweetwater	<ul style="list-style-type: none">• 392 wind turbines• Completed in 2007		
Buffalo Gap	<ul style="list-style-type: none">• 296 wind turbines• Completed in 2008		

Nolan County Price per Acre




Pecos County Price per Acre



Wind wrap up

- Market overview and future of wind production: what does wind production look like in the U.S. and Texas and should we expect wind turbine graveyards? Wind production in U.S. and Texas is growing, construction costs and technology are improving and there remains significant capacity for continued growth.
- Contract structures: what to look for? Contracts for wind lease have become much more standardized and protect land owners.
- Land values: killing the market or just killing a couple deals? Currently, it looks like wind turbines are only killing a couple deals and haven't adversely affected land markets. Research also shows that as people are exposed to wind turbines, they are more supportive of them. A positive outlook for future.
- Separating wind rights from surface rights: does it make sense? Has been done but doesn't prove efficient yet.

 REAL ESTATE CENTER

Thank you

Dr. Erin M. Kiella
Assistant Research Economist
Real Estate Center at Texas A&M University
ekiella@mays.tamu.edu

 REAL ESTATE CENTER

From: Will Mangum <wmangum68@gmail.com>
Sent: Monday, July 12, 2021 4:07 AM
To: Debra Tillery
Subject: Jack County Opportunity

FILED FOR RECORD

_____ O'CLOCK _____M

JUL 12 2021

Honorable Commissioners for Jack County,
COMMISSIONER GARY OLIVER, PRECINCT 1
COMMISSIONER DARREN FRANCIS, PRECINCT 2
COMMISSIONER HENRY BIRDWELL, PRECINCT 3
COMMISSIONER TERRY WARD, PRECINCT 4

VANESSA JAMES, County Clerk
JACK COUNTY, TEXAS
BY _____ DEPUTY

You have patiently listened to all the comments and presented facts. Some facts might be a personal option twisted just slightly with a little fact to sound good, even mine at times I'm sure. If mine have been wrongly presented to you, I hope to have the chance to find the full fact and present it.

I am writing this after waking from a good quality sleep, pardon me if it is a little off grammar or spelling. I have wanted to write the right words to give you more of the supporting side of the wind farm to the up and coming decision today on abatements.

The opposition has been the squeakiest wheel in the room from the start and I have been to most of their meetings. I know they will say things during the dinner presentations that are not fully factual and just enough *feels good information* that the group gets motivated and angry at the thought of wind turbines. Gary has made most of these events, the project is mostly in his area. I see their way of presenting these facts very much the same way the 'cancel culture' is doing right now. The focus is so small they blind most of the membership to the benefits of the forest, if managed properly. The remaining 30% (my guess) of the members/leadership goes about 50-50, either they don't want to recognize the facts because they believe they are on a personal mission (and can't be wrong) or they have found a way to profit off the donations of the group/membership they have scared and worried, not caring about how they a twisting the facts. Some of this is the way I have taken what I have heard and I understand this. I used to be anti-wind farm.

Most of the community that believes that the land owner and community will benefit from these type projects, can't come to the hearings because they have jobs and commitments. Most of the NTHA membership is outside Jack County and/or have retired. When asked about how they would like to pay for higher taxes, for example, they don't want that. They just want what they want, cookies for every meal kind of thing. I would like to make an honest living and be able to keep the land in our family honoring the hard working, determined, family focused, and God fearing Great Grandparents that settled here off Puddin Valley.

Oil Companies only pay a landowner 1 time payments when they move in, unless you have mineral rights. Then they are there and can come back any time they feel like it. No other payments. This wind farm project can benefit not only the land owner, it can also benefit neighbors if the realtors would inform them about the project and how signing a wind lease can be similar or better than some grazing rights. There are some land deals going on up here, in the North county, that I can't see how the realtors are feeding their families unless they are on welfare, hahaha. My attempt at a joke. Realtors hide their facts behind some law/regulations and then can't be held accountable/liable for the facts they failed to provide to the buyers. Property values are going up due to realtors splitting up family heritage large plots into smaller plots and then doubling the price for profit, kind of self imposed inflation.

Wildlife will benefit if the land owner or the county gets the wind farm to plant native and beneficial foliage back into the areas that do have to be cleared. Not to mention the cattle having grass on areas that could not be planted before the wind farm came in. Bee Keepers could really make some of these areas very useful for all the neighbors, even outside the county.

Our schools, hospital and community will benefit, providing the companies that look at Jack county for a possible location to move are given a chance to get a fair abatement. All large companies look for abatements, even smaller ones, just not labeled as an abatement. Companies will go where it is their best interest and will work to benefit the community they move into. Jack County has been a leader in the North Texas area as far back as before the Civil War. Better schools, inventions, lowest slavery and mostly conservative Christian values.

I will pray for you, your families and the Jack community that you are elected to serve. Praying you to have peace, comfort and good health no matter your vote today.

Sincerely,
GOD BLESS AMERICA

--
Will and Denise Mangum
Happy C Ranch, LP



Virus-free. www.avg.com

Amee,

Thank you for your voice.
It has been heard and your input is appreciated!

Jack County
Precinct #1 Commissioner
Gary Oliver

Sent from my iPad

FILED FOR RECORD

_____ O'CLOCK _____ M

JUL 12 2021

VANESSA JAMES, County Clerk
JACK COUNTY, TEXAS

BY _____ DEPUTY

On Apr 26, 2021, at 4:27 AM, B B ROLAND <rolandranch@comcell.net> wrote:

Dear Judge and Commissioners,

My mother-in-law, Suzann Roland, requested that I email her request that you vote in favor of the wind project. Suzann Roland is in favor of the Lasso Wind Project.

Thank you,
Amee Roland

I wish to address some of concerns that were expressed about the windmills at the very lengthy Commissioner's Court on April 26, 2021.

First, let me introduce myself. I am Amee Roland, was born and raised in White Settlement, attended Texas Tech, graduated, then went to work for Palo Pinto General Hospital as a physical therapist providing medical services to Palo Pinto, Jack and Young Counties. As part of my job duties, I also provided physical therapy to the Jack County school system. I met and married Billy "Buster" Roland while he was working for Jack County Precinct 1 as a road hand and we started a family a few years afterward. He continued to work in Precinct 1 and 3 of Jack County until he transferred to Clay County Precinct 3 after our only child, Victoria, was diagnosed with leukemia and we needed better health insurance (at that time, Jack County was not participating in the Texas counties pool of Blue Cross Blue Shield insurance). After deciding to homeschool our daughter, I took part-time jobs at IntraCare Home Health (now Kindred at Home) and Faith Community Hospital Home Health in Jacksboro. To help out with staff shortages, I have worked in every nursing home within the area at some time or another.

Billy was raised in Jacksboro on Hensley Street and graduated from Jacksboro High School. His dad, Bill (always wore a metal hard hat) worked and retired from Lone Star Gas. Suzann, his mom, was a full-time homemaker, "except for the time she took a job to pay a bill or two." She now works as a caregiver for Willie Mae Henderson.

Tori is doing well and attending a class at Faith Community Hospital to get her phlebotomist's certification. She will be a bona-fide vampire drawing people's blood, which given her own health history, seems very fitting.

We live a stone's throw across the Jack county line in Clay County – in the Post Oak area. We did not inherit our properties in Jack, Clay and Young Counties. We have worked hard and bought what little we have. This *IS OUR HOME* and I have provided healthcare to many of your loved ones or perhaps even yourself. During Tori's youth (hee-hee, she is 23 now and considers herself old), we ran the Jack County Rough Riders for many years. Now that you can hopefully place and trust me, let's get down to the issues at hand. Yes, we have signed up with *EDF* for the windmills. Let me explain why.

As you can see from the picture, we have an amazing view from our home in Post Oak and we would prefer that view not be speckled with windmills; however, I care more about good health care, schools and community services like ambulance and fire services than I care about my view. So, if they are coming (AND I PRAY THEY DO), we welcome the increased income potential and the huge benefit that EDF can provide to our community. Now, I do not have many God-given talents but He gave me a heart of servitude and that heart is willing to give up my front porch view for a few years in order to benefit our children, the ailing, the injured or those in need. Forty years will be gone in the blink of an eye.

The opposers state they have a **right to their view**. There is no such thing as a right to your view, except in a few heavily populated areas of Texas¹. The Texas Supreme Court allows property owners to build and manage their properties as they see fit. As Texans, we are fiercely independent and opinionated on our rights. We do not wish to have others tell us what we can and cannot do with our own property. Basically, you do not own your horizontal view but you are more than welcome to lay down on your own property and look straight up toward the heavens... that is the only view that you *own*.

People argue that the windmills are ugly and others will not move to our area if we allow them. Superior healthcare and education are huge draws for a community. Build it and they will come! Oh, wait... Jacksboro already has an amazing new hospital and school. Bryson is in the process of improving their education facilities also. That is largely due to the tax revenue from the wind projects.

Some opposers to the windmills expressed that they would rather have the **noise** of a pump jack and to see it as opposed to the noise of a windmill. I might remind everyone that a derrick is usually 35-40 feet tall and quite a bit noisier than a pump jack at 85-120 decibels² which can cause permanent health issues, such as deafness, hypertension, headache, dry skin, weak eye sight, and abnormal conscience state of mind³. Did I mention all that pipeline crisscrossing the land? At 300 meters, the windmills emit approximately 43 decibels. For reference; an AC runs at about 50, a frig usually about 40 and normal conversation is 60 decibels⁴.

Plus, the windmills are much more **environmentally friendly** than the oil field. An oilfield scold will damage the earth and the ecosystem of the area – for decades⁴. Someone mentioned the Sand Hill Cranes habitat being encroached upon. EDF has completed their required ecological studies and has made all necessary adjustments for the cranes.

Another false claim: the windmills are going to cost the taxpayers money. We already have windmills in the south region of Jack County and, NO, they do *not* cost the taxpayers a dime... Let me say it again. The taxpayers have paid *zero* money to the windmill companies and *zero* in taxes as a result of the windmills. The proof is in the pudding, taxes didn't go up when previous windmills farms were built!

Another disputed claim: If the windmill company is given a **tax abatement**, it will cost the taxpayers money⁶. NO. An abatement is a percentage off for a given amount of time, but no-one else pays that percent. A perfect example: no other taxpayer pays for your homestead, over 65, disability, Veterans' or agricultural exemption discounts. They are discounts but no-one else accrues that cost. If you buy something on sale at the store, the person behind you in line doesn't pay extra! It purely means that the county has less income for the agreed upon length of time, but you cannot miss what you never had. It is not being taken away. It was never paid.

It was voiced that the skeletons of the dilapidated windmills will be left to the landowner and the county to dispose of after they are **decommissioned**. No. The Texas Legislation has passed strict laws stating that the site must be restored to the same or better condition than it was before the windmills were built⁷.

The opposition argues that the windmills drive **property values** down. NO. Business property is valued much higher than agriculture property⁸. If you purchase a vacant land that is zoned for business, you will pay much more for it than one zoned for agriculture.

It has been argued that the windmills do not hire locally and bring in outside employees that do not benefit our economy. That is not solely true and the increase sale tax while those workers are staying locally fuels the local economy. Those workers still have to eat even if they are living in man camps. They also tend to hire local contractors to perform whatever necessary builds that they require.

Our county **roads** greatly benefit from the replacement of bridges and gravel while widening and ditching the roads to accommodate the necessary equipment that the wind mills require. The wind

company maintains those roads during the construction process to leave behind much needed improvements to the road's infrastructure.

Healthcare has always been a passion of mine and during Tori's health crisis, it was very challenging to get the necessary healthcare that she required. At that time, Faith Community Hospital did not even have the updated lab equipment needed to run her blood tests. During her two and a half years of cancer treatment, we often lived with my mom in Ft. Worth, traveling back and forth to care for our livestock and work so we could provide her the healthcare that she needed. Good healthcare is literally the life's blood of community.

Opposers state that the wind farms do not benefit their children, steal their legacy and that they are of no benefit to them. A good education provides an unlimited potential. The current wind farms have greatly funded the amazing Jacksboro schools and athletic complexes. The improved school facilities also create local jobs. I treat clients from 5 counties and many of them are choosing to come to Faith Community Hospital due to the great new facility and updated technology. We have many specialty physicians that now come to the new facility that would never have considered visiting our previous facility. Yes, wind farms greatly helped fund the improved healthcare facilities, also. I pray you never need the hospital but it is a valuable community necessity and creates local jobs.

It was stated that we can raise enough money to build better schools and hospitals without taking money from the windmills. When I asked to pass the hat for a collection to be taken at Commissioner's Court meeting, no one contributed. No one was willing to put their money where their mouth is and donate **\$2.9 million!** Yes, ladies and gentlemen, that is the amount that Jack county collected in ONE year from wind farms. Based on my research: the Barton Chapel Farm paid a total of \$779,207.01 on 10/30/2020 & 01/25/21; the Keechi Wind Farm paid \$871,905.87 on 02/01/2021; and the Senate Wind Farm paid \$1,249,124.82 on 01/25/2021⁹. The opposers to the windmills are suggesting that we raise that kind of money ourselves! **WOW!** Now that would require a huge increase in property taxes! Who in their right mind says no to ¾ of a million dollars every year? The projects typically last for 40 years. Now, my basic math skills are a bit rusty but that is \$30 plus million in tax revenue for the community!

I am not saying the windmills are 100% good. I am saying the good outweighs the bad. 40 years of Christmas lights welcoming you home at night and the rhythmical whoo whoo of the blades has a huge silver lining. Money is not everything and "the love of money is the root of all evil – 1 Timothy 6:10." Good education and good healthcare are invaluable.

We had people die because ERCOT was not prepared and NO it was not solely because of renewable energy¹⁰. I don't ever want our great state to be without heat in the middle of the worst winter storm in recorded history. We need to diversify and update our resources so we can avoid such a situation.

I do want to express a concern. How is it that we can justify saying NO to windmills in North Jack County when we have already said yes to them in South Jack County? Isn't that the epitome of discrimination? How can we stop the North Jack County property owners from having the same income generating opportunities that we have allowed South Jack County property owners? Now that is truly a question for the lawyers.

Guys, I am a simple, hard-working woman that has been truly blessed to find a career that I love, in a place that I adore, and with a family that I cherish. The windmills evoke strong emotions from people but please, PLEASE, DO YOUR OWN RESEARCH. Do not let biased, pot stirrers wreck your sanity and compromise your vision for the betterment of our community. This is a huge tax revenue opportunity for Jack County that the taxpayers cannot realistically provide themselves.

If you have questions or concerns and wish to have a *civil* conversation, please feel free to contact me after 6pm any day of the week. Now folks, it is goat kidding season and I don't have cell phone signal in the barn. Leave me a message and I will call you back as soon as possible.

Respectfully,
Amea Roland, PT
(940)366-2057

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JUL 12 2021

VANESSA JAMES, County Clerk
JACK COUNTY, TEXAS

BY _____ DEPUTY

July 9, 2021

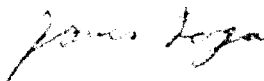
Honorable Judge Keith Umphress
Jack County Commissioners Court
100 N Main Suite 206
Jacksboro, TX 76458

RE: July 12, 2021 Commissioners Court

Dear Judge Keith Umphress,

Regretfully, I will be unable to attend the commissioners meeting as I have a scheduled medical procedure. I am writing to thank you for your continuing hard working, dedication, and commitment to Jack County. Please accept this letter as my support to the tax abatements for renewable energy solutions. I feel it is of upmost importance to work with companies such as EDF for the betterment of our county. The revenues generated by the renewable energy companies will continue to support the progression, growth, and development throughout our county and enhancements in education for our future generations.

Respectfully,



James Logan

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BY _____ DEPUTY

July 9, 2021

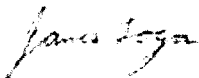
Commissioner Terry Ward
Jack County Commissioners Court
100 N Main Suite 202
Jacksboro, TX 76458

RE: July 12, 2021 Commissioners Court

Dear Commissioner Terry Ward,

Regretfully, I will be unable to attend the commissioners meeting as I have a scheduled medical procedure. I am writing to thank you for your continuing hard working, dedication, and commitment to Jack County. Please accept this letter as my support to the tax abatements for renewable energy solutions. I feel it is of utmost importance to work with companies such as EDF for the betterment of our county. The revenues generated by the renewable energy companies will continue to support the progression, growth, and development throughout our county and enhancements in education for our future generations.

Respectfully,



James Logan

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JACK COUNTY, TEXAS

BY _____



**Impact Analysis: Wind Farms and Rural
Residential Property Value**
Clay & Montague Counties, Texas

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JUL 12 2021

**VANESSA JAMES, County Clerk
JACK COUNTY, TEXAS**

BY _____ DEPUTY

ABSTRACT
Quantitative and qualitative analysis indicates that wind turbines and their related wind farm have a negative impact on rural residential property value ranging from -10% to -50%.

KURT C. Kielisch
Forensic Appraisal Group, 116 E. Bell
Street, Neenah, WI

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Impact Analysis: Wind Farms and Rural Residential Property Value

(Clay & Montague Counties, Texas)

By: Kurt C. Kielisch, ASA, IFAS, SR/WA, RW/AC
May 11, 2018

Overview

A review of empirical studies and a literature review of the impact that large-scale wind farms have on rural residential property value were utilized to estimate the impact that proposed wind farms in Clay and Montague Counties, Texas, will have on surrounding residential property values. Through numerous studies in many states we have found that the impacts stated in this report vary little by geographic location. It can be stated with confidence that what holds true in the Midwest tends to be true in the southwest such as in the State of Texas. The literature review will be addressed first.

But, before we begin this review it should be noted that our firm is currently engaged in studying the impact of a wind farm in central Illinois investigating both rural residential and agricultural property value impacts. Though the study is still in the early stages, it has come to our attention that the agricultural vacant land parcels lying within the borders of the wind farm, which participate in the wind farm income stream, are selling for less (ranging 5% to 10% less per acre) than comparable land outside of this zone. This early finding is surprising as those properties are generating either wind turbine lease income or participating wind farm income on an annual basis. Sales confirmation has shown that this income stream is being sold with the property which would indicate that the income stream does not compensate for the overall value loss. To get to the real value of the land, this income stream has to be extracted from the overall sales price which will result in an impact of value greater than a 5% to 10% loss range. The central Illinois study is not expected to be completed until early summer. At that time, we will have more data to support our early observations on the impact to agricultural land value.

Literature Study

Perception=Value

It is important to remember "perception drives value." This may appear to be an overly simplistic statement, but what a buyer believes a property is worth and how a buyer acts based on that belief, are truly the core elements of market value. Therefore, to understand market value, appraisers need to examine its driving element – perception. Perception is strongly influenced by the media which is no longer limited to the traditional print, radio, and television venues, but also includes the Internet. The



Internet brings opinions, facts, and stories from all over the nation and the world, influencing one's perception. This perception need not be based on fact; it simply has to be believed and then acted upon to result in an impact.

Some argue that perception is simply revealed by comparable sales. It is true that the resultant action of perception is quantified in the sale, but it may not be true that the underlying perception driving that action is defined by the sale. In appraisal, we call this the *qualitative factor*. Often this factor is identified in appraisal analysis as a judgment call based on perception such as "fair" in a quality description or "undesirable" as to a view. To achieve this perception, the appraiser needs to look deeper into the driving force of the action by reviewing what is being said in the media regarding the question: "Do wind turbines affect property value?" Such a study may be useful to an appraiser to put a qualitative value on this perception when estimating the impact that a Wind Farm may have on property value.

Following is a summary of our findings from published sources outside of the trade industry to get a measure of the public's perception of wind turbines and their potential impact on property value.

Health Issues

Many people living near operating wind turbines are reporting neurological and physiological disorders that are only resolved when the turbines are off, or when they leave the area. Common symptoms include sleep problems, headaches, dizziness, unsteadiness and nausea, exhaustion, anxiety, anger, irritability and depression, problems concentrating and learning, and Tinnitus (ringing in the ears).¹ Symptoms can be experienced up to 1.2 miles away in rolling terrain; 1.5 miles away in valleys; and 1.9 miles away in mountainous regions.² These symptoms are commonly being referred to as "Wind Tower Syndrome"³ in the U.S., but they are the same symptoms of a proven ailment, Vibroacoustic Disease (VAD).⁴

In 2007, two Portuguese scientists found that the amount of infrasound and low-frequency noise (LFN) generated by wind turbines is conducive to VAD.⁵ Symptoms include slight mood swings, indigestion, heartburn, mouth/throat infections, bronchitis, chest pain, definite mood swings, back pain, fatigue, skin infections (fungal, viral, and parasitic), inflammation of stomach lining, pain and blood in the urine, conjunctivitis, allergies, psychiatric disturbances, hemorrhages (nasal, digestive, conjunctive mucosa) varicose veins, hemorrhoids, duodenal ulcers, spastic colitis, decrease in visual acuity, headaches, severe joint pain, intense muscular pain, and neurological disturbances.⁶

¹ Nina Pierpont, MD, PhD, *Wind Turbine Syndrome: Testimony Before the New York State Legislature Energy Committee*. March 7, 2006.

