

Exhibit 08-11
Wind Power GeoPlanner Licensed
Microwave Report

Wind Power GeoPlanner™

Licensed Microwave Report

Hardin County North Wind Farm



Prepared on Behalf of
JW Great Lakes Wind
LLC

June 29, 2009





Table of Contents

1. Introduction	- 1 -
2. Summary of Results	- 2 -
3. Tables and Figures	- 4 -
4. Recommended Ancillary Reports	- 9 -
5. Contact Us	- 10 -

1. Introduction

The use of wind energy, one of the oldest forms of harnessing a natural energy source, is now one of the world's fastest growing alternative energy sources. The United States is committed to the use of wind energy, and over the next several years billions of dollars will be spent on wind power projects. However, as new wind turbine generators are installed around the country, it is important to note that they may pose an interference threat to existing microwave systems and broadcast stations licensed to operate in the United States.

Wind turbines can interfere with microwave paths by physically blocking the line-of-sight between two microwave transmitters. Additionally, wind turbines have the potential to cause blockage and reflections ("ghosting") to television reception. Blockage is caused by the physical presence of the turbines between the television station and the reception points. Ghosting is caused by multipath interference that occurs when a broadcast signal reflects off of a large reflective object—in this case a wind turbine—and arrives at a television receiver delayed in time from the signal that arrives via direct path.

Many states and other jurisdictions recognize the need for regulations addressing interference to radio signal transmissions from the wind turbine installations. Specifically, local planning authorities typically require project developers to ensure wind turbines will not cause interference. In some cases they require developers to notify the telecommunication operators in the area of the proposed wind turbine installation. Other factors prompting developers to undertake proactive investigation into potential interference include the need to prevent legal and regulatory problems and the desire to promote goodwill within the community—a good neighbor approach.

Comsearch has developed and maintains comprehensive technical databases containing information on licensed microwave networks throughout the United States. Microwave bands that may be affected by the installation of wind turbine facilities operate over a wide frequency range (900 MHz – 23 GHz). These systems are the telecommunication backbone of the country, providing long-distance and local telephone service, backhaul for cellular and personal communication service, data interconnects for mainframe computers and the Internet, network controls for utilities and railroads, and various video services.

This report focuses on the potential impact of wind turbines on licensed non-federal government microwave systems. Comsearch provides additional wind energy services, a description of which can be found at the end of this report.

2. Summary of Results

An overall summary of results appears below.

Number of Microwave Paths	Number of Turbines	Number of Potential Obstructions
2	27	3

Methodology

Our obstruction analysis was performed using Comsearch's proprietary microwave database, which contains all non-government licensed paths from 0.9 - 23 GHz¹. First, we determined all microwave paths that intersect the area of interest. The area of interest was defined by the client and encompasses the planned turbine locations. Next, for each microwave path that intersected the project area, we calculated a Worst Case Fresnel Zone (WCFZ). The mid-point of a full microwave path is the location where the widest (or worst case) Fresnel zone occurs. Fresnel zones were calculated for each path using the following formula.

$$R_n \cong 17.3 \sqrt{\frac{n}{F_{GHz}} \left(\frac{d_1 d_2}{d_1 + d_2} \right)}$$

Where,

- R_n = Fresnel Zone radius at a specific point in the microwave path, meters
- n = Fresnel Zone number, 1
- F_{GHz} = Frequency of microwave system, GHz
- d_1 = Distance from antenna 1 to a specific point in the microwave path, kilometers
- d_2 = Distance from antenna 2 to a specific point in the microwave path, kilometers

For worst case Fresnel zone calculations, $d_1 = d_2$

The calculated WCFZ radius, giving the linear path an area or swath, buffers each microwave path in the project area. See the Tables and Figures section for a summary of paths and WCFZ distances. In general, this is the two-dimensional area where the planned wind turbines should be avoided, if possible. A depiction of the WCFZ overlaid on topographic basemaps can be found in the Tables and Figures section, and is also included on the enclosed CD².