² Ibid.

³ Ibid.

⁴ Mariana Alves-Pereira, Nuno A. A. Castelo Branco, *Second International Meeting on Wind Turbine Noise*. Lyon, France – September 20-21, 2007.

⁵ Ibid.

⁶ Ibid.



Besides noise, wind farms can electrically pollute their surroundings.⁷ A study of before-and-after sound waveforms demonstrates how overexposure to high frequencies can cause symptoms such as ringing in the ears, headaches, sleeplessness, dangerously high blood pressure, heart palpitations, itching in the ears, eye watering, earaches, and chest pressure. All are symptoms of Radio Wave Sickness – a proven phenomenon that predates Wind Tower Syndrome. It takes very little exposure to start experiencing these symptoms.⁸

The symptoms became so bad that four families had to abandon their homes near the wind farms – prompting the wind company to bury the collector line for turbines near the worst-hit homes. They also put an insulator between the neutral line and the grounding grid. It reduced the high frequencies but didn't completely resolve the situation.⁹

In 2009, Minnesota's Department of Health released a study on the public health impact of wind turbines. They found that wind turbines generate a broad spectrum of low-intensity (frequency) noise. Though homes typically block most high-frequency noise, they do little to weaken low-frequency noise. Sleeplessness and headaches are the most common health complaints associated with proximity to turbines and are highly correlated with annoyance complaints. Most available evidence suggests that reported health effects are related to audible low-frequency noise. LFN is typically a non-issue at more than a half mile. However, differences in terrain or different wind conditions could cause the sound to reach further. Unlike LFN, shadow flicker can affect people outdoors and indoors. They recommend the following: further testing to determine the LFN impact; evaluating potential impacts from shadow flicker and visibility; estimating the cumulative noise impacts of all wind turbines.¹⁰

Although acousticians and engineers working for the wind energy industry conclude that audible noise and low-frequency noise from wind turbines are unlikely to cause health effects, experts in biomedical research have drawn different conclusions.¹¹

Industry advocates commonly quote the WHO Community Noise Paper of 1995 which says, "There is no reliable evidence that infrasound below the hearing threshold produces physiological or psychological effects." However, the final WHO document of 1999 reversed that statement: "The evidence on low-frequency noise is sufficiently strong to warrant immediate concern."¹²

⁷ Catherine Klieber, *Modern Wind Turbines Generate Dangerously "Dirty" Electricity*. Dirtyelectricity.ca. April 28, 2009.

⁸ Ibid.

⁹ Ibid.

¹⁰ *Public Health Impacts of Wind Turbines*. Minnesota Department of Health Environmental Health Division. May 22, 2009.

¹¹ Barbara J. Frey, BA, MA and Peter J. Hadden, BSc, FRICS, *Noise Radiation from Wind Turbines Installed Near Homes: Effects On Health – With an annotated review of the research and related issues*. February 2007, June 2007.

¹² Ibid.



A British study surveyed 39 residents already known to be suffering from problems they felt were due to their close proximity to the turbines. On average, 75% of them reported fatigue, lack of sleep, and headaches. Half reported stress and anxiety, and a quarter reported migraines, depression, and tinnitus.¹³

It is clearly evident that there are people living near turbines who are genuinely suffering from health effects from the noise produced by wind turbines¹⁴ – despite developers’ and some acousticians’ claims to the contrary.

Field studies performed among people living in the vicinity of wind turbines showed that there is a correlation between sound pressure levels and annoyance, but that annoyance is also influenced by other factors such as attitude to wind turbines and the landscape. However, noise annoyance from wind turbines was found at lower sound pressure levels than in studies of annoyance from road traffic noise. This is because the absolute noise level is less important than the character of the noise produced.¹⁵

People are “in an extremely delicate state of equilibrium with the sonic environment and any profound disturbance of this system will have profound ramification to the individual.” Our auditory and cerebral systems are extremely complex. Thus, issues surrounding noise annoyance/disturbance and associated health effects are not simple. The noise produced from wind turbines is extremely complex...and it is the complexity of the noise and vibration which causes the disturbance.¹⁶

Low-frequency noise is also produced by wind turbines. It’s mainly the result of the displacement of air by a blade and of turbulence at the blade surface. LFNs contribute to the overall audible noise but also produce a seismic characteristic which is why people can say they can “feel” the noise.¹⁷

Body vibration exposure at seemingly low frequencies from 1-20 Hz can have the following effects:¹⁸

- General feeling of discomfort 4-9 Hz
- Head symptoms 13-20 Hz
- Influence on speech 13-20 Hz
- Lump in throat 12-16 Hz
- Chest pains 5-7 Hz
- Abdominal pains 4-10 Hz
- Urge to urinate 10-18 Hz
- Influence on breathing 4-8 Hz

¹³ Dr. Amanda Harry M.B.Ch.B., P.G. Dip.E.N.T., *Wind Turbines, Noise and Health*. February 2007.

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ Ibid.

¹⁷ Ibid.

¹⁸ Ibid.



Over time, symptoms from LFN can have serious adverse physiological effects.¹⁹

- After 1-4 years: slight mood swings, indigestion, heartburn, mouth/throat infections, and bronchitis.
- After 4-10 years: chest pain, definite mood swings, back pain, fatigue, skin infections, inflammation of stomach lining, pain and blood in urine, conjunctivitis, and allergies.
- After 10 years: psychiatric disturbances, hemorrhages, varicose veins, hemorrhoids, duodenal ulcers, spastic colitis, blindness, headaches, severe joint pain, intense muscular pain, and neurological disturbances.

LFN intensity is subject to the sudden variation in air flow. LFN also modulates well-audible, higher frequency sounds and thus can create periodic sound. The effect is stronger at night – sometimes up to 15-18dBs higher – because of atmospheric differences. Multiple turbines can interact with each other to multiply the effect – which will be greater for larger, more modern turbines.²⁰

Because the wind is inconsistent, so too will be the noise (and thus health effects) caused by wind turbines.²¹

Noise and “flicker” at nearby residences often affect the occupant’s health.²²

One particular case has generated substantial press. The d’Entermont family home is in the midst of a 17-turbine wind farm. Soon after the turbines began operating, they started feeling irritation that caused noticeable shifts in their six children’s behavior. They started hearing ringing in the ears, loss of concentration, and high blood pressure. They had to move 30 miles away to resolve the health issues, and no one will buy their home.²³

However, these symptoms don’t affect everyone. As a result, the wind energy industry ignores such health claims by leaning on acoustics consultants who base their conclusions on engineering principles instead of on audiologists and physicians who study the effect of sound and vibration on people.²⁴

Likewise, many environmentalists dismiss any health effects – claiming they’re fictitious beliefs fueled by not-in-my-backyard-ism.²⁵

¹⁹ Ibid.

²⁰ Ibid.

²¹ Ibid.

²² Gleen Schleede, *Investment in Wind Yields Negligible Environmental Benefits*. Energy Market & Policy Analysis, Inc. Date Unknown.

²³ David Rodenhiser, *N.S. Goes Green, but at What Cost? In remedying one problem, we shouldn’t ignore signs we’re creating another*. The Daily News, September 23, 2007.

²⁴ Ibid.

²⁵ Ibid.



The French National Academy of Medicine has warned that the harmful effects of sound related to wind turbines are insufficiently assessed. They consider wind turbines to be industrial installations and to comply by that fact to specific regulations that take account of the harmful effects of sound as particularly produced by these structures.²⁶

Health Solutions

The international community recommends generous setbacks be given to property owners from wind farms in order to mitigate any potential health effects and loss of property values. The setbacks range from a minimal 1,500-foot setback²⁷ to 1.5 miles away from any home, school, or business.²⁸ Because symptoms can be suffered up to a mile from the wind farm, one study suggests that turbines should be no closer than 1.5 miles from a residence.²⁹ Some recommend an immediate and mandatory minimum buffer of 2km between a dwelling and an industrial wind turbine and with greater separation from a dwelling for a wind turbine with greater than 2MW installed capacity.³⁰

One solution is to filter inverters at each turbine; bury all collector lines; filter the power at the substation before going to the grid, and install a proper neutral system to handle the high-frequency return current.³¹

Local governments are advised to establish beyond reasonable doubt that the families' right to respect for their homes and their private lives is not violated. If the State decides that the public interest in building wind turbines is greater than the individual private interest, then the violation is not proportionate without compensation for the individual.³²

Wind Turbine Hazards

Turbines, like all machines, have weaknesses and are subject to accidents and failure. Inclement weather and strong gusts can snap off wind tower blades;³³ ice can build up on the blades, break, and throw large

²⁶ Keith Sterling, MA, MNIMH, Dip. Phyt., MCPP, *Calculating the Real Cost of Industrial Wind Power: An Information Update for Ontario Electricity Consumers*. Friends of Arran Lake Wind Action Group, November 2007.

²⁷ *Report from the Bethany Wind Turbine Study Committee*. January 25, 2007.

²⁸ Nina Pierpont, MD, PhD, *Wind Turbine Syndrome: Testimony before the New York State Legislature Energy Committee*.

²⁹ Dr. Amanda Harry M.B.Ch.B., P.G. Dip.E.N.T., *Wind Turbines, Noise and Health*. February 2007.

³⁰ Barbara J. Frey, BA, MA and Peter J. Hadden, BSc, FRICS, *Noise Radiation from Wind Turbines Installed Near Homes: Effects on Health – With an annotated review of the research and related issues*. February 2007, June 2007.

³¹ Catherine Klieber, *Modern Wind Turbines Generate Dangerously "Dirty" Electricity*. Dirtyelectricity.ca. April 28, 2009.

³² Barbara J. Frey, BA, MA and Peter J. Hadden, BSc, FRICS, *Noise Radiation from Wind Turbines Installed Near Homes: Effects on Health – With an annotated review of the research and related issues*. February 2007, June 2007.

³³ Alastair Taylor, *Wind Turbine Smashed...By Wind*. The Sun (UK). June 28, 2008.



ice chunks³⁴ and fling ice shards onto nearby homes,^{35,36} potentially harming nearby residents;³⁷ turbulent wind can accelerate a blade's deterioration, weakening it to the point of breaking off and crashing into nearby homes;³⁸ high winds can also overpower its automatic braking system and result in structural failure;³⁹ automatic shut-down systems can malfunction, damaging the turbine to the point of collapse;⁴⁰ and gale force winds can shut down turbines and make them a safety concern. In one such case, British police cordoned off a 1,500-foot area around the wind farm for "safety precautions."⁴¹ Other common problems include fires and blade disintegration caused by mechanical failures and lightning.⁴²

In Europe, which has long had wind farms, turbines are seeing a spike in accidents, defects, and needed repairs. A turbine's gearbox is expected to last 5 years and often quits before then. Due to the huge demand for turbines, manufacturers have no time to test their product before sending it into the field. This demand has so strained manufacturing capabilities that the waiting list for replacement parts can sometimes top 18 months – leaving the turbine motionless the whole time.⁴³

Wind farms interfere with weather radar by sending false storm signals,⁴⁴ thus limiting the ability of surrounding areas to know if they should seek shelter or not. They also interfere with military radar, affecting military readiness.⁴⁵ And they may interfere with civilian radar,⁴⁶ making it very dangerous to site turbines near airports or military installations.⁴⁷

Despite the constant warning lights on top of each turbine, wind farms are dangerous to planes. A distance of 1,200 feet is still too close to an airport or landing strip because it's impossible for aircraft to turn fast enough to avoid the turbines. Also, turbines create a downdraft – additional turbulence that pilots have to overcome in takeoffs and landing.⁴⁸

³⁴ *Report from the Bethany Wind Turbine Study Committee*. January 25, 2007.

³⁵ Kirsten Beacock, *Wind Turbine's Deadly Ice Shower*. The Evening Telegraph (UK). December 2, 2008.

³⁶ Tom Hewson, *Wind Power Siting Issues Overview*. Presented to the National Association of Attorney Generals Wind Energy Facility Siting Issue Panel. April 21, 2008.

³⁷ Eleanor Tillinghast, *Wind Turbines Don't Make Good Neighbors: Some Problems of Wind Power in the Berkshires*. Study presented by Green Berkshires, Inc. May 14, 2004.

³⁸ Michael Connellan, *Spinning to Destruction*. The Guardian (UK). September 4, 2008.

³⁹ *Report from the Bethany Wind Turbine Study Committee*. January 25, 2007.

⁴⁰ Jason Lehmann, *Faulty Wiring Likely Caused Wind Turbine Collapse at Altona Wind Farm*. SNL Interactive. March 10, 2009.

⁴¹ Natalie Chapples, *Exclusion Zone around Wind Farm after Gales*. North West Evening Mail (UK). March 12, 2008.

⁴² Gleen Schleede, *Investment in Wind yields Negligible Environmental Benefits*. Energy Market & Policy Analysis, Inc., Date Unknown.

⁴³ Simone Kaiser and Michael Frohlingsdorf, *The Dangers of Wind Power*. BusinessWeek, August 24, 2007.

⁴⁴ Scott Williams, *Wind Turbines Complicate Wind Monitoring*. The Journal Sentinel, April 11, 2009.

⁴⁵ Author Unknown, *Energy Law Alert: Department of Defense Issues Report on Effects of Windmills on Radar*. Stoel Rivers, LLP – Attorneys at Law, October 19, 2006.

⁴⁶ *Wind Power Siting Issues Overview*. Tom Hewson. Presented to the National Association of Attorney Generals Wind Energy Facility Siting Issue Panel, April 21, 2008.

⁴⁷ Eleanor Tillinghast, *Wind Turbines Don't Make Good Neighbors: Some Problems of Wind Power in the Berkshires*.

⁴⁸ Chris Luxemburger, *Living with the Impact of Windmills*. Date appx. between 2008 & 2009.



Wind farms can also constitute a nuisance to nearby landowners. Even though the State Public Service Commission approved the facility, such approval did not overrule the common law of nuisance. Accepted causes of nuisance include noise, eyesore, flicker, and strobe effect of light reflecting from blades, potential danger from broken blades, ice throws, and reduced property values.⁴⁹

Conservation Concerns

Even conservation groups are divided on Wind Energy. In North Carolina, environmentalists are fighting over siting issues. Some environmentalists and the wind companies want to place turbines on mountain ridges for optimal winds. But other environmentalists want them off the ridges in order to protect the mountains' natural beauty.⁵⁰

Conservation groups are concerned about the impact of wind farms on birds. Poor siting has led to bird and bat fatalities.⁵¹ According to the American Bird Conservancy, wind towers kill 10,000 to 40,000 birds every year. However, this is still much lower than the 100 million window-related bird deaths each year.⁵² Bats, however, are killed three times as much as birds by wind turbines.⁵³ And many bats killed by turbines are most likely migrating for mating rituals. If such bats are killed then certain bat species are in danger of failing to repopulate.⁵⁴ According to industry advocates, the most damage to wildlife and plant-life happens during construction. After construction, collision consequences are insignificant compared to the effects of other man-made structures, vehicles, and pollution.⁵⁵

Promoters routinely ignore wind development environmental damage. Electricity from the wind is not environmentally benign. Wind plants adversely affect a wide variety of environmental, ecological, and scenic values including bird kills and interference with migration patterns.⁵⁶ And construction disruptions are extensive and turbine installation can significantly affect natural drainage and groundwater.⁵⁷

⁴⁹ *Contracting Legal Issues*. Erin C. Herbold, staff attorney, ISU Center for Agricultural Law and Taxation. North Central Risk Management Education Center, May 14, 2009.

⁵⁰ Jack Betts, *Wind Farms on Ocracoke? Nope*. This Old State (blog), July 15, 2009.

⁵¹ Tom Hewson, *Wind Power Siting Issues Overview*. Presented to the National Association of Attorney Generals Wind Energy Facility Siting Issue Panel, April 21, 2008.

⁵² Caleb Hale, *Wind Turbines and Migratory Birds: A serious problem?* The Southern (IL), May 23, 2009.

⁵³ Ibid.

⁵⁴ Paul Cryan, *Bat Fatalities at Wind Turbines: Investigating the Causes and Consequences*. United States Geological Survey Fort Collins Science Center. Date unknown.

⁵⁵ *Permitting of Wind Energy Facilities: A Handbook (Revised 2002)*. National Wind Coordinating Committee, August 2002.

⁵⁶ Gleen Schleede, *Investment in Wind Yields Negligible Environmental Benefits*. Energy Market & Policy Analysis, Inc. Date Unknown.

⁵⁷ *Report from the Bethany Wind Turbine Study Committee*, January 25, 2007.



Property Values and Land Use

Industry advocates say little about a turbine's aesthetic impact. When they do mention property values, they deny that wind farms negatively impact property values. They say property value fears are exaggerated and if they do admit impact, they say the only effect would be more time on the market for sales to be completed.⁵⁸ One utility president went so far as to claim that those who claim property value diminutions "pull myths out of thin air and persist in wild accusations despite being debunked."⁵⁹ To prove this point, industry advocates frequently refer to a 2004 study performed by the Renewable Energy Policy Project (REPP) – an organization dedicated to accelerating the use of renewable energy.

The REPP study paid for by wind energy proponents, reviewed assessed values of property sales within 5 miles of wind projects from 1998-2001 to determine if there was a negative effect on property values within the viewshed of the wind farm projects. In 9 out of their 10 case studies, they found either no change in value or even an increase in value resulting from being in the turbines' view shed than those outside of it.⁶⁰

However, the remarkable conclusion that property values increased isn't verified.⁶¹ They did not follow up with the property purchasers, thus invalidating their conclusion.⁶² The REPP findings surprisingly omit many necessary variables for analysis such as adjustments for a rising or falling market, number of days from listing to sale, residential property vs. rural property, effect of noise, flickering and shadows, distances of the homes from the turbines, and possible change in highest and best use due to the presence of the turbines.⁶³ And anyone who has ever owned a home or property knows that assessed values rarely reflect a property's market value.

The study also fails to analyze whether or not the properties had a direct line to the turbines, and they also failed to incorporate distance from the wind farms as a variable. Curiously, the number of property transactions decreases the closer one approaches the wind farm. By only examining change in comparable property values over a three-year period, the study weakens itself because, in most cases, the projects had been announced and debated long before the three-year window opened. As a result, any depressive effect on property values would have occurred prior to the start of the study. The REPP study also did not

⁵⁸ Bob Shaw, *Developers Balking at Proposed Woodbury Wind Turbine*. Pioneer Press, September 24, 2008.

⁵⁹ Mike Sagrillo, *Residential Wind Turbines and Property Values*. Sagrillo Power & Light Co. American Wind Energy Association website, 2004.

⁶⁰ George Sterzinger (REPP Exec. Dir.), Fredric Beck (REPP Research Manager), Damian Kostiuik (REPP Research & Communications Specialist), *The Effect of Wind Development on Local Property Values*. Prepared for the Renewable Energy Policy Project (REPP), May 2003.

⁶¹ Richard Light & Molly Hyde, *Introduction to Research on Property Value Impacts*. Centerville Township, Michigan, August, 2006.

⁶² Ibid.

⁶³ Derry T. Gardner, *Impact of Wind Turbines on Market Value of Texas Rural Land*. Gardner Appraisal Group, Inc. February 13, 2009.



look at other indices of real estate value, such as rising or falling inventory values, or the number of days from listing to sale.⁶⁴

In reality, close proximity to wind turbines can devalue a property 20-30%.⁶⁵ And even townships widely disregard the REPP study for its wind energy bias, its incomplete data, and its deeply flawed methodology.^{66 67}

Industry advocates often liken wind turbines to other man-made structures like water towers.⁶⁸ But water towers don't move.⁶⁹ If they had no effect, then people would want to live near them. However, developers are balking at even building near wind turbines lest potential buyers of high-end homes be "spooked by the noise and visual distraction of the huge whirling fan blades."⁷⁰

In reality, value comes down to location, location, and location. If an individual is given two identical homes, but one has a wind turbine and the other does not, common sense (and research) shows the house without the turbine will be purchased first. In many cases, there is a complete lack of interest in any homes near existing or planned wind farms. And when they do sell, they usually sell at less than current market value.⁷¹

Assessors are starting to devalue homes that are at least 1,500 feet away from the nearest turbine. In one case, several residents near an industrial wind farm received up to a 10% lower property value due to their proximity to turbines. The assessors considered the turbine space an industrial area and devalued nearby properties accordingly.⁷²

Wind farm developers like to promote the idea that while their wind farms may cover a very large area, they only physically occupy 3-5% of the total land area for the towers, associated structures, and access roads. They claim the rest of the land is left largely undisturbed and "available for continued use by the landowner."⁷³

However, turbines come with many use restrictions.