¹ Please note that this analysis does not include unlicensed microwave paths or federal government paths that are not registered with the FCC.

² The ESRI® shapefiles contained on the enclosed CD are in NAD 83 UTM Zone 17 projected coordinate system.



Discussion of Potential Obstructions

For this project, 27 turbines were considered in the analysis, each with a blade diameter of 101 meters and turbine height of 101 meters. Of those turbines, 3 were found to have a potential conflict with 2 microwave paths. The next section contains a detailed depiction of the potential obstruction scenario(s) and a tabular summary of the affected turbines and microwave paths.

When turbines fall within the two-dimensional WCFZ, Comsearch offers and recommends a detailed clearance study, which considers the vertical Z-height clearance objectives. The results of the detailed study may clear the potential conflict without requiring turbine relocation. Please contact Denise Finney at (703) 726 – 5650 to request a detailed study.

----- Page Intentionally Left Blank -----

3. Tables and Figures

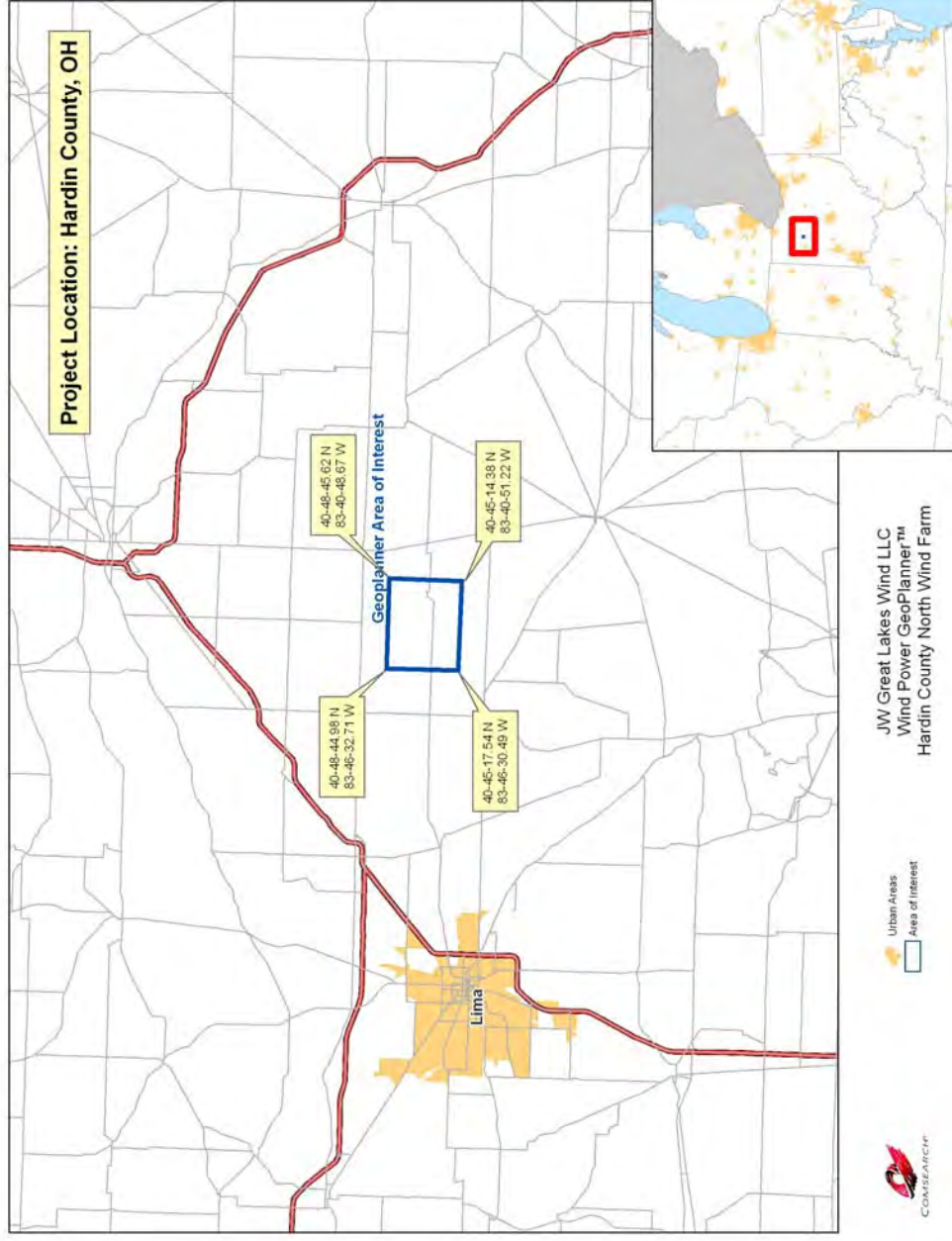
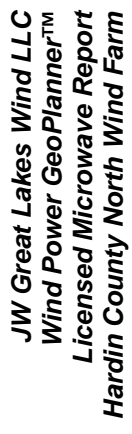