⁶⁴ Richard Light & Molly Hyde, *Introduction to Research on Property Value Impacts*. Centerville Township, Michigan. August, 2006.

⁶⁵ Kevin Sampler, *Wind Farm Opponents Air Concerns; Experts say Rail Splitter project will create noise, affect property values*. Journal Star, May 2, 2008.

⁶⁶ Richard Light & Molly Hyde, *Introduction to Research on Property Value Impacts*. Centerville Township, Michigan. August, 2006.

⁶⁷ Ibid.

⁶⁸ Mike Sagrillo, *Residential Wind Turbines and Property Values*.

⁶⁹ Bob Shaw, *Developers Balking at Proposed Woodbury Wind Turbine*.

⁷⁰ Ibid.

⁷¹ Julian Davis BSc & Jane Davis M.A., *Property Values and House Prices: Appendix 1 of the Report to the Select Committee on Economic Affairs*, June 2008.

⁷² *Wind Farms Lower Property Assessments in Western P.E.I.* CBC News, December 23, 2008.

⁷³ *Permitting of Wind Energy Facilities: A Handbook (Revised 2002)*. National Wind Coordinating Committee, August 2002.



Even though a minority may find windmills to be a nuisance, property values can still drop \$2,900 per turbine up to \$16,000 for a property abutting 12 turbines.⁷⁴

As with other easements, some claim that the impact from windmills will diminish over time. However, studies from Europe show otherwise. In Germany, which has long had windmills, real estate agents report property value losses between 20-30% for properties in sight of wind farms.⁷⁵

Likewise, Scottish real estate agents found that a 41-turbine wind farm would result in \$1 million in property value losses.⁷⁶

The township of Lincoln in Kewaunee, WI performed its own study and found that sales within one mile of the wind farm prior to installation were 104% of the assessed values. Properties selling after the wind farm installation in the same area were at 78% of the assessed value.⁷⁷ The UK has reported similar impacts up to a 20% loss in value from the presence of four 360-foot tall turbines 550 yards from a new home.⁷⁸

In some coastal areas with turbines, affluent properties have lost up to a third of their value. However, in rural farming areas, prices remained steady or even increased from the associated income stream from the turbines.⁷⁹

Wisconsin residents fear the impact large wind farms can have on lowered property values. Their fear is justified by a plethora of independent studies and reports that all find the same thing: Wind farms have a negative effect on property values.⁸⁰

Properties within wind farm areas may experience longer days on market. One study of 600 sales over 3 years within proximity of a windmill found that the days on market were more than double for properties within the windmill zone. The selling price was an average of \$48,000 lower inside the zone than outside. And 11% of homes within the zone did not sell vs. 3% of homes outside the zone.⁸¹

⁷⁴ David C. Maturen of Maturen & Associates, Inc., *RE: Impact of Wind Turbine Generators on Property Values*. September 9, 2004 (e-mailed letter). Study referenced within text: Social Assessment of Windpower – Visual Effect and Noise from Windmills – Quantifying and Evaluation.

⁷⁵ David C. Maturen of Maturen & Associates, Inc., *RE: Impact of Wind Turbine Generators on Property Values*. September 9, 2004. (e-mailed letter.) Study referenced within text: Strutt & Parker study of the Edinbane Windfarm on the Isle of Skye.

⁷⁶ Ibid.

⁷⁷ Ibid.

⁷⁸ Ibid.

⁷⁹ Marius Cuming and Lucy Skuthorp, *Wind Farms Change Land Values*. National Rural News (Australia), November 11, 2008.

⁸⁰ Richard Mertens, *In Wisconsin, Tilting at Windmills Is a Serious Matter*. The Christian Science Monitor, April 25, 2005.

⁸¹ Chris Luxemburger, *Living with the Impact of Windmills*. Date appx. between 2008 & 2009.



Wind farms are normally built in rural locations. Therefore, apart from accommodation size, important influences on value will often be the view, the peace and serenity, and a rural environment. In many rural locations, a wind farm will reduce the value of properties located nearby. But as the distance between wind turbines and dwellings increases, the valuation impact is lessened, and the prospect of consequent health problems is reduced. A part of the loss in value will be attributable to the loss of a quality view. However, a substantial apportionment of the loss in value flows directly from the environmental noise pollution and the consequent health impact. A smaller part of the loss will be due to the rotation of the turbine blades, which in certain circumstances will cause strobing light/shadow flicker (which can have health repercussions). In a high-value area of the country, the potential valuation impact is likely to be higher.⁸²

In most cases, environmental noise pollution will influence the bulk of the property damages. In a well-populated rural area, the cumulative financial damage (the loss imposed on the community) will substantially exceed the public interest that will be served from the wind farm.⁸³

Wind farms have significant adverse impacts on environmental, ecological, scenic and property values. The drop in real estate values of neighboring homes is an unfair burden to those who have chosen to live or retire to the country. The value of a farmhouse may be affected by as much as 30% if it is in close proximity to a wind turbine.⁸⁴

One British study of 919 home sales within 5 miles of a wind farm found no impact from wind turbines on property value.⁸⁵ However, the turbines were small. Their maximum height was just over a third (48m) of turbines being currently built. No account was taken of whether the properties concerned had views of the turbines. They lumped all distance zones and rural and town properties into one big pot without differentiating them. There was no before-and-after analysis of sale prices.⁸⁶ Curiously, when interviewing general agents, they found 60% said that proximate wind farms would decrease property values in the viewshed, 67% believe depreciation starts at the planning stages and lessen with time.⁸⁷

⁸² Barbara J. Frey, BA, MA and Peter J. Hadden, BSc, FRICS, *Noise Radiation From Wind Turbines Installed Near Homes: Effects On Health – With an annotated review of the research and related issues*, February 2007, June 2007.

⁸³ Ibid.

⁸⁴ Keith Sterling, MA, MNIMH, Dip. Phyt., MCPP, *Calculating the Real Cost of Industrial Wind Power: An Information Update for Ontario Electricity Consumers*. Friends of Arran Lake Wind Action Group, November 2007.

⁸⁵ Peter Dent and Dr. Sally Sims, *What Is the Impact of Wind Farms on House Prices?* Department of Real Estate and Construction, Oxford Brookes University, UK. Paid for by the Royal Institution of Chartered Surveyors Education Trust, March 2007.

⁸⁶ *What is the Impact of Wind Farms on House Prices? An assessment of the study done in March 2007 for RICS*. I.C. Eperon, June 2008.

⁸⁷ Peter Dent and Dr. Sally Sims, *What Is the Impact of Wind Farms on House Prices?* Department of Real Estate and Construction, Oxford Brookes University, UK. Paid for by the Royal Institution of Chartered Surveyors Education Trust, March 2007.



The “threat” of a wind farm may have a more significant impact than the actual presence of one. Wind farm developers in the UK are purposely avoiding populated areas in order to mitigate property value-based opposition.⁸⁸

Concerned about the impact wind turbines may have on local property values, two members of the Centerville Township in Michigan conducted a literature review of four available studies on the subject. The township committee found that it is reasonable to conclude that the presence of wind turbine generators near residential houses causes property values to decline and further impact on property values depends on location. “This is common sense, and there are no serious scholarly studies that support an opposite conclusion.” Large wind turbines can affect neighboring property values due to noise, health effects, and visual impacts on residents. Some homes have been reported as “not salable” because of WTG proximity. These adverse impacts on property values may not exist in agricultural areas that have huge farms. If the land is being sold as fertile farmland then the presence or absence of a nearby wind turbine is probably irrelevant. If there is a chance that a future wind turbine might be placed on the farmland, a potential buyer might think the land was slightly more valuable. However, though the lessee may slightly benefit, large wind turbines can also affect neighboring property owners who receive nothing because the turbine isn’t on their land. A town real estate agent lost a large vineyard sale within the township because the proposed wind farm was seen as a detriment to potential buyers.⁸⁹

“The locating of a WTG near a residential house can, at best, have no effect on the value and salability of the house. But logically, as wind turbines are larger and larger, in some cases 400 feet tall, and as they produce constant audible noise over a large area, as they intrude on the viewshed, the only valid conclusion is that nearby residences are less valuable than they would be if there was no turbine nearby. Why would a buyer choose a house within sight and sound of a turbine, if a comparable house at the same price were available elsewhere, beyond the sight and sound of the turbine? It is totally counter-intuitive to suggest anything else.”⁹⁰

While some may think a windmill lease on their property boosts their land value, the reality is that they also incur a higher property tax. Their property’s appreciation is offset by their neighbors’ depreciation. The WTG lessee incurs a higher property tax and receives annual rent for signing the lease/easement. The other landholders find their property values decreased, and they receive nothing.⁹¹

Though wind energy development may create an income stream, and thus increase a property’s production value, that increased production value does not necessarily result in an increased market value.

⁸⁸ Ibid.

⁸⁹ Richard Light & Molly Hyde, *Introduction to Research on Property Value Impacts*. Centerville Township, Michigan, August, 2006.

⁹⁰ Ibid.

⁹¹ Ibid.



Real Estate brokers in rural areas confirm that property values in wind farm areas are 10-30% less than similar properties outside of wind farm areas.⁹²

View adds value to rural property. That's just common sense. Take away the view, and you take away the value.⁹³

Homes with a turbine within 300 feet can suffer reduced property values of up to 10%. Noise, blinking lights, glare from the blades, and vibrations all played a role in the devaluation.⁹⁴

In Kewaunee, Wisconsin, a study paid for by a wind farm developer found no measurable differences in home values in the target areas close to the wind farms and the control areas outside of the wind farm vicinity. It found the same for a case study in Mendota, Illinois.⁹⁵

Vermont's government wants green energy, even if it has to sacrifice its natural beauty to attain it.⁹⁶ But wind farms negatively impact pastoral beauty, driving tourists away and severely damaging their main industry.⁹⁷ Supporters claim the turbines themselves will become an attraction.⁹⁸ However, empirical evidence worldwide agrees that wind farms tarnish local beauty and damage tourism.⁹⁹ Property values will also suffer up to 20% for a turbine 550 meters away.¹⁰⁰ "It is an incursion into the countryside. It ruins the peace."¹⁰¹ Real estate agents agree. It's common sense that an industrial structure will damage what was before a naturally beautiful area.¹⁰² Agents in Britain and Australia and the U.S.A. have found it nearly impossible to sell properties next to wind farms unless they discount it 20-30%.¹⁰³ A realtor study around Nantucket Sound found that 49% of realtors expect property values to fall in proximity to a wind farm.¹⁰⁴

Two studies conducted in Nantucket, Massachusetts found that a 130-turbine offshore wind farm would drive enough visitors away to see a loss of up to 2,500 tourism-related jobs. They also found that inland

⁹² Derry T. Gardner, *Impact of Wind Turbines on Market Value of Texas Rural Land*. Gardner Appraisal Group, Inc., February 13, 2009.

⁹³ Ibid.

⁹⁴ Erin C. Herbold, staff attorney, ISU Center for Agricultural Law and Taxation, *Contracting Legal Issues*. North Central Risk Management Education Center, May 14, 2009.

⁹⁵ Peter J. Poletti, *A Real Estate Study of the Proposed White Oak Energy Center McLean and Woodford Counties, Illinois*. For Invenergy Wind LLC, January 2007.

⁹⁶ Eleanor Tillinghast, *Wind Turbines Don't Make Good Neighbors: Some Problems of Wind Power in the Berkshires*. Study presented by Green Berkshires, Inc., May 14, 2004.

⁹⁷ Ibid.

⁹⁸ Ibid.

⁹⁹ Ibid.

¹⁰⁰ Ibid.

¹⁰¹ Ibid.

¹⁰² Ibid.

¹⁰³ Ibid.

¹⁰⁴ Ibid.



property values would decline 4.6% while the waterfront properties suffer nearly 11% diminution for a total loss of \$8 million in yearly tax revenue.¹⁰⁵

Combining an area of natural beauty with industrial development like a wind farm will have an adverse impact on its desirability. It is not only devalued, but the property may also be rendered unsaleable. Turbines not only have a visual impact, but they also impact the quality of life. People who buy rural land typically do so to enjoy the natural views, but a wind farm within their viewshed ruins the horizon and heritage views.¹⁰⁶

The scenic impact of wind plants is significant, and as valued natural landscapes disappear, more concern is apparent.¹⁰⁷

Another attraction of rural land is the quiet. Buyers want someplace to get away from the noise and sounds of industry and the city. Closing the door [on a wind farm] eliminates the view, but it does not eliminate the sound. The constant drone cannot be escaped. It takes away the enjoyment of their property. It doesn't allow them to sleep at night.¹⁰⁸

Their greatest concern is the substantial loss of value of their property. They do not believe they can sell without substantial loss and cannot afford to sustain the loss and move.¹⁰⁹

Wind farms destroy property value; they take a property of substantial value and take away all of the characteristics that are the strengths of that property. The visual impact takes away value. The noise takes away value. The property owners complain that the wind turbines take away value and there is no way for them to escape.¹¹⁰

In Maryland, a wind farm developer accidentally proved the diminution of value when he bought two abutting properties to his wind farm and was unable to sell them for their purchase price. He bought one property for \$104,447.50 and sold it for \$65,000. He bought another property for \$101,049.00 and shortly thereafter sold it for only \$20,000.¹¹¹

¹⁰⁵ David C. Maturen of Maturen & Associates, Inc., *RE: Impact of Wind Turbine Generators on Property Values*. September 9, 2004. (e-mailed letter.) Studies referenced within text: Blowing in the Wind: Offshore Wind and Cape Cod Economy (October 2003) and Free but Costly: An Economic Analysis of a Wind Farm in Nantucket Sound (March 2004).

¹⁰⁶ *Testimony of Russell Bounds, Realtor in the State of Maryland, before the Maryland Public Service Commission on windplants affecting property values*, 2005.

¹⁰⁷ Gleen Schleede, *Investment in Wind yields negligible Environmental Benefits*. Energy Market & Policy Analysis, Inc, Date Unknown.

¹⁰⁸ *Testimony of Russell Bounds, Realtor in the State of Maryland, before the Maryland Public Service Commission on Windplants Affecting Property Values*, 2005.

¹⁰⁹ Ibid.

¹¹⁰ Ibid.

¹¹¹ Ibid.



Values of the natural and scenic properties within one-half mile and probably within a mile of the wind turbines will be negatively impacted. The visual impact and the noise impact will substantially diminish special attributes of a property including scenic view, natural setting and peace and quiet. Undeveloped properties will be rendered undevelopable. Some parcels may be rendered unsaleable. The visual impact beyond a mile will likely adversely impact value. The sound impact will apparently vary outside one mile, but some properties outside one mile will be adversely impacted by the noise.¹¹²

Studies have shown that fear of wind farms can negatively affect purchase prices even if the project is a mile or more away. In one case study, 350 acres of premium ranch land was put on the market for \$2.1 million. A prospective buyer agreed to the sale price but backed out when the seller disclosed a 27-turbine wind farm within a 1½ mile radius from the property. The seller discounted the land by 25%, but the buyer still declined to purchase. After two years, there has been little interest in the property despite its other positive characteristics.¹¹³

Independent studies have shown an average diminution of value up to -37% when the turbine is on the property; up to -26% average diminution for properties within .2 – .4 miles of a turbine; and up to -25% average diminution for properties within 1.8 miles of turbines. Properties can also suffer an additional 15-25% diminution in value due to infrastructure construction (clearing, blasting, digging, etc.), HVTLS to transport generated electricity, substations, additional traffic for servicing turbines and HVTLS, and additional roads.¹¹⁴

Wind farms have the potential to impact local property values.¹¹⁵

To calm property owners, one township recommended that the wind farm developer provide property value assurances that are transferable to subsequent owners of the wind facility.¹¹⁶

Noise

Industry advocates say that the windy nature of rural locations often masks the quiet nature of modern turbines, even for “the very few individuals” located close enough to hear it.¹¹⁷ However, turbine noise

¹¹² Ibid.

¹¹³ Derry T. Gardner, *Impact of Wind Turbines on Market Value of Texas Rural Land*. Gardner Appraisal Group, Inc, February 13, 2009.

¹¹⁴ Ibid.

¹¹⁵ Tom Hewson, *Wind Power Siting Issues Overview*. Presented to the National Association of Attorney Generals Wind Energy Facility Siting Issue Panel, April 21, 2008.

¹¹⁶ *Report from the Bethany Wind Turbine Study Committee*, January 25, 2007.

¹¹⁷ *Permitting of Wind Energy Facilities: A Handbook (Revised 2002)*. National Wind Coordinating Committee, August 2002.



greatly affects people even a mile away, and low-frequency noise makes people quite irritable.¹¹⁸ Industry advocates say little, if anything, about infrasound or low-frequency noise.

The environmental noise pollution from wind turbines built too close to dwellings causes serious discomfort, and often health injury, to families. Oftentimes those affected did not object to the construction, accepting the developer's assurances that noise would not be problematic.¹¹⁹

Turbines interact and placement can influence noise emission. Other factors include the constantly changing atmosphere and wind speed, temperature, and terrain. Noise, particularly low-frequency noise, travels not only seismically but also airborne over the terrain. Local geography can sometimes act like a giant microphone.¹²⁰

Shadow flicker and noise are detriments. Noise at the turbine hub can range from 100-105 dBA. It can be noticeable for long distances in more remote areas with existing low ambient levels (Humans can differentiate sounds up to 3 dBA above background levels).¹²¹

Quality Of Life

Turbine-generated noise has an adverse impact on quality of life and may adversely impact the health of those living nearby. Research links noise to adverse health effects such as sleep deprivation and headaches. Sleep deprivation may lead to physiological effects such as a rise in cortisol levels – a sign of physiologic stress – as well as headaches, mood changes, and inability to concentrate. Initial research into the health impact of wind turbine noise (including the 'visual noise' of shadow flicker) reveals similar findings.¹²²

Even proximity to small wind farms can have a serious impact on nearby residents. One Illinois Township, concerned about the potential effects of a 22-turbine wind farm, surveyed its residents and found that, on average, 42% were bothered by blade flicker and noise, had been awakened by turbine sound, and had TV reception problems. Nearby property owners also cited increased lightning activity, increased traffic hazard, annoyance at the tower's blinking lights, emergence of strange symptoms, and fears of EMFs.

¹¹⁸ Eleanor Tillinghast, *Wind Turbines Don't Make Good Neighbors: Some Problems of Wind Power in the Berkshires*. Study presented by Green Berkshires, Inc, May 14, 2004.

¹¹⁹ Barbara J. Frey, BA, MA and Peter J. Hadden, BSc, FRICS, *Noise Radiation From Wind Turbines Installed Near Homes: Effects On Health – With an annotated review of the research and related issues*. February 2007, June 2007.

¹²⁰ Ibid.

¹²¹ Tom Hewson, *Wind Power Siting Issues Overview*. Presented to the National Association of Attorney Generals Wind Energy Facility Siting Issue Panel, April 21, 2008.

¹²² Barbara J. Frey, BA, MA and Peter J. Hadden, BSc, FRICS, *Noise Radiation From Wind Turbines Installed Near Homes: Effects On Health – With an Annotated Review of the Research and Related Issues*. February 2007, June 2007.



These tangible and intangible issues had a marked impact on the market value of nearby real estate. Reluctance to live near the turbines dramatically increased with proximity. For example, 41% of residents would not build or buy a home within 2 miles of the turbines. Within a half mile, 61% would not build or buy a home. And a quarter mile away from the turbines, 74% would not build or buy a home.¹²³

Wind farm developers said property values wouldn't suffer. But the town zoning administrator did his own empirical research and found that sales within 1 mile of the windmills prior to their construction were 104% the assessed value, and properties selling in the same area after construction were at 78%. Sales more than a mile away were at 105% the assessed value before and 87% after. They also found several properties have taken much longer than normal to sell, and some are still on the market.¹²⁴

A New York landowner has a turbine on his property 2000 feet from his house and says the turbine rattles his windows, and he can hear some turbines a mile away in his house. The wind company said the sound wouldn't exceed the sound of a refrigerator 900 feet away. He was joined by two other neighbors with similar complaints and who also said neighbors to the turbines started experiencing seizures, anxiety attacks, learning disorders, and other ailments once the turbines started running. Neither he nor the other leaseholders, nor the town have received any promised compensation because the turbines are not selling into the grid. They were told the lights would be the softest available but instead were much brighter than any anticipated.¹²⁵

Wind turbines produce no constant tonality, making the creation of a noise standard challenging.¹²⁶

Audible noise isn't the issue; it's the low-frequency sound waves. 2-3Hz can cause vomiting and other serious health issues. 12Hz can cause hallucinations.¹²⁷

Hills and valleys can create a megaphone effect that can focus the direction, combine, and intensify the sounds of multiple turbines.¹²⁸

Because of the deep foundations necessary to stabilize large wind turbines, LFN is transmitted down and throughout the contours of the land, often following bedrock, and even accelerates to immerge randomly miles from its origin.¹²⁹

500' setbacks are "woefully inadequate...Anything less than a half mile is a recipe for disaster."¹³⁰

¹²³ Excerpts from the Final Report of the Township of Lincoln Wind Turbine Moratorium Committee. Prepared by Elise Bittner-Macking for presentation to the Bureau County, Illinois, Zoning Board of Appeals, July 2, 2001.

¹²⁴ Ibid.

¹²⁵ Nancy Madsen, *New York Wind Farm Foes Say Noise Is Almost Unbearable*. Watertown Daily Times, July 20, 2009.

¹²⁶ Arnold C. Palmer, *Expert: It's Difficult to Write Noise Ordinance*, July 19, 2009.

¹²⁷ Ibid.

¹²⁸ Ibid.

¹²⁹ Ibid.

¹³⁰ Ibid.



Audible noises and LFN vibrations should be considered plus the potential noise of a failed bearing.¹³¹

In one case this year, two families in Ontario had to move due to adverse health effects from nearby wind turbines. One of the displaced landowners said he started suffering from very high blood pressure, sore feet, and irritability once the farm was online. Once he leaves the farm, he quickly recovers. The wind company is paying for one of them to stay in a hotel while tests are being done on their property.¹³²

An industry spokesperson said such complaints are “few and far between” and “there’s no cause and effect relationship between audible sound produced by turbines and adverse health effects.” He even went so far as to claim, “...all research to date indicates that turbines do not produce infrasound at levels near enough to have impacts on humans.”¹³³

Industry advocates often say health concerns are exaggerations, and those who complain “are just worried about their real estate values.”¹³⁴

Elizabeth May, the former Executive Director of Sierra Club of Canada, vehemently defends wind energy but admits that literature studies show that wind towers negatively affect human health. She makes a concession for better project siting – away from impacted citizens.¹³⁵

Strobe lights and shadows destroy any feeling of peace and solitude.¹³⁶

The only potential health effect the wind industry acknowledges is toxic or hazardous materials in the form of relatively small amounts of leaking lubricating oils and hydraulic and insulating fluids.¹³⁷ However, even small leakages of such materials can negatively impact groundwater if left unchecked over time.¹³⁸ Fluid leaks not only drip directly downward, but they also fly off the tips of the spinning blades, thus spreading the contamination over a wider area.¹³⁹ On-site storage of new and used lubricants and cleaning fluids also constitutes a hazard.¹⁴⁰ Even the National Wind Coordinating Committee recommends setback requirements to provide “an adequate buffer” between wind generators and consistent public exposure and access.¹⁴¹

¹³¹ Ibid.

¹³² Don Crosby, *Wind Farm Neighbours Say They Had to Move*. Owen Sound Sun Times, July 4, 2009.

¹³³ Ibid.

¹³⁴ Ibid.

¹³⁵ Daniel & Carolyn d’Entermont, *Letter by Elizabeth May: Wind Power Flaps*. www.dangerwind.org/main.htm, March 13, 2009. Nova Scotia, Canada.

¹³⁶ Eleanor Tillinghast, *Wind Turbines Don’t Make Good Neighbors: Some Problems of Wind Power in the Berkshires*. Study presented by Green Berkshires, Inc., May 14, 2004.

¹³⁷ *Permitting of Wind Energy Facilities: A Handbook (Revised 2002)*. National Wind Coordinating Committee, August 2002.

¹³⁸ Ibid.

¹³⁹ Ibid.

¹⁴⁰ Ibid.

¹⁴¹ Ibid.



Several case studies by industry advocates show little to no concern for proximity landowners. In Oregon’s Stateline Project, a 127-turbine farm covering 15 square miles in 2001 only sparked concerns over wildlife protection.¹⁴²

Southwest MN has been building wind farms since 1995 ranging from 17 turbines to 143. Very few issues were raised during the review and permitting process and only after being built have issues emerged regarding poor television reception in proximity to the farms, additional noise generated by loose pieces of material within the blade at low speeds; cleanup of materials associated with turbine or blade modifications. Neighbors have also been complaining of their aesthetic detriment. Bird health is also an issue.¹⁴³

As the number of houses near to, or with a view of the installation increases, the likelihood of aesthetic or economic objections seems to increase.¹⁴⁴

New homeowners were attracted by the area’s rural character and do not view their land as a source of livelihood, nor identify with the farmers in the area who earn their living working their land. These “commuter” households are less likely to support a proposed wind project because they do not understand the economic situation of resident farmers and the extent to which wind energy revenues may act as a buffer against the fluctuations of the farm economy. Suburban development pressure may not be a fatal problem if the remaining farmers still control the local government.¹⁴⁵

Developers may wish to consider compensating the community in some fashion that benefits even non-participants, such as impact payments to the township. Resulting benefits, such as reduced property taxes, may help to address concerns about inequities.¹⁴⁶

A rural mountain community in Virginia fears that a proposed 19-turbine, 400-feet-tall-each project will blight their rural landscape and destroy the area’s scenic beauty. The wind farm developer claims the turbines can power 20k homes. Community response has been very negative. Residents are afraid the turbines will kill tourism—their only industry—and negatively impact property values.¹⁴⁷

A proposed 67-tower wind farm in Illinois sparked strong opinions among its affected community. Supporters say it will bring additional property tax revenue, jobs, and clean energy. Its opponents say it will be an eyesore, a dangerous obstacle to crop dusters, and would lower property values. An acoustical

¹⁴² Ibid.

¹⁴³ Ibid.

¹⁴⁴ Ibid.

¹⁴⁵ Ibid.

¹⁴⁶ Ibid.

¹⁴⁷ Adam Hochberg, *Wind Farms Draw Mixed Response in Appalachia*. Npr.com., July 23, 2009.



engineer from Michigan testified that the turbines would create noise that could affect nearby residents.¹⁴⁸

Turbines are visually distracting, out of place, and threaten residents' peace and quality of life.¹⁴⁹

Turbines create infrasound, low-frequency noise, flicker effect, loss of TV reception, cell phone, local networking reception disruptions, and electronic/electromagnetic interference. Careful placement might lessen the effects, but it's doubtful.¹⁵⁰

Strobe lighting from the towers is a source of electrical pollution.¹⁵¹

Turbines generate flicker and shadows that can distract nearby motorists.¹⁵²

They also interfere with television signals, thus affecting the quality of life for nearby residents.¹⁵³

In addition to landscape blight, landowners are furious when the wind farm developers bring new transmission lines to transmit the wind energy to metro areas. But utilities are generally dismissive of such concerns, usually saying that "the importance of the lines outweighs the aesthetic worries."¹⁵⁴

In pursuing alternative energy sources, it is imperative not to strip property rights to streamline green energy projects as the Ontario Minister of Energy proposes; he wants to invalidate municipal zoning laws preventing industrial wind farms and severely restrict what citizens can appeal.¹⁵⁵

Tall structures are highly visible.¹⁵⁶

In Europe, where wind farms have existed and operated for many years, people are loath to be near them, especially in scenic areas.¹⁵⁷

¹⁴⁸ Kevin Sampler, *Wind Farm Opponents Air Concerns; Experts say Rail Splitter project will create noise, affect property values*. Journal Star, May 2, 2008.

¹⁴⁹ *Report from the Bethany Wind Turbine Study Committee*, January 25, 2007.

¹⁵⁰ Ibid.

¹⁵¹ *Report from the Bethany Wind Turbine Study Committee*, January 25, 2007.

¹⁵² Ibid.

¹⁵³ Eleanor Tillinghast, *Wind Turbines Don't Make Good Neighbors: Some Problems of Wind Power in the Berkshires*. Study presented by Green Berkshires, Inc., May 14, 2004.

¹⁵⁴ Amanda Casnova, *Transmission Line Debates: Wind here, towers somewhere else*. Abilene Reporter-News, July 18, 2009.

¹⁵⁵ Sven Hombach, *Guest Article: Ontario Set to Become a Wind Power-house*. National Renewable Energy Group of the Fraser Milner Casgrain, LLP. Windpowerlaw.info, June 16, 2009.

¹⁵⁶ Tom Hewson, *Wind Power Siting Issues Overview*. Presented to the National Association of Attorney Generals Wind Energy Facility Siting Issue Panel, April 21, 2008.

¹⁵⁷ Candida Whitmill, *UK Energy Policy: The Small Business Perspective & The Impact on the Rural Economy*. Small Business Council, February 2006.



Economic Impact

Some townships prefer to look at the projected tax revenues from proposed wind farms. One township in Ohio estimated that a 100MW wind farm would yearly generate the tax dollar equivalent of 449 homes, and they estimate a 300MW farm would generate the tax dollar equivalent of 1,347 homes. Due to conflicting studies on the impact of turbines on property values, they chose to disregard the issue completely. They anticipate significant positive local property tax impacts are possible assuming they can tax and collect at local levels. They expect local spending, job creation, lease payments and earnings and outputs to increase regardless of the turbines' tax status. And they expect to maintain a "healthy, equitable and sustainable tax base" by balancing residential development with commercial development and conserving open/farm lands to prevent the county from continuing to become a "bedroom community."¹⁵⁸

Wind farm projects have little to no significant job impact.¹⁵⁹

Wind farms contribute little to county property taxes. In some states, energy producing equipment is exempt from property taxes; taxable items may be limited to foundation and tower structure. Some developers also apply for additional local tax relief.¹⁶⁰

A public policy research group studied a proposed wind farm in Nantucket Sound and found it failed the cost-benefit test recommended by the U.S. government for assessing large-scale projects. The wind farm developer stressed the value of wind power as a source of clean, renewable energy. But the study found that the overall economic costs of the project would exceed benefits by \$211.8 million. Without \$241 million from state and federal subsidies, the project would not be financially viable. And while the farm may generate some wind energy jobs, the impact on tourism would result in a net loss of 1,000 local jobs.¹⁶¹

Industry advocates frequently cite additional tax revenues as a positive reason to build wind farms. General Electric, the wind turbine manufacturer that's currently backlogged \$12 billion in turbine orders, claims that over the long term wind farms will add \$250 million to the US Treasury. However, they also acknowledge they will only begin to "pump money into the US Treasury" once the Production Tax Credits expire. PTCs are good for the first 10 years of a wind farm's production. They also project creating

¹⁵⁸ Dave Faulkner, Exec. Director of Community Improvement Corporation of Champaign County, Ohio, *Economic Impact Study of Wind Farm Development in Champaign County, Ohio*. Prepared for Champaign County Wind Tower Study Group, November 13, 2007.

¹⁵⁹ *Report from the Bethany Wind Turbine Study Committee*, January 25, 2007.

¹⁶⁰ Tom Hewson, *Wind Power Siting Issues Overview*. Presented to the National Association of Attorney Generals Wind Energy Facility Siting Issue Panel, April 21, 2008.

¹⁶¹ *Beacon Hill Institute Study: Cape Wind proposal fails cost benefits test*. The Beacon Hill Institute for Public Policy Research, March 16, 2004.



thousands of short-term construction jobs with a long-term employment of 1,600 over 20 years or more of operation. They also project 10 million metric tons per year of CO2 emissions avoided.¹⁶²

Rural tourism is big business in the UK (worth approximately \$26.7 billion) and supports up to 800,000 jobs. 75% of visitors say the quality of the landscape and countryside is the most important factor in choosing a destination. Between 47% and 75% of visitors felt that wind turbines damage landscape quality. Of the three areas they studied, they found that 11% of visitors would avoid Case #1, resulting in a loss of \$48.5 million and the loss of 800 jobs. Approximately 7% of visitors would not return to the second case, resulting in a loss of \$117 million and 1,753 jobs. In the third case, just 5% would stay away, but its affluence would result in \$668.5 million lost along with 15,000 jobs. In some areas, 49% of all sectors of rural businesses experienced a negative impact.¹⁶³

The success of rural enterprises is inextricably linked to the maintenance and conservation of a healthy and attractive and irreplaceable rural appeal.¹⁶⁴

In a tourist area of the UK, five wind farms are proposed totaling 71 turbines along 18 miles. In a pilot survey of 1,500 visitors, approximately 95% of the visitors said wind turbines would spoil their enjoyment of the landscape. And this spoiling directly translates into less business from tourism and thus, lost jobs.¹⁶⁵

In another tourist area in the UK, two-thirds of local businesses said turbines are visually intrusive. While 54% thought wind turbines would increase their 'green' credentials, 27% believed it would still have a negative impact on the tourism industry by reducing visitor numbers. After the details of the tower heights were revealed the next year, the 27% grew to 39% who felt the 400-foot-high turbines would make visitors stop visiting completely.¹⁶⁶

In North Devon, an area renowned for its beauty, a before-and-after survey was conducted to gauge visitors' feelings toward possible wind farms. Before details of their 300' height were revealed, 34% were generally favorable and 66% unfavorable towards turbines. After the size and location of the turbine proposals were revealed, the number of 'unfavorable' visitors rose to 84%. When asked if wind farms would affect their choice of holiday destination, just less than 50% claimed that they would still choose North Devon. A further 39% said they would choose North Devon, but subject to the size and location of the wind farms. Eleven percent would stay away from North Devon altogether. Visitors claimed that if they found wind turbines on their arrival and had not been previously informed, 15% would complain to their tour or holiday operator and around 28% stated they would never return.¹⁶⁷

¹⁶² Steve Taub (Senior VP of GE Energy Financial Services), *GE Energy Financial Services Study: Impact of 2007 Wind Farms on US Treasury*. GE Energy Financial Services, Date Unknown.

¹⁶³ Candida Whitmill, *UK Energy Policy: The Small Business Perspective & The Impact on the Rural Economy*. Small Business Council, February 2006.

¹⁶⁴ Ibid.

¹⁶⁵ Ibid.

¹⁶⁶ Ibid.

¹⁶⁷ Ibid.



Scotland is also proposing wind farms, but a visitor survey found that 15% of visitors would not return if wind turbines are built, resulting in a potential loss of \$133.7 million and 3,750 jobs.¹⁶⁸

Wind energy advocates claim their wind farms would actually boost tourism. They tried it in the UK, and both utterly failed, proving that visitors do not accept wind farms as tourist attractions. In 1999, a visitor's center was built in Norfolk, UK – then home to one of the largest turbines in the world. It ran out of money and closed in 2002. Then in 2001, a \$9.1 million visitor center was built with hopes of attracting 150,000 annual visitors to its wind farm. Despite opening with much publicity, it attracted less than a tenth of projected visitors, and it went bankrupt. Its CEO debunked advocates' mindset when he said, "Sadly, just like many eco-attractions, they're not sustainable; there's just not enough interest."¹⁶⁹ They recommend micro-generation as an acceptable alternative.¹⁷⁰

In a summary, the media generally portrays the impact of wind turbines on residential properties as negative, bringing up fear factors and conflicting benefit, or no benefit issues. Overall, the qualitative factor is centered along the lines of health, noise, flicker and viewshed. With regard to the question, "Do wind turbines affect property value?" the two Centerville Township (Michigan) officials summed it up with this statement: "It is totally counter-intuitive to suggest anything else."

The qualitative helps answer the question "Do wind turbines affect property value?," but they do not give a quantitative answer to "How much?" For that, we reviewed the following studies more in depth.

¹⁶⁸ Ibid.

¹⁶⁹ Ibid.

¹⁷⁰ Ibid.



Review of Studies

Though not an exhaustive listing, the following studies, and articles were utilized to develop an opinion as to what impact a wind farm in Clay and Montague Counties will have on property value.

- *The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-Site Hedonic Analysis (2009 updated in 2013)* by Berkeley National Laboratory (California).
- *Impact of Industrial Wind Turbines on Residential Property Assessment in Ontario, 2012 Assessment Base Year Summary* by Municipal Property Assessment Corporation (MPAC).
- *Case Study Diminution in Value Wind Turbine Analysis (2012)* by Ben Lansink, AACI, P.Appr, MRCS, real estate appraiser (Ontario, Canada).
- A market study by Glen Taylor on the Chevron Wind Tower Development in Wyoming.
- *Wind Turbine Impact Study (2009)* completed by Kurt C. Kielisch, Appraisal Group One (Wisconsin).
- *Values in the Wind: A Hedonic Analysis of Wind Power Facilities (2011)* completed by Heintzelman and Tuttle, Clarkson University (New York).
- *Coral Springs Development Study (2007)* completed by Kurt C. Kielisch, Appraisal Group One (Wisconsin).
- *Big Sky Wind Farm Matched Pair Analysis Study (2015)*, completed by Kurt C. Kielisch, Forensic Appraisal Group (Wisconsin).

The following is a review and critique of each study.



Berkeley National Laboratory Study

In the fall of 2009, the Berkeley National Laboratory (California) released their study, "The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-Site Hedonic Analysis." This study was sponsored by the Department of Energy. In summary, this study found no relationship between the presence of wind turbines and residential property value. A review of this study brings out several observations that the reader should be cognizant of when considering applying these findings to a wind farm in Clay or Montague County.

No Real Estate Value Experts

The first problem with this study is the use of hedonic modeling to isolate variables in value. Though this is a recognized methodology in the statistical world; it is still young in its application to the real estate appraisal field. This modeling technique is considered a tool in the appraiser's toolbox which can assist him in making valuation decisions, but it is not the sole source of determining value in real estate. The appraiser must also apply his expertise and, some would say, "art," to the understanding of the valuation process to arrive at a realistic interpretation of the results of the study. This fact is recognized in the study where it states, "It should be emphasized that the hedonic model is not typically designed to appraise properties..."¹⁷¹ One of the leading real estate appraisal texts adds, "Appraisers should recognize the differences between statistical processes in the collection and description of data and should be able to distinguish between descriptive and inferential statistics. Without an understanding of the issues, any use of statistical calculations is dangerous or ill-advised."¹⁷² It is here where we take issue with the foundation of the study and its authors.

Through correspondence with Ben Hoen, the primary author of the Berkeley Labs study, it was learned that no one involved in the study was an expert in real estate valuation, nor had any practical experience as a real estate appraiser, a real estate broker, or as a real estate developer. Ben Hoen is trained in applied statistics, having a Master's Degree in that field. The other signature authors are Thayer, Ph.D. in economics (i.e. how things work, not their value); Sethi, Ph.D. in agriculture and resource economics (again, how it works, not its value); Wiser, Ph.D. in energy and resources; and Cappers, masters in applied economics. In review, one can see that these authors are well-schooled in economics, but not in the practical valuation of real estate. This academic approach most likely led to an error in the selection of the database for the model—the use of improved residential properties.

¹⁷¹ Berkeley study, page x.

¹⁷² *The Appraisal of Real Estate* – 12th Edition (Chicago: Appraisal Institute), 440.



Use of Improved Residential Properties

The use of improved residential properties in large-scale statistical analysis can be problematic. Appraisers know that the easiest real estate to use in a statistical analysis is vacant land. This is due to a number of variables which may impact the value. When valuing land, there are approximately 12 value factors commonly used by appraisers to represent how the market (buyer) would react.¹⁷³ The value factors that are specific to land are:

- Size
- Location
- Shape
- Topography (woods, open area, soils, physical limitations)
- Water features (ponds, creeks, streams, rivers, lakes, oceans)
- Wetlands and flood zones
- Terrain (level, rolling or severe)
- Zoning
- Utilities (private or municipal water and sewage, natural gas, electrical and telephone)
- Road frontage (town, county, highway or interstate roads)
- Access (direct off-road, indirect via long driveway, access easement, no access)
- View (including positive and negative environmental factors)¹⁷⁴

When you add residential improvements to the equation you not only have the 12 value factors of land, but you add another 25 variables which typically include:¹⁷⁵

- Location of improvements
- View
- Physical age
- Condition
- Quality of construction
- Style/design/number of stories
- Exterior siding
- Roof cover/gutters/downspouts
- Gross living area above grade
- Basement (full, partial, crawl, exposed/hillside)
- Finished area in basement
- Garage/carport (size, # car storage)
- Finished area in or above garage
- Room count (total rooms/bedrooms/bathrooms)

¹⁷³ This number may vary between property types and appraisers, but the noted variables are typical.