Figure 1: Area of Interest

----- Page Intentionally Left Blank -----



----- Page Intentionally Left Blank -----

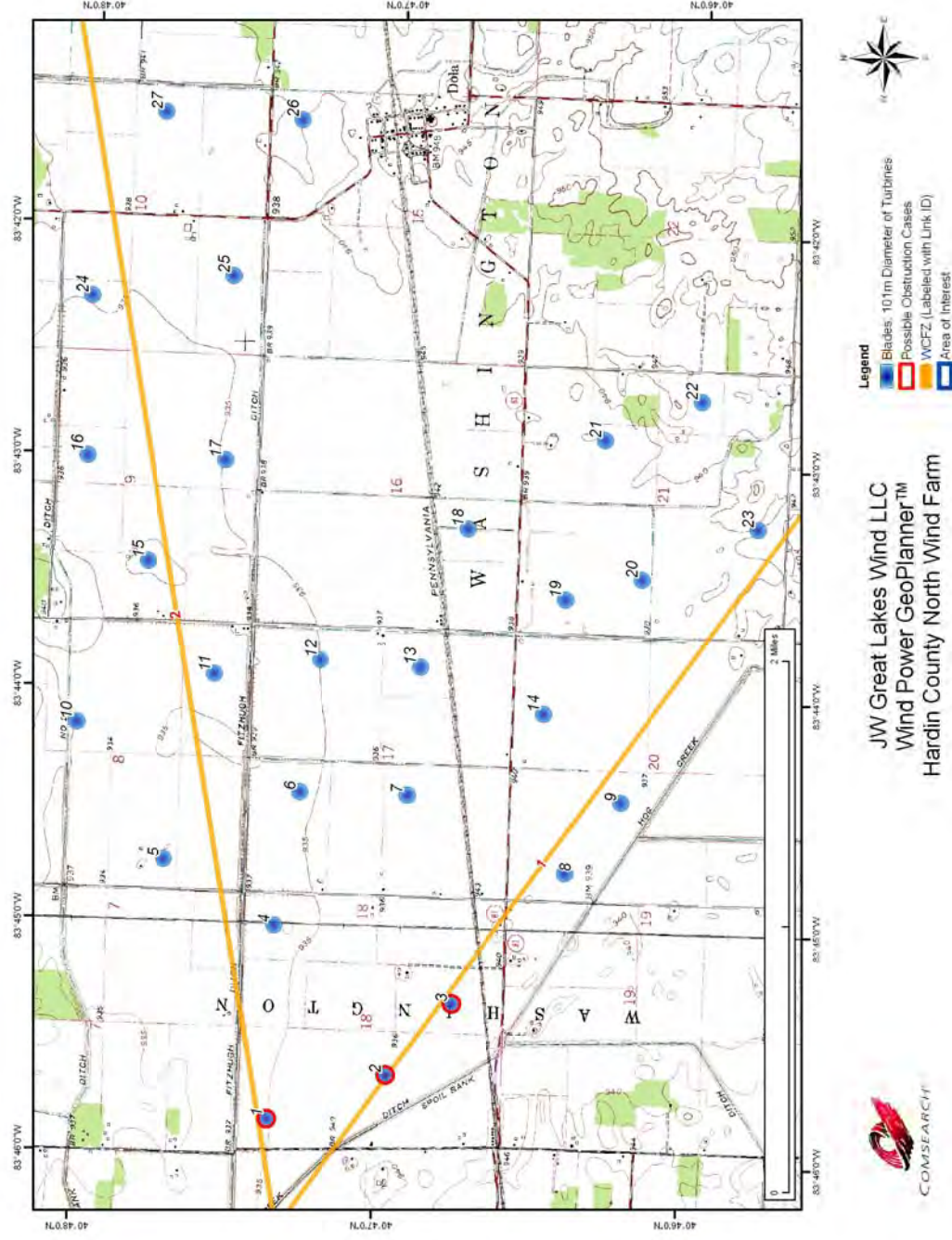


Figure 3: Microwave Paths with WCFZ Buffers

----- Page Intentionally Left Blank -----

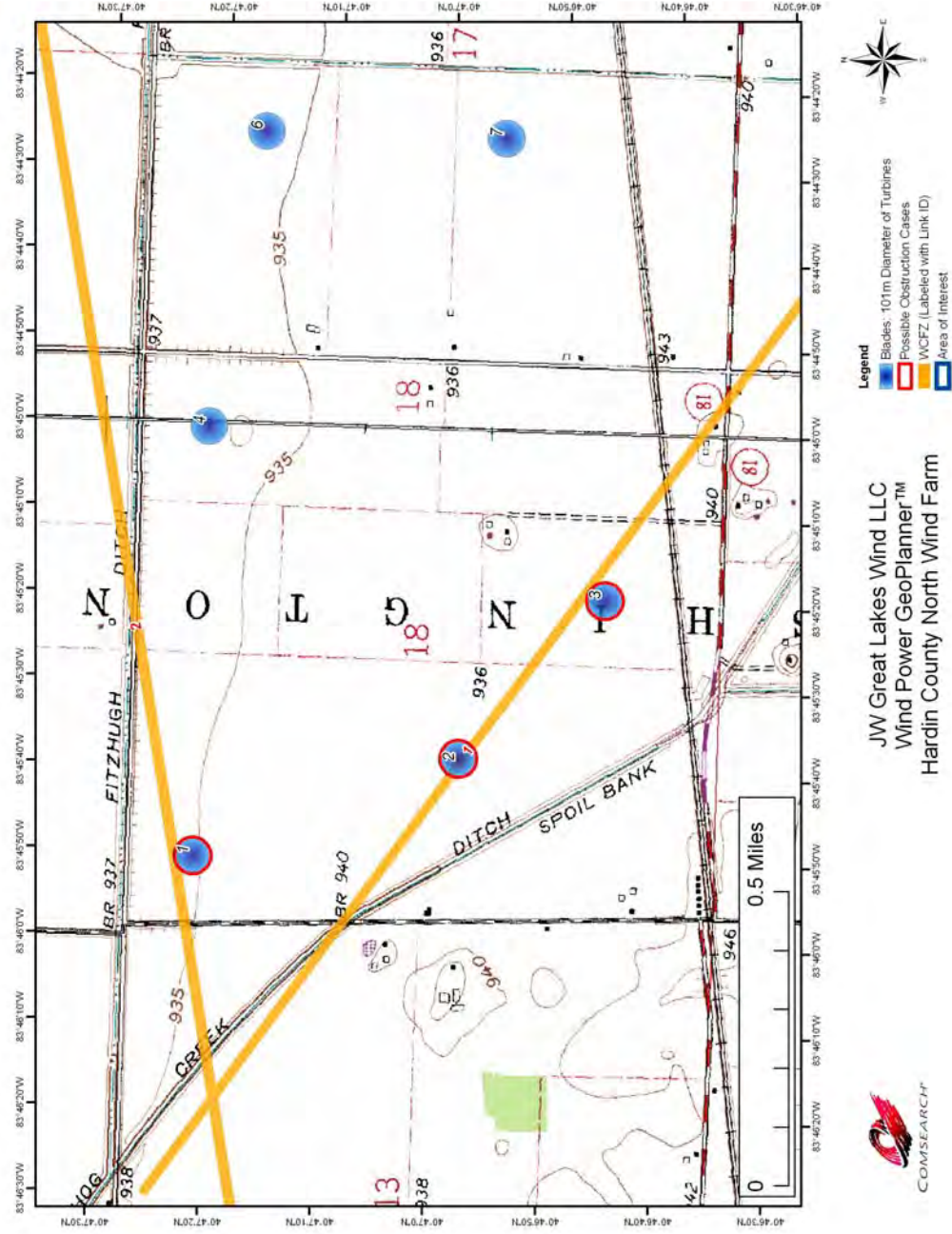


Figure 4: Potential Obstruction Scenario
(Turbine #1-3)

----- Page Intentionally Left Blank -----

ID	Site Name 1	Site Name 2	Callsign 1	Callsign 2	Band	Licensee	WCFZ (m)
1	ADA	KENTON	WPSJ364	WPNN226	Lower 6 GHz	Ohio RSA 5 Limited Partnership	13.31
2	DUNKIRK 672	LIMA EAST 76	WPXD876	WPSK794	Lower 6 GHz	Cellco Partnership - Ohio	15.13

Table 1: Microwave Paths that Intersect the Area of Interest

(See enclosed mw_geopl.xls for more information and
GP_dict_matrix_description.xls for detailed field descriptions)

Turbine ID	Latitude (WGS84)	Longitude (WGS84)	Affected Microwave Link IDs
1	40°47'21.35"	-83°45'50.24"	2
2	40°46'58.01"	-83°45'38.01"	1
3	40°46'45.46"	-83°45'19.10"	1

Table 2: Turbines that Cause Potential Obstructions

----- Page Intentionally Left Blank -----

4. Recommended Ancillary Reports

Comsearch offers the following wind energy services.