¹⁷⁴ These factors are mentioned in *The Appraisal of Real Estate* - 12th Edition (Chicago: Appraisal Institute), 333.

¹⁷⁵ This number may vary between property types and appraisers, but are typical for most properties.



- Patios (concrete, brick)
- Porches (open, covered, screened)
- Decks (type of wood, size, levels)
- Air conditioning (central, zoned, through wall)
- Type of furnace (forced air, hot water, steam, gas, in floor, fuel oil, electric)
- Energy efficiency items
- Functional utility (layout of interior rooms, functional problems, outdated items)
- Extra buildings (sheds, barns, workshops)
- Fireplace (wood, gas, stoves)
- Landscaping (including paved/concrete/brick driveways and walks, shrubbery, and gardens)
- Special features (Jacuzzi, hot tubs, built-in appliances, stone countertops, wood or tiled floors, built-in entertainment centers, theater rooms, swimming pools, ponds, fencing, etc)¹⁷⁶

Factors that were not mentioned in this list, but have an influence on value, are street appeal, interior decorating and availability of financing.

As you may imagine, when you add these value factors to the land value factors you have an exponential number of potential match-ups and adjustments. For this reason, an experienced appraiser would know that to compare 7,500 improved properties of all sizes, styles, ages, conditions, gross living areas, amenities, and different localities would be a nearly impossible task without the ability to appraise each sale independently, assessing all the factors of value.

The list of variables considered in the hedonic analysis appears on page 21 of the Berkeley study. You will notice there are only three variables in relation to land, that being size in acres, cul-de-sac, and waterfront (yes/no question with no consideration to quality, type, amount, etc.). In relation to the actual improvements, there are 9 variables. These variables are:

- Age
- Gross living area above grade
- Number of bathrooms
- Exterior siding (only variable is stone, brick or stucco – not vinyl, steel, wood or log)
- Air conditioning (central air only, yes/no)
- Finished basement (only includes finished if it is greater than 50% of area)
- Waterfront (the only factor is fronting on water with no reference to type, size, amount, etc.)
- Condition
- Vista (view)

This list is missing 26 other distinct and important variables of value for a residence. To ignore these is an error and could result in an inaccurate comparison of the sales used in the analysis.

¹⁷⁶ Note: This is not an inclusive list of the variables present with residential improvements. Many of the items listed are found on the Fannie Mae form 1004/Freddie Mac form 70.



Due to the sheer size of this study and the logistics of obtaining the data on the improved properties, the authors of the study chose to collect their data via government records. These records included assessor records, which can be problematic. Few assessment records are considered up-to-date on the condition of the property and other improvements which give value, such as fencing, landscaping, room layout, and decoration. Most assessment records are only updated on a periodic basis and contain the base information about the residence. This base is what undoubtedly limited the selection of the valuation variables utilized in the hedonic models.

Location of Sales – Urban vs. Rural

An appraiser or real estate professional recognizes that location is of primary importance. In most cases, it simply cannot be adequately factored in to get a true representation of how the market would react. For instance, there is a distinct difference between the typical buyer of a rural property, who desires to get away from the noise and congestion of the urban environment and is willing to be inconvenienced to obtain this escape, as compared to that of an urban buyer who will accept the noise, congestion, and other urban settings for the convenience factor. Therefore, it would be unwise to compare residential sales of these separate and distinct environments to each other. However, the Berkeley study does just that.

An example of this may be found on page 84. This page shows a map of the wind towers and the residential sales utilized in the study. The red '+' marks denote the placement of the wind turbines and the maroon dots denote the sales used in the study. This map shows nearly all the sales utilized were in an urban area, either in Kennewick (9 miles to 20 miles away) or Milton-Freewater (approximately 9 miles away). Only a few sales are located outside of these urban areas. An extreme example of this would be found on page 90, whereas nearly all the sales are located in the City of Weatherford. This pattern is repeated in most of the study locations (pages 93, 99, 102, 108, and 111). The best study, having the most non-urban sales, can be found on page 96, whereas only a small portion of sales is found in the cities of Paw and Compton. Unfortunately, this study had only 2 sales that were less than 1.00 mile from a wind turbine out of a total of 412 sales utilized.

Of particular interest was the study found on page 99. This study area is located in the Kewaunee and Door County area of Wisconsin. This author is very familiar with this area, having appraised a number of properties along State Highway 57, which runs through these two counties. In this study; you can see that most of the sales were from the urban centers of Luxemburg, Casco, Brussels, and Algoma. In addition, the Algoma area fronts on Lake Michigan with dynamic views of the lake and is known for tourism due to its location on the water. Opposite, and on the other side of the land mass, is the Green Bay area which is a large bay of Lake Michigan between Door County and the city of Green Bay. These sales are all aligned along the lake shore which has high bluffs with dynamic lake views. Any residence found in either area would be oriented toward the lake vista and not inwards toward the wind turbines. In addition, Algoma is over 5 miles to the east of the nearest wind turbines, which are not visible. The same is true of the other urban areas and the Green Bay shoreline. This opinion is supported on the chart found on page 101 which



lists only 5 sales with either a substantial or extreme view of the wind turbines. Lastly, it was this same area that homes were purchased by the wind farm developer who then either razed the buildings or resold the property at a substantial loss. This information appears not to be included in the study.

Few Sales in Close Proximity to Wind Turbines

The study utilized approximately 7,500 residential, improved sales. Of this number, only 67 sales (<1%) were within 0.57 miles of a wind turbine and 63 sales (<1%) had a substantial or extreme view of the wind turbines. Conversely, 98% of all the sales were a mile or greater in distance away, with the greatest number being over 3 miles away (57%).¹⁷⁷ The author correctly states that view or vista is a significant factor in value. The study has a chart showing that a poor vista results in a -21% loss of value and a below average vista results in a -8% loss.¹⁷⁸ However, when this vista measurement was applied to substantial and extreme views of the wind turbines it found the opposite to be true, indicating a +2.1% increase in value by having an extreme view. This result is counter-intuitive: Common sense and experts in the real estate field would agree that a wind turbine meets the definition of a poor vista. Surely, a wind turbine does not enhance the vista. When the study compared proximity to the wind turbines (which may overlap the vista factor) it found a -5.3% to -5.5% loss in value.¹⁷⁹ It would appear that the problem lies in the number of samples in close proximity with a clear view of the wind turbines as suggested by the author regarding the proximity factor not being significant in statistical terms: "Even though the differences are not found to be statistically significant, they might point to effects that exist but are too small for the model to deem statistically significant due to the relatively small number of homes in the sample within 1 mile of the nearest turbine."¹⁸⁰ Though a -5.5% loss in value may not be substantial in the field of statistics, it is substantial in the valuation of real estate as any appraiser or property owner would know. This type of loss would equate to a \$13,750 loss for a \$250,000 home.

Other Studies Have Found a Negative Impact

Though the Berkeley study found no loss of value for an improved residential property due to proximity to a wind farm, other studies have suggested otherwise. The study's author acknowledges this very point, listing the studies he found in his literature research regarding the impact of wind turbines on real estate values. In the chart found on page 9, the author notes that 3 out of 4 (75%) of the homeowner surveys found a loss; 3 out of 5 (60%) of the expert surveys found a loss; 2 out of 10 (20%) of the transaction analysis-simple statistics found losses; and 3 out of 4 (75%) of the transaction analysis-hedonic model found losses. As a matter of fact, the only two studies authored by certified real estate appraisers

¹⁷⁷ Berkeley study, xiii, xiv.

¹⁷⁸ Ibid, 29, Figure 5.

¹⁷⁹ Ibid, 31.

¹⁸⁰ Ibid, 31.



(McCann, Kielisch) both found significant losses and the only hedonic model study listed in this chart that did not find a loss was the Berkeley (Hoen) study.

It would appear that the Berkeley study is only one of a few that have resulted in finding no impact on property value due to the presence of wind turbines. One reason for this could go back to the very base of the model, the selection of improved residential properties and their limitation to extract values due to the complexity and sheer number of the variables to value that interplay with the final market value. Another reason is cited by Heintzelman stating, "However, they limit themselves to discontinuous measures of proximity based on having turbines within 1 mile, between 1 and 5 miles, or outside of 5 miles, or a similar set of measures of the impact on scenic view, and they again find no adverse impacts from wind turbines. In addition, by including so many disparate regions within one sample they may be missing effects that would be significant in one region or another."¹⁸¹

Another potential reason for their finding of no impact could be the lack of adequate numbers of sales within close proximity to the wind turbines for their statistical study to work properly. The author identified this as problematic, saying, "Unfortunately for the study, most wind power projects are not located near densely populated areas. As a result, finding a single wind project site with enough transaction data to rigorously analyze was not possible."¹⁸² This, of course, is a prejudice of many academic statisticians, but it is not shared with the appraisal profession as indicated by this statement from a guide to statistical analysis by the Appraisal Institute, "Based on the experience of the authors, the ideal number of sale properties usually ranges between 18 and 32."¹⁸³ Indeed, a smaller, localized study may be a much better analysis to isolate the impact on property value of a wind turbine than a combination of 10 different studies in nine states.

Conclusion

This brief review touched on several major points to consider when looking at the Berkeley study. It showed that the base of the study (that is, to use improved residential sales) has a great potential to result in flawed conclusions due to the great number of value variables present in such properties. A vacant land analysis would have been better and more accurate. The selection of sales combining both urban (city) and rural sales is flawed on the onset since these two buyer groups are very different from each other and have different motivations for their purchases. Of course, the reason the two were combined was due to the lack of a large number of sales in and around the wind turbines themselves. This could suggest to the authors that: (a) possibly this lack of sales activity is due to the presence of the wind turbines themselves; or (b) the sales sample set and model should be smaller, potentially resulting in a more accurate measure of the effects. The desire for a large database caused the authors to combine ten different studies located in nine different states, states that were decidedly different from each other, which resulted in a larger

¹⁸¹ Martin D. Heintzelman, Ph.D. & Carrie M. Tuttle, *Values in the Wind: A Hedonic Analysis of Wind Power Facilities* (Clarkson University, 2011), 8-9.

¹⁸² Berkeley Study, 10.

¹⁸³ *A Guide to Appraisal Valuation Modeling* (Chicago: Appraisal Institute), 61.



database pool. However, on the practical side of real estate valuation, such a large database is not representative of greater accuracy. It could be that these basic errors in judgment were a result of the lack of professional and practical experience in the real estate valuation field.

This is a study of improved residential properties, which overwhelmingly were located in urban centers, not the rural countryside. This study did not measure impacts to agricultural land, recreational, or rural residential land. Therefore, its direct application to such properties is cautioned.



Impact of Industrial Wind Turbines on Residential Property Assessment in Ontario, 2012 Assessment Base Year Summary

The Municipal Property Assessment Corporation (MPAC) completed this study to review their assessment practices with regard to the potential negative impact to property value caused by the presence of wind turbines. MPAC is a governmental agency responsible for the assessment of millions of properties in the Ontario, Canada, region. This agency is both political and governmental. Political since the directors are politically appointed and governmental in that a finding of a negative value impact due to the wind turbines would require the local assessors to revalue such impacted properties and the governmental agencies that are dependent upon tax revenue from property assessments would be negatively impacted. With this responsibility, the MPAC went about testing the null hypothesis that there is “no difference between properties in close proximity to wind turbines to those that are not.” (A null hypothesis in statistics basically assumes no difference between two sets.) MPAC chose to test this hypothesis through the use of checking the accuracy of their assessments by comparing the two sets and then using statistical analysis of selling prices to test if there is a valuation impact.

The first test examined the accuracy of the assessments in the two data sets, one being less than 2km proximity to a wind turbine and the other outside of that distance (>2km). Using Canadian government assessment standards of accuracy, which state that an assessment is considered accurate if the assessment-to-sale price (ASR) lies within 0.95 to 1.05 of the assessment. An ASR ratio is calculated by assessment ÷ sale price. As an example, if a property was assessed at \$100,000 and sold for \$105,000 the ASR would be 0.952 or 95% of the assessed value and the assessment would be considered accurate. If the property sold for \$90,000 the ASR would be 1.11 or 111% of the assessed value and the assessment would fail the accuracy test.

The geographic area of this study was fifteen market areas in Ontario, Canada. These areas were identified as potential study markets since wind turbine farms were in their vicinity. MPAC tested the assessment ratios pre-construction of the wind farms (but after their announcement) and after the construction of the wind farms. The hypothesis was if the ratios were within the acceptable range, i.e. 0.95 to 1.05, for both data sets and in both conditions, then there was no relationship between the presence of wind turbines and value.

The test of the ASR showed those properties within the 2km distance of wind turbines had a -4.2% to -4.5% loss factor. Since this was within the 5%± acceptable range of value, MPAC concluded wind turbines do not impact property value. It should be noted that the overall property values that were <2km were consistently less than those values >2km (MPAC report, figure 2, p.18) and their ASRs were higher, typically over 1.034 as compared with the >2km properties which were in the 0.992 range.

The second test was a sales analysis using multiple regression analysis. This study indicated that only two market areas had sufficient pre-construction and post-construction sales to derive a variable for this comparison. One of this areas, market area 26RR010-Chatham, indicated a loss of \$6,451 per property if



<1km of a wind turbine and a loss of \$3,686 if within the 1km-2km distance. Both statistics were considered not statistically significant since they were at the 10% significance level.

Overall, the study concluded that distance to a wind turbine was not a factor influencing property value.

Critique

The first test of the study had little to do with measuring impact on property value due to the presence of a wind turbine and everything to do with measuring the accuracy of assessments. There is nothing said in the report to investigate if the local assessors had already considered the locational factor in their assessment. So, if a home that was located outside of the zone of influence and would have a value of \$125,000 and assessed accordingly, and a similar home that laid within the zone of influence would have a value of \$100,000 and assessed accordingly, the ASR for both subsets would be 1.00. Accordingly, if you applied the MPAC test of ASRs you could conclude there is no influence due to the wind turbines. Hence, this first test was simply an exercise in measuring their accuracy of assessment and not to extract an impact factor.

The second test had some issues as the charts illustrated. For instance, in only two out of the fifteen market test areas did they have sufficient sales to measure both the pre-construction and after-construction values, which was the stated purpose of this exercise. Additionally, one of the two areas indicated a measurable (though not deemed significant) negative effect. Of course, the problem here, as with the Berkeley study, is that there were few variables measured for the improved properties. Limiting these value-influencing variables is a mistake that will skewer results of any study. The study itself did not provide any insight into the other variables to be considered and why or why they were not included.

It can be said with consistency that this study indicated properties within close proximity of the wind turbines had overstated assessments and lower valued properties.



Case Study Diminution in Value Wind Turbine Analysis (2012)

Real estate appraiser Ben Lansink, AACI, P.Appr, MRCS, real estate appraiser (Ontario, Canada) completed a comparative sales analysis study of five properties located within a wind farm area. These properties were selected because they were purchased by the Canadian Hydro Developers, Inc (Hydro) who was the developer of the Melancthon Wind Facility (MWF) located in Shelburne, Ontario, Canada. MWF is a 200-megawatt development comprised of one hundred and thirty three General Electric 1.5mw wind turbines having 262ft± tall towers and a 147ft± blade wingspan. The wind farm was developed in two phases, with the first phase coming online in 2005 and the second in 2008. Hydro purchased these five properties at the property owners' request and paid full market value for each property according to Lansink. The purchases were completed between 2005-2007, and the resale of the properties took place between 2009-2012. Lansink inspected all the properties in 2012, compared the results of the personal inspection with the MLS listings at the time of purchase and resale to note any changes that may have taken place. The five properties consisted of four single-family residences and one farm.

Lansink used a comparative analysis of twenty comparable properties sold in 2005-2007 to measure the validity of the initial purchase price concluding that the properties were purchased at market value without consideration given to the value influence of the wind farm. He then proceeded to do a market trend study in the area to establish a measurable and reasonable adjustment for time. He then applied this market trend adjustment to predict the market value of the properties sold at a later date and compared that estimate to the actual sale price. The difference, if any, was applied to the wind farm influence having all other factors being equal. He concluded the following:

Sale 1- This property was a 1.5-story Cape Cod design residence on 1.88 acres. Its room count was 6 total rooms, 3 bedrooms and 2 bathrooms (6/3/2). The closest wind turbine was 1,902ft away. The home was purchased in November 2007 for \$500,000 and sold two years later in December 2009 for \$288,400. The condition of the home was considered the same in both sale dates. When the market trend adjustment was factored the estimated resale price was \$557,509 representing a -48.27% loss due to the wind turbine. If no market trend adjustment was applied, the loss would be -42.32%.

Sale 2- This property was a 2-story farmhouse residence on 100± acres. Its room count was (13/4/2) with 3,500sf of gross living area. It had a large Quonset agricultural building. The closest wind turbine was 1,902ft away. The home was purchased in October 2007 for \$350,000 and sold about three years later in November 2010 for \$175,000. The condition of the home was considered the same in both sale dates. When the market trend adjustment was factored, the estimated resale price was \$422,272 representing a -58.56% loss due to the wind turbine. If no market trend adjustment was applied the loss would be -50.00%.



It should be noted that Hydro chose to market the property as “vacant land,” however Lansink inspected the property and found the buildings viable and considered the sale “as improved.”

- Sale 3- This property was a 2-story contemporary design residence on 10± acres. Its room count was (6/3/1) and included a 2-car garage and raised wood decks. The closest wind turbine was 664ft away. The home was purchased in January 2007 for \$305,000 and sold two and half years later in August 2009 for \$278,000. The condition of the home was considered the same in both sale dates. When the market trend adjustment was factored, the estimated resale price was \$362,153 representing a -23.24% loss due to the wind turbine. If no market trend adjustment was applied the loss would be -8.85%.
- Sale 4- This property was a split-level design residence on 1± acre. Its room count was 10/5/2 and had a 1-car attached garage. The closest wind turbine was 1,136ft away. The home was purchased in August 2007 for \$302,670 and sold two years and nine months later in April 2010 for \$215,000. The condition of the home was considered the same in both sale dates. When the market trend adjustment was factored the estimated resale price was \$293,172 representing a -26.66% loss due to the wind turbine. If no market trend adjustment was applied the loss would be -28.97%.
- Sale 5- This property was a bi-level design residence on 2± acre and had a 2-car attached garage. The closest wind turbine was 1,213ft away. The home was purchased in June 2005 for \$299,000 and sold seven years later in June 2012 for \$250,000. The condition of the home was considered the same in both sale dates. When the market trend adjustment was factored the estimated resale price was \$398,723 representing a -37.3% loss due to the wind turbine. If no market trend adjustment was applied the loss would be -16.39%.

Depending on how you calculated the losses, either from the estimated market value at the date of resale or the difference between the purchase and resale price with no consideration for the time lapse, the analysis found the following losses:

Market trend method:

- Median loss -37.30%
- Average loss -38.81%

The difference between purchase and resale method:

- Average loss -29.31%

If you isolate the impact on only rural residences having less than 10 acres (excluding Sale 2), then the losses change slightly.



Market trend method:

Average loss -33.87%

The difference between purchase and resale:

Average loss -24.13%

In summary, the study indicated that the presence of a wind turbine in close proximity (664ft to 2,531ft) resulted in significant value losses ranging from an average of -24% to -39%.



Glen Taylor Chevron Wind Tower Market Study - Wyoming

In 2010, realtor Glen Taylor (Equity Brokers, Casper, Wyoming) completed an informal market study of the residential properties in close proximity to the Chevron Wind Tower Development. The area of study was in Evansville, Wyoming just outside of Casper. The wind farm had 11 wind turbines. Mr. Taylor based his study on observations of market activity both in near proximity to the wind farm and out of the wind farm influence. His study concluded:

“My determination was that the presence of the large Wind Towers has had a detrimental effect on property values, not only residential property values, but also unimproved and presently uninhabited properties as well. Keep in mind; these now uninhabited properties may someday be candidates for development of residential or small ranchette type of locations. The report also indicates that those properties closest to the development are the most affected by the huge towers close to adjacent property lines and my 20 years of experience in the real estate marketing business tells me that the further away the towers are from adjacent property lines, the less affected the property values would be. The term “further” may be the key word here as it can be a very subjective term.”¹⁸⁴

Appraisal Group One Study - Wisconsin

In the fall of 2009, Appraisal Group One (now, Forensic Appraisal Group, Ltd, Wisconsin) completed a study entitled “Wind Turbine Impact Study – 2009” for the Calumet County Citizens for Responsible Energy, a group of property owners united to prevent wind farms from being located in their county. The study examined the impact that wind turbines have on rural residential property value. The wind turbines that were the focus of this study are approximately 389ft tall and produce 1.0+ megawatts each. This study was based in Dodge and Fond du Lac Counties, Wisconsin. It was broken down into three parts: A literature study, a realtor opinion survey, and sales studies. Overall, the study concluded that the presence of a wind farm had a negative impact on rural residential property value 5 to 10 acres in size, and farmettes up to 20 acres in size. The impacts according to the realtor survey suggested losses ranging from 24% to 43%; the literature study indicated losses averaging 20.7%, and the

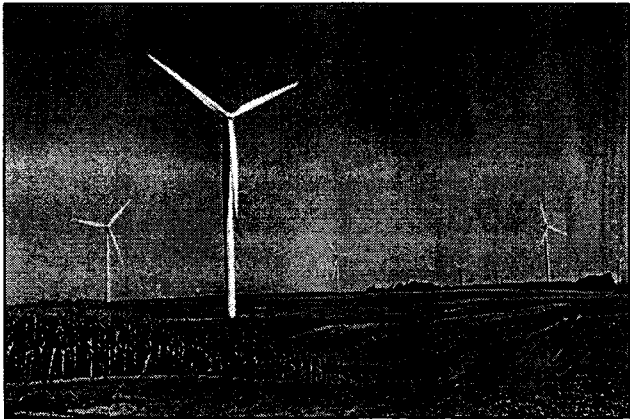


Figure 1: This is a view of the Blue Sky Green Field wind farm.

¹⁸⁴ Letter to Converse County Commissioners, November 2, 2010, from Glen Taylor.



sales study indicated losses ranging from 19% to 74% – with the most likely range of loss being 19% to 40%. Some observations of this study and its conclusions follow.

Realtor Survey

The purpose of the realtor survey was to learn from the people who are on the first tier of the buying and selling of real estate what they thought of wind turbines and their impact on residential property value. This survey was designed to measure what type of impact (positive, negative, or no impact) that wind turbines have on vacant residential land and improved property. The questions were designed to measure three different visual field proximity situations to wind turbines. These three were *bordering* proximity (defined as 600ft from the turbine), *close* proximity (defined as 1,000ft from the turbine) and *near* proximity (defined as one-half mile from the wind turbines). In all situations, the wind turbines were visible from the property.

Graphics and photographs were utilized to illustrate each question so that the survey taker would have the same or similar understanding as others on each question. In addition to asking the realtors about the type of impact they expected in each situation, the survey then asked them to estimate the percentage of the impact. Though it is understood that realtors are salespeople and not appraisers, it is also true that they often have to estimate asking prices for their clients or act in the capacity of a buying agent for a client. Both situations demand an estimate of value and recognition of those factors that both benefit and detract from value.

The geographic area for the selection of the survey participants was defined by the wind farm projects. These projects were in Fond du Lac and Dodge Counties, Wisconsin.

A total of 36 realtors were surveyed, indicating an average of 13.4 years of experience.

The survey indicated that, in all but two scenarios, over 60% of the participants thought that the presence of the wind turbines had a negative impact on property value. This was true of both vacant land and improved land. Where the group diverged from that opinion is when they were presented with a 10-20 acre hobby farm being in *close* and *near* proximity. In these cases, 47% (close proximity) and 44% (near proximity) of the participants thought that the wind turbines caused a negative impact on property value.

The answers showed that *bordering* proximity showed the greatest loss of value at -43% for 1-5 acre vacant land and -39% for improved properties. Next in line was the *close* proximity, showing a -36% value loss for 1-5 acre vacant land and -33% for improved property. Last in line was the *near* proximity, showing a -29% loss of value for a 1-5 acre vacant parcel and -24% loss in value for improved parcels. These losses show a close relationship between vacant land and improved land. This pattern was replicated regarding the *bordering* proximity for a hobby farm, whereas 70% believed it would be negatively impacted. Lastly, the opinions regarding the impact of the wind turbines due to placement (that being in front of the residence or behind the residence) showed that in both situations most participants believed there would



be a negative impact (74% said negative to the front placement and 71% said negative to the rear placement).

In conclusion, it was observed that: (a) In all cases with a 1-5 acre residential property, whether vacant or improved, there will be a negative impact on property value; (b) with 1-5 acre properties, the negative impact on property value in *bordering* proximity ranged from -39% to -43%; (c) with 1-5 acre properties, the negative impact on property value in *close* proximity ranged from -33% to -36%; (d) with 1-5 acre properties, the negative impact on property value in *near* proximity ranged from -24% to -29%; (e) in all cases the estimated loss of value between the vacant land and improved property was close. However, the vacant land estimates were always higher by a few percentage points; (f) it appears that hobby farm use on larger parcels would have lesser sensitivity to the proximity of wind turbines than single-family land use; and (g) placement either in front or at the rear of a residence has similar negative impacts.

Literature Study

This study looked at the recent articles and studies published related to the impact of wind turbines on residential property values. The review broke down the articles into several categories including health issues, health solutions, wind turbine hazards, conservation concerns, property values and land use, noise, quality of life, wind energy production, wind farms as tax havens, and economic impact.

Below is a brief summary of the findings:

- Articles and studies show wind turbines:
 - Intrude on the viewshed
 - Make noise
 - Cause flicker and strobe light irritants
 - Limit development
 - Affect highest & best use
 - Increase time on the market
 - Lower property values
- Wind industry cites a 2004 study by the Renewable Energy Policy Project to support their position that there is no impact on property value. REPP is an organization dedicated to advancing renewable energy.
- European countries report property losses from 10% to 30%.
- Realtors overwhelmingly consider wind turbines to have a negative impact on property value.
- Independent appraisers usually find a diminution of land value due to the presence of wind turbines.
- Regarding rural properties, articles indicated that land values are affected by the turbines due to:
 - Incursion into peaceful countryside,
 - Turns farms and land into industrial zones,
 - Flicker, noise and nighttime strobes.



- Adjacent properties are impacted the same as the host landowner but receive none of the compensation.
- Sometimes land values remain the same or increase for the host landowners.
- Value impact decreases with distance from the turbine.

After reviewing the articles and studies on wind energy, the study concluded that wind turbines appear to have a negative impact on the property values, health, and quality of life of residents in close proximity. Of the studies that found no impact on property value, nearly all were funded by wind farm developers or renewable energy advocacy groups. Of the studies and reports showing property loss, the average negative effect is -20.7%.

Additionally, the research shows it is equally reasonable to conclude that some residents in close proximity to wind turbines experience genuine negative health effects from Low-Frequency Noise, infrasound and blade flicker. Of the studies and reports cited, an average setback of little over a mile should significantly lessen detrimental health effects. In addition to noise and flicker issues, disrupted TV and cell phone receptions contribute to a negative impact on the quality of life for residents living in close proximity to wind turbines.

Sales Study

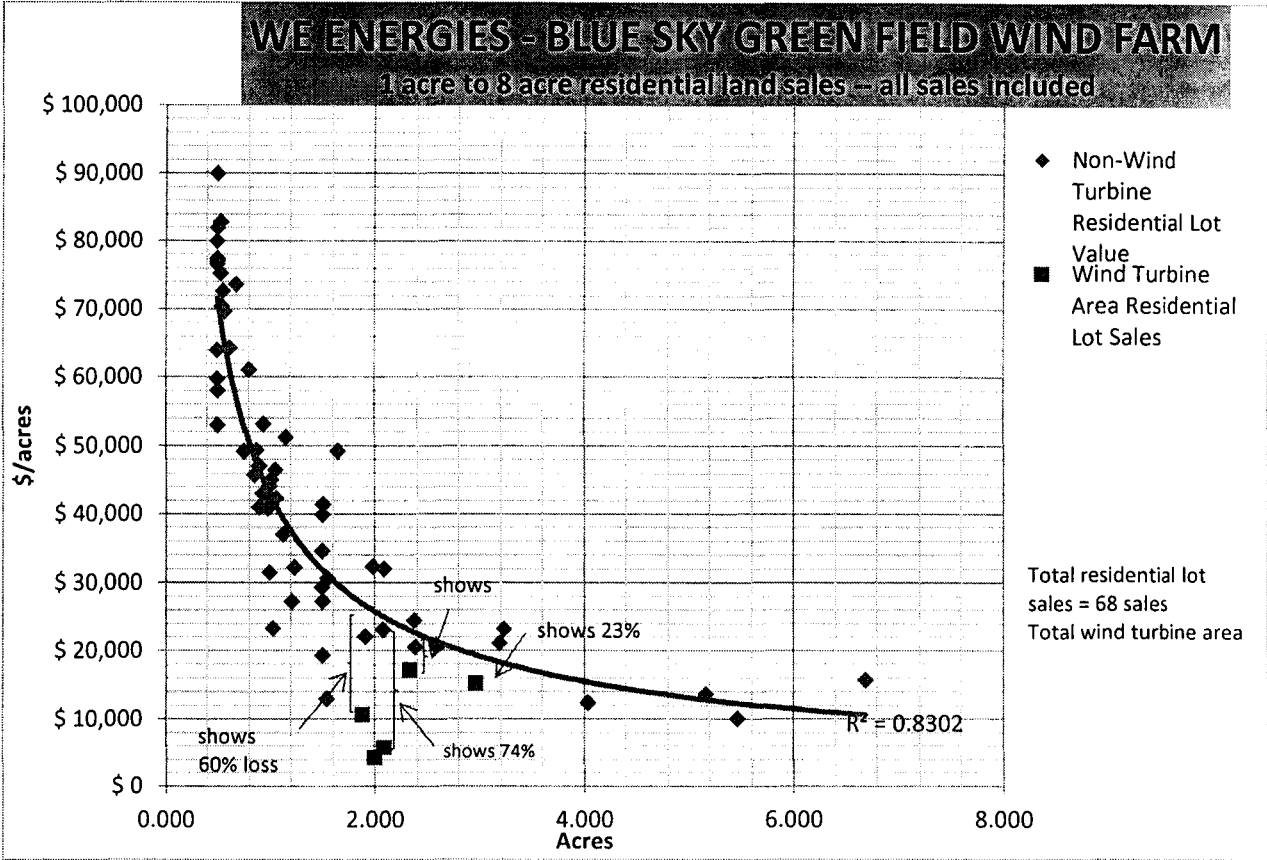
The purpose of the wind turbine impact sales studies was to compare the residential land sales of properties located within the wind turbine farm area to comparable land sales located outside of the influence area of the wind turbines. Being located outside of the influence area meant that the wind turbines could not be seen from the property.

The areas of study include the WE Energies – Blue Sky Green Field wind farm located in the northeast section of Fond du Lac County and the Invenenergy – Forward wind farm located in southwest Fond du Lac County and northeast Dodge County, all in the State of Wisconsin. The sales studies and their conclusions follow.

WE Energies – Blue Sky Green Field Wind Farm Sales Study

The area of study was the northeast section of Fond du Lac County bordered by Calumet County to the north, Lake Winnebago to the west and Sheboygan County to the east. The study included the townships of Calumet, Taycheedah, and Marshfield. A total of 68 vacant residential land sales were utilized for this study. From that total, 6 land sales were within the influence of the wind turbines (within the wind farm parameters), and 62 sales were located outside of that sphere of influence. The simple regression analysis graph is found below.





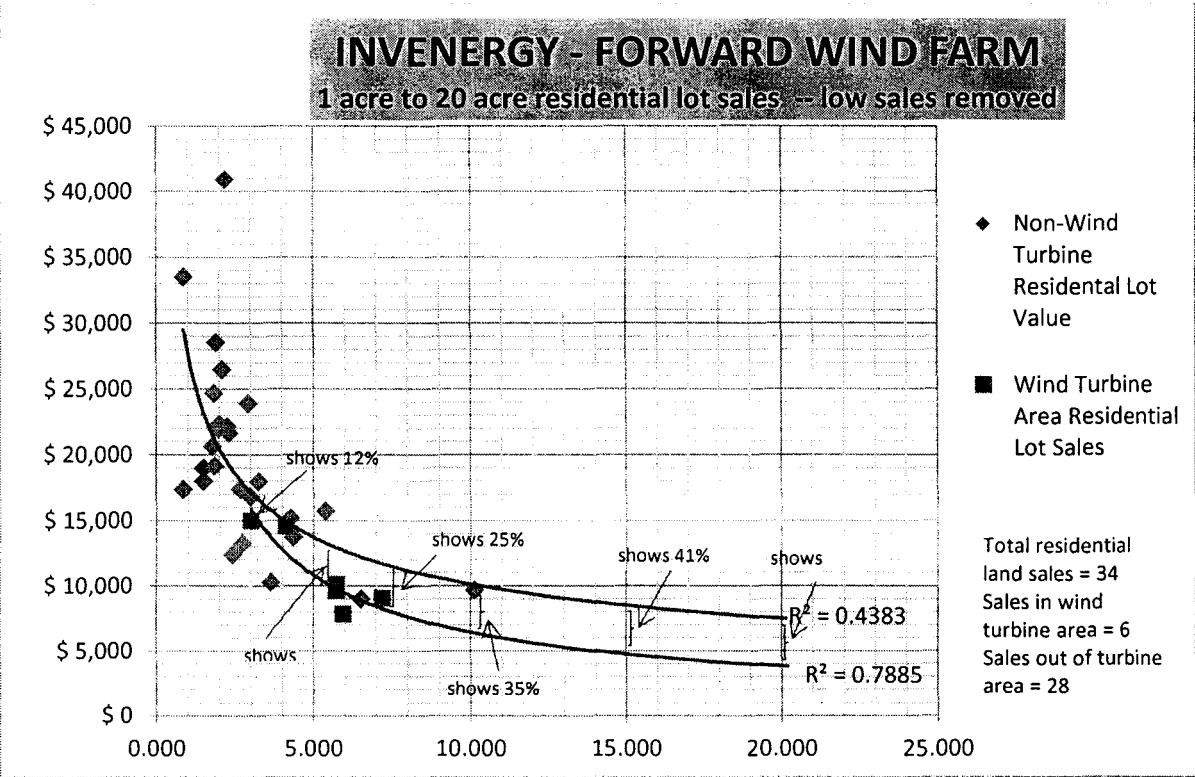
The sales study indicated three factors: (1) Sales within the wind turbine influence area sold for less than those outside of this area; (2) there were substantially fewer sales available within the turbine influence area as compared to those sales outside of the influence area; and (3) the impact of the wind turbines decreased the land values from -19% to -74%, with an average of -40%. Additionally, it can be said with a high rate of confidence that the impact of wind turbines on residential land sales is negative and creates a loss greater than -19%, averaging -40%. It is logical to conclude that the factors that created the negative influence on vacant land are the same factors that will impact the improved property values. Therefore, it is not a leap of logic to conclude that the impact of wind turbines on improved property value would also be negative, most likely following the same pattern as the vacant land sales, that being greater than -19%, averaging -40%.

Invenergy – Forward Wind Farm Sales Study

The area of study was the southwest section of Fond du Lac County and the northeast section of Dodge County being bordered by US Highway 41 to the east and Horicon Marsh to the west. The study included the townships of Oakfield and Byron in Fond du Lac County and Leroy and Lomira in Dodge County. A total of 34 vacant residential land sales was utilized for this study. From that total, 6 land sales were in the



influence of the wind turbines (within the wind farm parameters) and 28 sales were located outside of that sphere of influence. The simple regression analysis graph is found below.



The sales study indicated three factors: (1) Sales within the wind turbine influence area sold for less than those outside of this area; (2) there were substantially fewer sales available within the turbine influence area as compared to those sales outside of the influence area; and (3) the impact of the wind turbines decreased the land values from -12% to -47%, with the average being -30%. Additionally, it can be said with a high rate of confidence that the impact of wind turbines on residential land sales is negative and creates a loss greater than -12%, averaging -30%. It is logical to conclude that the factors that created the negative influence on vacant land are the same factors that will impact the improved property values. Therefore, it is not a leap of logic to conclude that the impact of wind turbines on improved property value would also be negative, most likely following the same pattern as the vacant land sales, that being greater than -12%, averaging -30%.

Conclusion

The sales study indicated that there was a loss in value of rural residential properties from a low of -12% to a high of -74%. The most typical range of loss could be concluded to be in the range of -19% to -40%. This study was for rural residential large acreage properties ranging from 1 to 10 acres. The properties impacted by the wind turbines all had a view of the turbines and were less than one-half mile from any



wind turbine. This study did not measure impacts to agricultural land or recreational; therefore, its direct application to such properties is cautioned.



Clarkson University Study (Heintzelman & Tuttle)

On March 3rd, 2011, Assistant Professor Martin D. Heintzelman, Ph.D. and Carrie M. Tuttle, a Ph.D. candidate in Environmental Science and Engineering, Clarkson University, published their study entitled “Values in the Wind: A Hedonic Analysis of Wind Power Facilities.” This study used 11,369 arm’s length transactions of residential and agricultural properties between 2000 and 2009 in Northern New York State to extract the impact of wind farms on property value. They found that the nearby wind facilities significantly reduced property values. Specifically, they found that “Decreasing the distance to the nearest turbine to 1-mile results in a decline in price of between 7.73% and 14.87% on the average.”¹⁸⁵ At the block-group level, the existence of a wind turbine between 1 and 3 miles away impacted property values between -15.6% and -31%.¹⁸⁶

Study area

The study area included three counties in Northern New York State, Clinton, Franklin and Lewis Counties. This area is located in the northeast corner of New York bordering Vermont to the east, Canada to the north and has within the area, Adirondack Park, and Lake Champlain. The area of the study is primarily rural, lightly populated, with small towns and villages. The area of study includes six wind farms which are not within the borders of the Park but are in close proximity. The per capita income analysis for the area indicates that it is less affluent than the rest of New York State. The typical property value in the study was \$106,864.

Conclusions from the Study

The study indicated several factors. First, the impact of a wind farm on property values was significantly negative. Second, distance is a direct factor in the negative influence, and the further the distance the lesser the impact. Last, when measured with properties outside the influence area of the wind farms, the impact can be as great as -32.06% (being within 0.10 miles of a turbine) to -13.79% (being 3 miles away from a wind turbine) when measured as a block-group with fixed effects factored in. A more conservative conclusion, using the repeat sales method, results in an impact of -24.12% (being within 0.10 mile of a wind turbine) to -10.06% (when 3 miles away).¹⁸⁷ Other results showed at the block-group level that the existence of a wind turbine between 1 and 3 miles away impacted property values between -15.6% and -31%.¹⁸⁸

¹⁸⁵ *Values in the Wind*, 2.

¹⁸⁶ *Ibid*, 21.

¹⁸⁷ *Values in the Wind*, 39, Table 12.

¹⁸⁸ *Ibid*, 21.



Coral Springs Development Study (Forensic Appraisal Group, Ltd)

The Coral Springs development is located on Boulder Ridge Road across the road from Fish Creek, in Section 34, T13N, R73W, of Albany County, Wyoming. This development is comprised of 7 lots being 35.1 acres to 35.3 acres in size, having a mix of vegetation from spruce and fir trees to grassland and sagebrush. It is in the foothills, having a view of the grassland valley to the east and north. Currently, there are no residences in this development, however, there are some storage buildings built on Lot A. It is improved with private gravel/dirt roads and underground utilities. The development has protective covenants which require stick-built homes - no modular or mobile homes. It has direct access to Boulder Ridge Road which connects with Cherokee Park Road one mile to the east. It is being marketed by Duane Toro Real Estate, Laramie, Wyoming; Duane Toro and Bob Davis, agents. One parcel was marketed by Dean Smith a private property owner. The original development owners are Grant L. Lindstrom and Shane M. Cox.

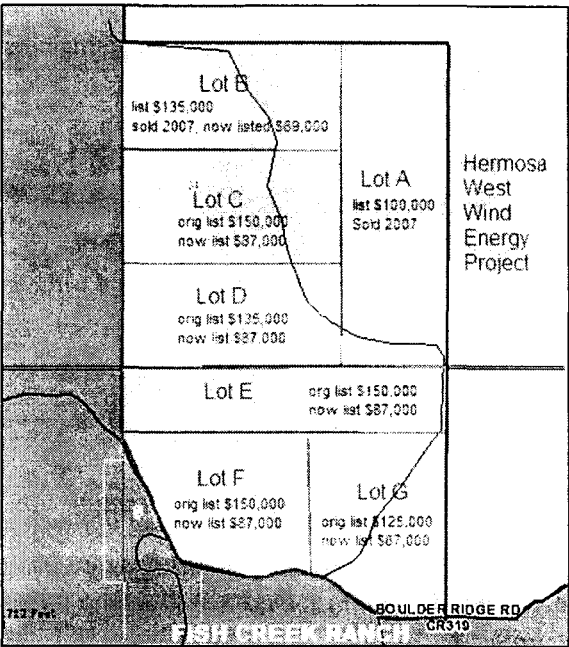


Figure 2: The Coral Springs development is highlighted in yellow with the original and new listing prices noted per lot. The Hermosa West project is highlighted in light green. Fish Creek is located just south of the development.

Sales and Listing History

Since the development began, there have been three lots sold: two lots before the Hermosa West Project was announced and one lot after.

Lot A sold for \$100,000 on July 13th, 2007 to Stanley P. Hobbs as a custodian for Morganna E. & Alexandra L. Hobbs. Lot B sold for \$100,000 on December 12th, 2007 to Dean P. Smith and Diane Smith-Conroy. The listing price on Lot A was \$100,000 and on Lot B \$135,000. These sales were completed before the Hermosa West project was announced. The remaining lots were listed between \$125,000 to \$150,000.¹⁸⁹

Since the Hermosa West project was announced and is known in the area, the owner of Lot B has placed his lot up for sale, asking \$79,000 and sold for \$75,000, June 13, 2010.¹⁹⁰ This sale shows a \$25,000 (25%) deduction from its original sold price in 2007. The remaining unsold lots have all been reduced to \$87,000 since November 15, 2010. This reduction ranges from -30% for the lowest lot listed at \$125,000, and -42%

¹⁸⁹ Information confirmed with listing broker, Bob Davis.
¹⁹⁰ Information confirmed with Bob Davis, Michelle White, and court records.



for the ones listed at \$150,000. It would appear that the Smith sale is an indicator of how the market is responding to the proposed wind farm and the remaining listed parcels will sell for much less than the new asking price. Investigating the reason for the decrease in unsold lot prices, two factors were uncovered that played a part: The sluggish economy and the Hermosa West project. According to the seller, the Smith property was put up for sale due entirely to the Hermosa West project which is proposed to abut the Coral Springs development to the east and north.¹⁹¹

Observations and conclusions

It is apparent that, though the sluggish economy in the Wyoming real estate market can be attributed to some of the declines in property value, the Hermosa West project appears to be the dominating factor, indicating a negative impact on value with a potential range of -25% to -44%, showing an average of -35%.

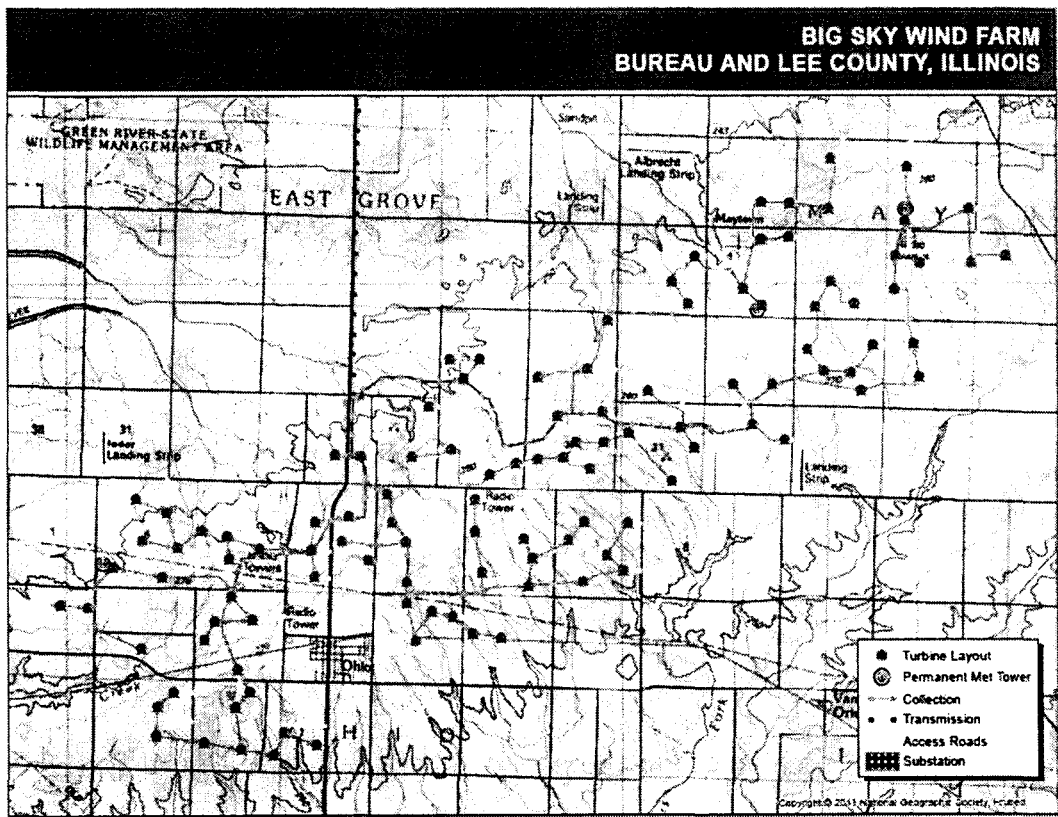
¹⁹¹ Information confirmed with Dean Smith.



Big Sky Wind Farm (IL) Matched Pair Analysis (Paired Data Analysis)

A matched pair analysis study using residential sales outside of the Big Sky Windfarm was completed in July 2015, by Kurt C. Kielisch (Forensic Appraisal Group, Ltd, Wisconsin). A matched pair analysis (a.k.a. paired data sales analysis) is defined as “a procedure used in the direct sales comparison approach to estimate values of specific property characteristics in order to find a value of the subject property. Property sales are paired with similar property characteristics.”¹⁹² The Appraisal Institute’s text further defines paired data analysis as: “A quantitative technique used to identify and measure adjustments to the sales prices . . . of comparable properties . . . to isolate the single characteristic’s effect on value . . .”¹⁹³ The isolated variable, in this case, was the impact that wind farms, i.e. wind turbines, have on residential property value.

This wind farm is located in Lee and Bureau Counties centered around Ohio, Illinois. Big Sky is a 22,400-acre project area generating 240MW through one-hundred and fourteen 80-meter tall wind turbines of 2.1MW each.



¹⁹² The Language of Real Estate (1991). Jeffrey D. Fisher, Robert S. Martin and Paige Mosbaugh. Real Estate Education Company. Chicago. Pg 137.
¹⁹³ The Appraisal of Real Estate 14th Edition (2013). Appraisal Institute. Chicago. Pg 399.



The scope of work (SoW) followed for this analysis was:

1. Collect all topographical and aerial maps of Big Sky which show the placement of the wind turbines.
2. From the Big Sky wind turbine placement map, create a study map indicating three zones: zero zone which is within the confines of the wind farm, 1-mile zone which is a band approximately one mile wide generating from the perimeter of the zero zone and 3-mile zone which is a band approximately 3-miles wide generating from the edge of the zero zone.
3. Search for all residential sales found within the three zones from January 1st, 2011 to present to make certain all sales took place right before or after Big Sky was in operation.
4. Utilize MRED (MLS), Zillow, and assessment records as our research tools for finding sales.
5. Once sales were discovered confirm the sale was not a foreclosure, short sale or non-arms-length transaction. Remove all non-sales from the study.
6. Using the remaining sales search for comparable sales within the non-impact zone (greater than 5-miles from the edge of the zero zone, or sales less than this distance that cannot see the wind turbines). Keep the parameters narrow as to the dates of sale, gross living area (GLA), size of parcel, style of residence, number of outbuildings, and location.
7. Confirm that the comparable sales discovered are all arms-length transactions. Remove the sales that did not fit this category.
8. Pair up the "wind farm zone" sales with comparable non-wind farm sales. Remove all wind farm zone sales that did not have adequate comparable sales.
9. Locate all sales on a study map.
10. View all sales confirming the data description from our sources, take pictures and note location and view of wind turbines. Remove wind farm zone sales that do not have a view of wind turbines.
11. Confirm all wind farm zone and comparable sales with either the buyer, seller or broker of the transaction, check assessors records and get a copy of the transaction deed.
12. Create sales sheets of all sales.
13. Create a sales map of all sales.
14. Complete matched pair analysis of selected wind farm zone sales and their corresponding comparable sale.
15. Utilize Marshall & Swift Cost services, extracted values from sales and other acceptable methods to support adjustments for known variables in the analysis.

The following pages include five matched pair analyses, sales map locating the sales utilized and data sheets of each sale.



Matched Pair 1						
Item	Sale 1-WF	adj	Comparable 1-A	adj	difference	notes
Sale ID	Sublette-IR-001		Leechter-IR-003			
distance to WT	1.72 miles (cluster)		none visible (see note)			wind turbines 0.875 miles from comparable but cannot see them due to the wooded area and ravines, can see them as you exit and enter subdivision.
address	408 LaMoilee Road		1939 Ole Hickory Rd			
city/county	Sublette/Lee		Amboy/Lee			
sales price	\$ 250,000.00		\$ 272,000.00			
terms	arms length		arms length			
terms adj	typical	0%	typical	0%		
date of sale	January 9, 2015		June 19, 2015			
difference in months	base		-5			
time adj			none needed	0%		
adj sales price	\$ 250,000.00		\$ 272,000.00			
GLA (above grade)	2,271		2,008			
\$/GLA	\$ 110.08		\$ 135.46		-23%	comparing GLAs only with no other adjustments

neighborhood	rural		rural- subdivision	\$ -		subdivision has superior appeal is factored in land
lot size in acres	3.01		2.2	\$ 13,500.00		based on \$15,000/ac
lot description	open with few trees		good landscaping, mature trees	\$ (10,000.00)		superior landscaping
home style	1 sty- traditional		1 story- traditional	\$ -		
exterior siding	vinyl/brick		vinyl	\$ 5,000.00		brick 3% adjustment based on cost
home built/eff age	2004/10yrs		2000/14yrs	\$ 13,000.00		total economic life used = 55 yrs
condition	very good		very good	\$ -		
room count	7 total/4 br/3.5bth		6 total/3 br/2.5 baths	\$ 6,000.00		bathroom contribution value = \$6,000
GLA in sf	2,271		2,008	\$ 21,000.00		contribution value = \$80/sf
basement	partly finished		finished 924±sf, br, fam, kit, fair quality	\$ (4,000.00)		finished bsmt at \$20/sf contribution value includes extra br, family rm, bath less the partial finish of WT sale
patio/deck/porch	patio		deck	\$ -		similar
fireplace	yes- 2 sided		yes	\$ -		similar
central air	yes		yes	\$ -		
garage	attached 3-car		attached 3-car	\$ -		similar size
outbuildings	none		2 car garage w/loft	\$ (15,000.00)		garage = \$15,000 contribution value
other	gravel drive, garden tub, central vac, in ground pool		paved driveway, whirlpool	\$ 7,000.00		paved vs gravel= \$5,000, whirlpool= garden tub, central vac = \$2,000, pool= \$10,000
total adjusted \$				\$ 36,500.00		
total adjusted value (adj + adj sales price)				\$ 250,000.00	\$ 308,500.00	
difference in value in \$					\$ (58,500.00)	
difference in value in %					-23%	overall impact due to presence of wind turbines/farm



Matched Pair 2-A						
Item	Sale 2-WF	adj	Comparable 2-A	adj	difference	
Sale ID	Ohio-IR-001		Wyanet-IR-001			
distance to WT	0.32 miles		none			no wind turbine was visible from property, closest turbine was 5.58 miles away
address	29813 2010 E. Street		16025 Wyanet-Walnut Rd			
city/county	Ohio/Bureau		Wyanet/Bureau			
sales price	\$ 231,000.00		\$ 275,000.00			
terms	arms length		arms length			
terms adj	typical		0% typical		0%	
date of sale	June 2, 2015		April 3, 2015			
difference in months	base		2			
time adj			none needed		0%	
adj sales price	\$ 231,000.00		\$ 275,000.00			
GLA (above grade)	2,316		1,936			
\$/GLA	\$ 99.74		\$ 142.05		-42%	comparing GLAs only with no other adjustments

neighborhood	rural- near Ohio		rural- near Wyanet	\$ -		
lot size in acres	6.07		6.95	\$ -		similar in size
lot description	mature landscaping, trees & stream		mature landscaping, young trees	\$ 5,000.00		stream typically adds +10% of land value
home style	1.5 sty- traditional		1.5 sty- traditional	\$ -		
exterior siding	vinyl		vinyl	\$ -		
home built/eff age	2001/eff 12yrs		1998/eff 12 yrs	\$ -		similar in condition and effective age
condition	good		good	\$ -		
room count	7 total/4 br/2.5bth		6 total/3 br/2.5 baths	\$ -		
GLA in sf	2,316		1,936	\$ 29,000.00		based on \$ 78/sf contribution value
basement	full - unfinished		full- partly finished	\$ (12,000.00)		estimated @ \$12,000
patio/deck/porch	deck, screened porch		covered porch	\$ 2,500.00		deck = cov porch, screened porch = \$2,500
fireplace	yes		yes	\$ -		
central air	yes		yes	\$ -		
garage	2 car attached		2 car attached	\$ -		
outbuildings	refurbished barn - ave condition		large steel pole barn with truck & reg overhead doors	\$ (20,000.00)		refurbished barn = \$10,000 contrib value, pole barn with concrete floor, storage, ave qlty = \$30,000
other	concrete drive, hot tub, heated garage		concrete circular drive	\$ -		comparable concrete drive was larger \$2,000, hot tub \$1,000 and heated garage \$1,000
total adjusted \$				\$ 4,500.00		
total adjusted value (adj + adj sales price)		\$ 231,000.00		\$ 279,500.00		
difference in value in \$					\$(48,500.00)	
difference in value in %					-21%	overall impact due to presence of wind turbines/farm



Matched Pair 2-B						
Item	Sale 2-WF	adj	Comparable 2-B	adj	difference	notes
Sale ID	Ohio-IR-001		Marlon-IR-001			
distance to WT	0.32 miles		none			no wind turbines visible, closest one is 9.42 miles.
address	29813 2010 E. Street		1033 Pump Factory Rd			
city/county	Ohio/Bureau		Dixon/Lee			
sales price	\$ 231,000.00		\$ 225,000.00			
terms	arms length		arms length			
terms adj	typical	0%	typical	0%		
date of sale	June 2, 2015		June 24, 2014			
difference in months	base		11			
time adj			none needed	0%		
adj sales price	\$ 231,000.00		\$ 225,000.00			
GLA (above grade)	2,316		2,900			
\$/GLA	\$ 99.74		\$ 77.59		22%	comparing GLAs only with no other adjustments
neighborhood	rural- near Ohio		rural- near Wyandot	\$ -		
lot size in acres	6.07		1.08	\$ 40,000.00		estimated 1 acre value at \$20,000, 6 acre= \$60,000
lot description	mature landscaping, trees & stream		mature landscaping, trees	\$ -		
home style	1.5 sty- traditional		1.5 sty- traditional	\$ -		
exterior siding	vinyl		vinyl	\$ -		
home built/eff age	2001/eff 12yrs		1999/eff 12 yrs	\$ -		similar in condition and effective age
condition	good		good	\$ -		
room count	7 total/4 br/2.5bth		8 total/4 br/1.5 baths	\$ 5,000.00		adj based on one bath
GLA in sf	2,316		2,900	\$ (45,500.00)		based on \$ 78/sf contribution value
basement	full - unfinished		none (crawl space)	\$ 21,000.00		estimated @ \$20/sf x 1,038sf due to no basement
patio/deck/porch	deck, screened porch		lg cov porch, lg deck	\$ -		deck = deck, screened porch = lg cov porch
fireplace	yes		yes	\$ -		
central air	yes		yes	\$ -		
garage	2 car attached		2 car attached	\$ -		
outbuildings	refurbished barn - ave condition		none	\$ 10,000.00		refurbished barn = \$10,000 contribution value
other	concrete drive, hot tub, heated garage		gravel drive, hot tub	\$ 6,000.00		concrete \$5,000, hot tub \$1,000, heated garage \$1,000, comparable had an above ground pool treated as personal property
total adjusted \$				\$ 36,500.00		
total adjusted value (adj + adj sales price)		\$ 231,000.00		\$ 261,500.00		
difference in value in \$					\$(30,500.00)	
difference in value in %					-13%	overall impact due to presence of wind turbines/farm



Matched Pair 3						
Item	Sale 3-WF	adj	Comparable 3-A	adj	difference	notes
Sale ID	Eastove-IR-001		Walnut-IR-001			
distance to WT	0.34 miles to nearest one		none visible			closest wind turbine to comparable sale is 5.2 miles
address	31 Peoria Road		27531 1250 E. Street			
city/county	Ohio/Lee		Walnut/Bureau			
sales price	\$ 125,000.00		\$ 139,700.00			
terms	arms length		arms length			
terms adj	typical	0%	typical	0%		
date of sale	December 8, 2012		February 4, 2014			
diffence in months	base		-14			
time adj			none needed	0%		
adj sales price	\$ 125,000.00		\$ 139,700.00			
GLA (above grade)	1,420		1,864			
\$/GLA	\$ 88.03		\$ 74.95		15%	comparing GLAs only with no other adjustments

neighborhood	rural- close to Ohio		rural - close to Walnut	\$ -		
lot size in acres	2.45		2.5	\$ -		similar
lot description	mature landscaping some trees		mature landscaping some trees	\$ -		
home style	ranch		ranch	\$ -		
exterior siding	vinyl		wood press board, brick wainscoting in front	\$ 3,600.00		5% of cost per sf contribution value of residence for press board vs vinyl
home built/eff age	1978/24 yrs		1977/24 yrs	\$ -		similar condition and effective age
condition	average		average	\$ -		
room count	7 total/3 br/2bth		7 total/4 br/3.5 baths	\$ (5,000.00)		adj is for 1.5 baths @\$3,000 per bath & \$2,000 half
GLA in sf	1,420		1,864	\$ (22,200.00)		based on \$50/sf contribution value
basement	no basement- slab		full- partly finished	\$ (14,000.00)		estimated @ \$10/sf x 1420sf due to no basement
patio/deck/porch	brick paver patio		none	\$ 2,000.00		
fireplace	yes		yes	\$ -		
central air	yes		yes	\$ -		
garage	3 car detached		2 car attached	\$ 8,000.00		\$8,000 per car bay beyond two
outbuildings	32x40 pole shed- newer		none	\$ 22,000.00		pole shed estimated at \$39,000 new, \$22,000 contribution value
other	concrete drive, new greenhouse, fence		concrete drive, none	\$ 6,000.00		greenhouse estimated at \$5,000 contribution value, fence=\$1,000
total adjusted \$				\$ 400.00		
total adjusted value (adj + adj sales price)		\$ 125,000.00		\$ 140,100.00		
difference in value in \$					\$(15,100.00)	
difference in value in %					-12%	overall impact due to presence of wind turbines/farm



Matched Pair 4						
Item	Sale 4-WF	adj	Comparable 4-A	adj	difference	notes
Sale ID	May-IR-001		Bradford-IR-001			
distance to WT	0.53 mi to closest one		none			no wind turbines in view, closest one is 7.89 miles Realtor stated thought sold under market due to divorce, 10% adjustment was made to represent this based on comments & appraiser's experience
address	341 Rockyford Road		2369 McGirr Road			
city/county	Amboy/Lee		Ashton/Lee			
sales price	\$ 132,000.00		\$ 183,000.00			
terms	arms length/divorce		arms length			
terms adj	typical	10%	typical	0%		
date of sale	February 6, 2015		October 6, 2014			
difference in months	base		4			
time adj			none needed	0%		
adj sales price	\$ 145,200.00		\$ 183,000.00			
GLA (above grade)	2,000		1,936			
\$/GLA	\$ 72.60		\$ 94.52		-30%	comparing GLAs only with no other adjustments
neighborhood	rural		rural	\$ -		
lot size in acres	5.00		3.92	\$ 8,000.00		at \$8,000/ac
lot description	mature lot, some trees		mature lot, some trees	\$ -		
home style	2 sty- farmhouse		2 sty- farmhouse	\$ -		
exterior siding	vinyl		vinyl	\$ -		
home built/eff age	1901/30 yrs		1901/25 yrs	\$ (12,900.00)		used total economic life = 55 yrs
condition	average		average	\$ -		
room count	8 total/4 br/2bth		7 total/3 br/1 bath	\$ 3,000.00		\$3,000 for full bath
GLA in sf	2,000		1,936	\$ -		no adjustment needed, very similar in size
basement	full- unfinished		partial- unfinished	\$ -		no adjustment needed, similar in use, old basement
patio/deck/porch	cov porch		wood deck	\$ -		wood deck = covered porch
fireplace	none		heatilator system	\$ (2,000.00)		
central air	none		none	\$ -		
garage	none		2 car detached w/game room	\$ (12,000.00)		\$12,000 contribution value for garage w/14x21 game room
outbuildings	36x120 metal sided shed with heat and bathroom, 36x140 metal sided shed, 50x55 metal sided barn, 28x33 corn crib		40x50 metal sided machine shed	\$ 14,000.00		36x140 building old chicken coop= \$3,000, 36x120 building has work shop w/bathroom = \$18,000, 50x55 barn = \$5,000, corn crib is Quonset hut for storage= \$3,000, 40x50 machine shed= \$15,000
other	gravel drive		gravel drive	\$ -		
total adjusted \$				\$ (1,900.00)		
total adjusted value (adj + adj sales price)		\$ 145,200.00		\$ 181,100.00		
difference in value in \$					\$(35,900.00)	
difference in value in %					-25%	overall impact due to presence of wind turbines/farm

No Sales within the Zero Zone

It was interesting to note that there were no residential sales (outside of the Village of Ohio) from January 1, 2011, to July 1, 2015, that was located in the Zero Zone (that zone within the perimeter of the wind farm). Traveling through this area indicated that there were plenty of residential homes, some on larger farm plots and some on smaller residential lots less than 10 acres. It appeared the density of these residential properties were similar to the outside zones (1-mile Zone, 3-mile Zone) yet there were no sales. There appears to be no explanation for this lack of sales activity in an area of 22,400 acres. The lack of sales is interesting and possibly instructive to the impact that wind turbines have on property value. It may suggest that when a property is inside the wind farm it is either not marketable or the property is receiving an income due to the wind turbines that the owner does not want to relinquish. It should be



noted that since we have no sales nor did not engage in an in-depth study as to the cause of the lack of sales, any statement on our part the reason is a theory.

Summary of Findings

This analysis through five match pairs indicated that the impact of wind turbines on residential property value is negative ranging from -12% to -25% of the whole property value. The average loss indicated was -19%. The distance of the wind turbines ranged from 0.32 miles to 1.72 miles with the average being 0.65 miles. It was also indicated that often when the wind turbines are not clearly seen from the property that they have little impact on the property value. Now, this conclusion may run counter to the noise, vibration and health concerns, but it may also be true that those issues are only discovered after the sale and hence do not play a part of it.

It was also discovered that there were no sales found within the perimeters of the Big Sky Wind Farm using MRED and Zillow sources, which may indicate that such properties have suffered substantial value loss that it is not viable to sell them (possibly hold and rent).



Conclusion of Impact that Wind Farms Will Have on Rural Residential Property Values in Clay and Montague Counties

The quantitative analysis provided by the studies and qualitative analysis provided by the literature review submitted in this report show two different stories.

One story is that there is no impact on property value due to the presence of wind turbines of any distance to a property. The authors of this position tend to be academicians using statistical analysis. This story is difficult to accept for if we were to take it at face value we would have to conclude that viewsheds do not matter (Hoen et al refutes that position in their discussion of viewsheds) and no distance to a wind turbine is too close. Comments from Realtors through surveys, testimony, and letters refute that notion. Logic would also refute that position. A survey of experienced appraisers who attended the Appraisal Institute webinar *Wind Turbine Effects on Value* (March 2015, Hoen & Jackson)¹⁹⁴ overwhelmingly stated that they believe wind turbines negatively impact property value. To add to the disbelief of the “no impact” position is that the wind farm developers consistently refuse to “guarantee” no property loss, or purchase the properties from property owners who desire to leave the area due to the development. If they believed these studies, they would believe there would be no risk in taking such a position. (As a side note, electrical transmission line developers in Minnesota must buy any property that is encumbered with a new electric transmission if the property owner evokes the “buy the farm” provision. So, though rare, there is a precedent of energy developers buying properties that are impacted, or thought to be impacted, by their development.)

The other story is that there is a measurable negative impact on property value due to the presence of wind turbines and that this impact is in direct relation to the distance and viewshed of the turbines. The authors of this position are dominated by real estate appraisers and realtors, often utilizing comparative sales analysis as their method of study. The results of these studies (and others completed by academicians) have cited losses from 10% to over 50% depending on the distance and viewshed factors. Additionally, they have concluded that these losses are found to begin at the wind farm announcement stage leading to the post-construction stage.

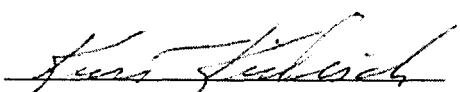
It is concluded that the qualitative and quantitative evidence supports the position that the presence of wind turbines in close proximity to residential properties will have a negative impact on property value and this impact is permanent. It is also concluded that this impact is a common experience regardless of geographic location.

Applying this conclusion to wind farms in Clay and Montague Counties, Texas, would estimate that, those non-participating in the wind farm income stream rural residential properties located within the perimeter of the wind farm and those in close proximity will experience severe financial consequences to their property value. It is estimated that the property value loss due is estimated to be from -10% to -50%

¹⁹⁴ *Wind Turbine Effects on Value*. Appraisal Institute, Chicago. March 5, 2015. Ben Hoen and Thomas Jackson, Ph.D., were the presenters.



having a direct correlation to the distance from the wind turbines, how prominent the turbines are in the property's viewshed, potential buyer profile and the market appeal of the residence.


Kurt C. Kielisch, ASA, IFAS, SR/WA, R/W-AC
President/Senior Appraiser



Addendum



Curriculum Vitae of Kurt C. Kielisch

Work Experience

As a practitioner, I entered the appraisal industry in 1984 employed by ValuPruf Valuation Service, Milwaukee, Wisconsin. Appraisal assignments through the years have included the following: single-family residential, multi-family residential, farms and ranches, commercial properties, special use properties, tax assessment, ocean-front properties, litigation support work, stigmatized properties, eminent domain, utility easements, valuation consulting, and impact studies. I have provided appraisal services for properties located in Alaska, Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Mississippi, Missouri, North Dakota, Ohio, South Dakota, Virginia, Wisconsin, and Wyoming.

As a communicator, I have authored the book: *The Listing Appraisal Program* (ATI press, 1996) and three magazine articles: *Dead Body Appraisers* (The Appraisal Buzz, October 3, 2002), *Expert Testimony and Reports: Is Change Good?* (Working R.E. Magazine, February 2002), and *Rails to Trails Property Rights* (Right of Way Magazine, Nov/Dec 2012). I have been engaged in valuation related research projects on the impacts of high voltage transmission lines, natural gas pipelines, oil pipelines and wind farms on property value. Related to the impact on property value of utility projects and wind farms, I have given testimony before the Wisconsin Senate Committee, Wisconsin Public Service Commission, Wisconsin Wind Farm Siting Council, Illinois Wind Farm Siting Councils, Missouri Public Service Commission and the Wyoming Industrial Committee. Our research has been utilized by other appraisers, experts and property owners when arguing before government committees, public service counsels, courts and in reports.

As an expert witness, I have been an approved expert in Wisconsin, Kansas, North Dakota, and South Dakota state courts, commissioner hearings in Wisconsin and Minnesota, and Federal Courts in Wisconsin and Ohio. In the Wisconsin Supreme Court case of Spiegelberg vs. State of Wisconsin DOT (2004AP3384), I was the appraiser for Ms. Spiegelberg. This hearing resulted in a landmark decision relating to the proper valuation methodology when appraising property involved in eminent domain to obtain just compensation. In the Wisconsin Supreme Court decision of Waller vs. American Transmission Corporation, LLC (2012AP805 & 2012AP840) the high court made a landmark decision involving relocation rights and an uneconomic remnant. I was the expert witness for the Wallers.

As an educator, I taught appraisal pre-licensing and continuing education courses throughout a multi-state area from 1994 to 2000. During this time, I authored course curriculum for seven pre-licensing courses and twelve continuing education courses as well as the creation of a two-year professional appraiser training program. Since 2000, I have given presentations for professional continuing education (IRWA - Badger Chapter, The American Law Institute and CLE Annual Eminent Domain Conferences (2013, 2014, 2016), IRWA Annual Conference (2013) and for general information at public meetings.

Academics

M.A. Education. Regent University, Virginia Beach, Virginia. This degree concentrated on the adult learner and state-of-the-art communication technology to enhance learning. The focus was on the adult learner.

B.A. Business Administration (Economics Minor). Lakeland College, Sheboygan, Wisconsin.

B.A. Biology (Natural Sciences Minor). Silver Lake College, Manitowoc, Wisconsin.



Certifications/Designations/Organizations

Certified General Real Property Appraiser State of Indiana. License #CG41500059 (Expires 6/30/2018).
Certified General Real Property Appraiser State of Illinois. License #553.002453 (Expires 9/30/2019)
Certified General Real Property Appraiser State of Iowa. License #CG03477 (Expires 6/30/2018).
Certified General Appraiser State of Michigan. License #1201073299 (Expires 7/31/2018).
Certified General Appraiser State of Minnesota. License #40285817 (Expires 8/31/2019).
Certified General Appraiser State of South Dakota. License #1443CG (Expires 9/30/2018).
Certified General Appraiser State of Virginia. License #016559 (Expires 3/31/2019).
Certified General Appraiser State of Wisconsin. License #1097-010 (Expires 12/14/2019).
Temporary Certified General Licenses. Illinois, Indiana, Iowa, Kansas, Mississippi, Missouri and Ohio.
Past Certified General Appraisal Licenses. Kansas, North Dakota, Ohio and Wyoming.
ASA (real property) Urban Designated Member. American Society of Appraisers (ASA).
IFAS (Senior Member) Designated Member. National Association of Independent Fee Appraisers (NAIFA).
SR/WA (Senior Member) Designated Member. International Right-of-Way Association.
R/W-AC (Appraisal Certified Member) Designated Member. International Right-of-Way Association.
Review Appraiser (past). Department of Regulation and Licensing, State of Wisconsin (contract position).
Associate Member. Appraisal Institute (AI).
Member. Real Estate Educator's Association (REEA).
Approved Contract Appraiser. Wisconsin Department of Natural Resources (DNR).
REALTOR member. Realtors Association of Northeast Wisconsin and National Association of Realtors.
Approved R.E. Appraisal Instructor (past). Virginia, Maryland, Indiana, Illinois, Minnesota, and Wisconsin.
Assistant Editor. ASA-Real Property quarterly newsletter (2012-2014).
Faculty. Eminent Domain and Land Valuation Litigation, The American Law Institute – CLE: Miami Beach, FL (January 2013) and New Orleans, LA (January 2014). Eminent Domain Impact of Political & Economic Forces, Eminent Domain Institute CLE International (September 2013), Cleveland, Ohio. Eminent Domain: Current & Emerging Issues, Eminent Domain Institute-CLE International (September 2016), Las Vegas, NV.
Seminar Instructor. International Right-of-Way Annual Conference (2013), Charleston, West Virginia (topic Valuation of Rails to Trails Corridors); International Right-of-Way Appraisal Day Seminar (May 13, 2014) Ohio IRWA Chapter 13 (topic Valuation of Utility Corridors).

Appraisal/Real Estate Courses (29 courses, 572hrs)

Fundamentals of Real Property Appraisal (40hrs). IAAO, University of Virginia, Charlottesville, VA.
Income Approach to Valuation (40hrs). IAAO, University of Virginia, Charlottesville, VA.
Real Estate Appraisal (45hrs). Alpha College of Real Estate [Instructor].
Uniform Standards of Professional Appraisal Practice (15hrs). Alpha College of Real Estate [Instructor].
Appraising the Small Income Residential Property (15hrs). Alpha College of Real Estate [Instructor].
Advanced Income Appraisal I (30hrs). Alpha College of Real Estate [Instructor].
Advanced Income Appraisal II (30hrs). Alpha College of Real Estate [Instructor].
Residential Construction, Design & Systems (20hrs). Appraisal Training Institute [Instructor].
Residential Cost Approach & Depreciation Methods (20hrs). Appraisal Training Institute [Instructor].
Residential Market Approach & Extraction Methods (20hrs). Appraisal Training Institute [Instructor].
Computer Applications in Appraisal Report Writing (15hrs). Appraisal Training Institute [Instructor].
Completing the URAR in Compliance with FNMA Guidelines (15hrs). Appraisal Training Institute [Instructor].
The Residential Appraisal Process (20hrs). Appraisal Training Institute [Instructor].
Residential Appraisal Practicum (40hrs). Appraisal Training Institute [Instructor].
Pipeline ROW Agent's Development Program: Course 215 (16hrs). International Right-of-Way Association.
Eminent Domain Law Basics for Right-of-Way Professionals: Course 803 (16hrs). International Right-of-Way.
Financial Analysis of Income Properties (16hrs). National Association of Independent Fee Appraisers (NAIFA).
Appraisal of Partial Acquisition: Course 401 (40hrs). International Right-of-Way Association.



National Uniform Standards of Professional Appraisal Practice (USPAP): Course 2005 (15hrs). NAIFA.
 Easement Valuation: Course 403 (8hrs). International Right-of-Way Association.
 Principles of Real Estate Negotiation: Course 200 (16hrs). International Right-of-Way Association.
 Bargaining Negotiations: Course 205 (16hrs). International Right-of-Way Association.
 Principles of Real Estate Appraisal: Course 400 (exam). International Right-of-Way Association.
 Principles of Real Estate Law: Course 800 (exam). International Right-of-Way Association.
 Principles of Real Estate Engineering: Course 900 (exam). International Right-of-Way Association.
 SR/WA Comprehensive Exam: International Right-of-Way Association.
 Course 420: Business Practices & Ethics (8hrs). Appraisal Institute.
 United States Land Titles (16hrs). International Right-of-Way Association.
 Quantitative Analysis (40hrs). Appraisal Institute.

Appraisal/Real Estate Seminars (44 courses, 281.9hrs)

Real Estate Taxation (7hrs). University of Wisconsin: Continuing Education Division.
 Review Appraising as the Supervising Appraiser (3hrs). Appraisal Training Institute [Instructor].
 Legal Ramifications of Environmental Laws (3hrs). International Association of Assessing Officers (IAAO).
 Virginia State Mandatory Continuing Education (4hrs). Appraisal Training Institute [Instructor].
 Appraising the Small Income Property (8hrs). Appraisal Training Institute [Instructor].
 Listing Appraisals (7hrs). Appraisal Training Institute [Instructor].
 Marshall & Swift Residential Cost Approach: Sq. Ft. Method, (7hrs). Western Illinois University [Instructor].
 Marshall & Swift Residential Cost Approach: Segregated Method, (7hrs). Western Illinois University [instars].
 Residential Construction, Design and Systems (7hrs). Appraisal Training Institute [Instructor].
 EMF and Its Impact on Real Estate (4hrs). Appraisal Training Institute [Instructor].
 Easements and Their Effect on Real Estate Value (7hrs). Appraisal Training Institute [Instructor].
 Exploratory Data Analysis: A Practical Guide for Appraisers (3hrs). Appraisal Institute.
 Residential Statistical Modeling (3hrs). Appraisal Institute.
 Valuation Modeling: A Case Study (3hrs). Appraisal Institute.
 Real Estate Valuation Cycles (3hrs). Appraisal Institute.
 Subdivision Analysis (3hrs). Appraisal Institute.
 Appraisal of Nursing Facilities (7hrs). Appraisal Institute.
 National Standards of Professional Appraisal Practice: Course 400 (7hrs). Appraisal Institute.
 Land Valuation Adjustment Procedures (7hrs). Appraisal Institute.
 Valuation of Detrimental Conditions in Real Estate (7hrs). Appraisal Institute.
 Appraising Conservation Easements (7hrs). Gathering Waters Conservancy.
 ROW Acquisition in an Environment of Power Demand Growth & Legislative Mandates (12hrs). IRWA - Minnesota.
 Analyzing Distressed Real Estate (4hrs). Appraisal Institute.
 7 Hour National USPAP Course for 2008-2009 (7hrs). International Right-of-Way Association.
 6th Annual Condemnation Appraisal Symposium (6hrs). Appraisal Institute.
 Contemporary Issues in Condemnation Appraisal (4hrs). Appraisal Institute.
 7-Hour National USPAP course for 2010 (7hrs). International Right-of-Way Association.
 Real Estate Finance Statistics and Valuation Modeling (14hrs). Appraisal Institute.
 Michigan Law Update (2hrs): McKissock.
 Local Public Agency Real Estate Seminar 2010 (6hrs). Wisconsin Department of Transportation.
 8th Annual Condemnation Appraisal Symposium (6hrs). Appraisal Institute.
 Golf & Hotel Valuation (3.4hrs). International Right-of-Way Association.
 7-Hour National USPAP course for 2012 (7hrs). International Right-of-Way Association.
 Statistics, Modeling, and Finance (14hrs). McKissock.
 Eminent Domain Issues in the Pipeline Industry: IRWA 2013 Conference (1.5hrs).
 Pipelines: Abandoned vs. Idle/Consequences of Not Maintaining Your Easements or ROW. IRWA 2013 Conference (1.5hrs).
 The Right of Reversion, "Who's on First." IRWA 2013 Conference (1.5hrs).



Ad Valorem Tax Consultation (2hrs). McKissock.
 Appraisal Applications of Regression Analysis (7hrs). McKissock.
 Valuation of Avigation Easements (3hrs). ASA Wisconsin Chapter (Instructor)
 11th Annual Condemnation Symposium. Appraisal Institute – Wisconsin Chapter. (6hrs)
 7-Hour National USPAP course for 2014-2015 (7hrs). Appraisal Institute
 Uniform Standards for Federal Land Acquisitions – Appraisal Institute – Florida Chapter (16hrs)
 A Review of Disciplinary Cases: How to Avoid a Visit with the Licensing Board (3hrs), McKissock.
 Eminent Domain Current & Emerging Issues- Eminent Domain Institute (2016), CLE International – Las Vegas (12hrs)
 Marcellus Shale: Effects of Energy Resource Operations on Residential Property Value (3hrs). McKissock.
 7-Hour National USPAP course for 2016-2017 (7hrs). McKissock.
 IRWA Aviation Easements Seminar (2hrs). International Right-of-Way Association.
 Review of Disciplinary Cases (3hrs). McKissock.
 The Dirty Dozen (3hrs). McKissock
 Attacking & Defending while Staying out of Trouble (2hrs). American Society of Appraisers.



EXPLANATION OF DESIGNATIONS

ASA-Urban Real Property: The ASA designation is the senior designation granted by the American Society of Appraisers, which is the only multi-discipline international appraisal association in America. The ASA-Urban designation requires the passing of five advanced level commercial appraisal courses, the passing of a comprehensive exam, a passing grade on a demonstration narrative report, 5 years full-time appraisal experience, a Certified General appraisal license and the recommendation of the local and national membership committee. All ASA designated members must adhere to the Code of Ethics of the Association and keep up-to-date with continuing education (Source- www.appraisers.org).

IFAS: For this senior level designation from the International Fee Appraisal Association the appraiser must meet the requirements for the Member [IFA], successfully pass the Senior Member Examination, score a passing grade on a narrative demonstration report on an income-producing property conforming to prescribed guidelines and meet educational and experience requirements as outlined by the Association. In addition, the designation requires a minimum of 4 years appraisal experience in commercial type properties, a State Certified General Appraisal license, successful completion of over 200-hours of appraisal course work, completion of the current USPAP course, a college degree and the recommendation of the appraiser's peers and local chapter (Source: www.naifa.com). All IFAS members must adhere to the Code of Ethics of the Association and keep up-to-date with continuing education.

Senior Right of Way (SR/WA): This is the most prestigious professional designation granted by the International Right-of-Way Association to members who have achieved professional status through experience, education, and examination. The SR/WA designation requires training and examination in seven major right-of-way disciplines. The SR/WA designation says, "I have more than five years of right-of-way experience, plus I have had formal training in a wide variety of right-of-way areas." The SR/WA professional may be a specialist in one area such as appraisal, engineering, or law, but also must be familiar with the other seven disciplines associated with the right-of-way profession. Additional requirements for the SR/WA designation include: a bachelor degree, 5 years right-of-way experience, successful completion of four core courses and four elective courses, passing the all-day comprehensive exam and recommendation from the designee's peers and local chapter. The SR/WA designation is the only designation reflecting evidence of professional attainment in the right-of-way field (Source- www.irwaonline.org). All SR/WA members must adhere to the Code of Ethics of the Association and keep up-to-date with continuing education.

Right of Way Appraisal Certified (R/W-AC): The Right of Way (R/W) Certification is an esteemed professional designation granted to members who have achieved professional status through experience, education, and examination in a specific discipline. Earning this certification demonstrates an unparalleled achievement in a single discipline and reinforces a standard of excellence in services provided to the public (Source: www.irwaonline.org). All R/W-AC members must adhere to the Code of Ethics of the Association and keep up-to-date with continuing education.