- **Licensed Microwave Report** – Assess all licensed non-Federal Government microwave paths and worst case Fresnel Zones that intersect the wind energy project area. If any potential obstructions exist, perform a **Detailed Fresnel Zone Analysis** to consider the actual horizontal and vertical Fresnel Zone clearances.
- **Coordination with Federal Government Systems** - Coordinate with NTIA, the agency that manages government spectrum, to determine if the proposed wind energy project will impact Federal Government links.
- **TV Analysis** - Plot off-air TV stations within 100 miles of the project area to identify which communities may have signal reception issues.
- **Ancillary Telecommunication Studies** – Conduct obstruction studies of other potentially-affected wireless telecommunication systems. This includes:
 - Land Mobile Sites
 - AM and FM Broadcast Stations
 - Advanced Wireless and Mobile Phone Carriers
 - Cable Facilities
 - Radio Astronomy Sites
- **Tower Structures** - Identify and map tower structures owned by the top five tower companies and those found in the FCC's Antenna Structure Registration database.
- **TV Baseline Measurements** - Perform baseline measurements of off-air TV stations in the vicinity of the wind energy facility. The measurements will be performed at various locations in population centers and at locations where the potential for signal blockage, multipath and electromagnetic noise degradation is probable.
- **Measurements to Identify Government and Unlicensed Operators** – Identify all commercial and government signals in the area, including unlicensed operators. Frequency range of this measurement will be from 400 MHz – 12,000 MHz.
- **Post Installation Measurements and Consultation** - Perform measurements after the installation of the wind energy facility. The measurements will be made at all sites where signal blockage, multipath and/or electromagnetic noise is reported and/or suspected. If the measurements and analysis verify signal blockage, multipath or electromagnetic noise due to the wind turbines, provide consulting services to mitigate the conditions. Perform radiation hazard compliance measurements.
- **Regulatory Support** - Complete and file FAA forms on behalf of the wind energy developer.

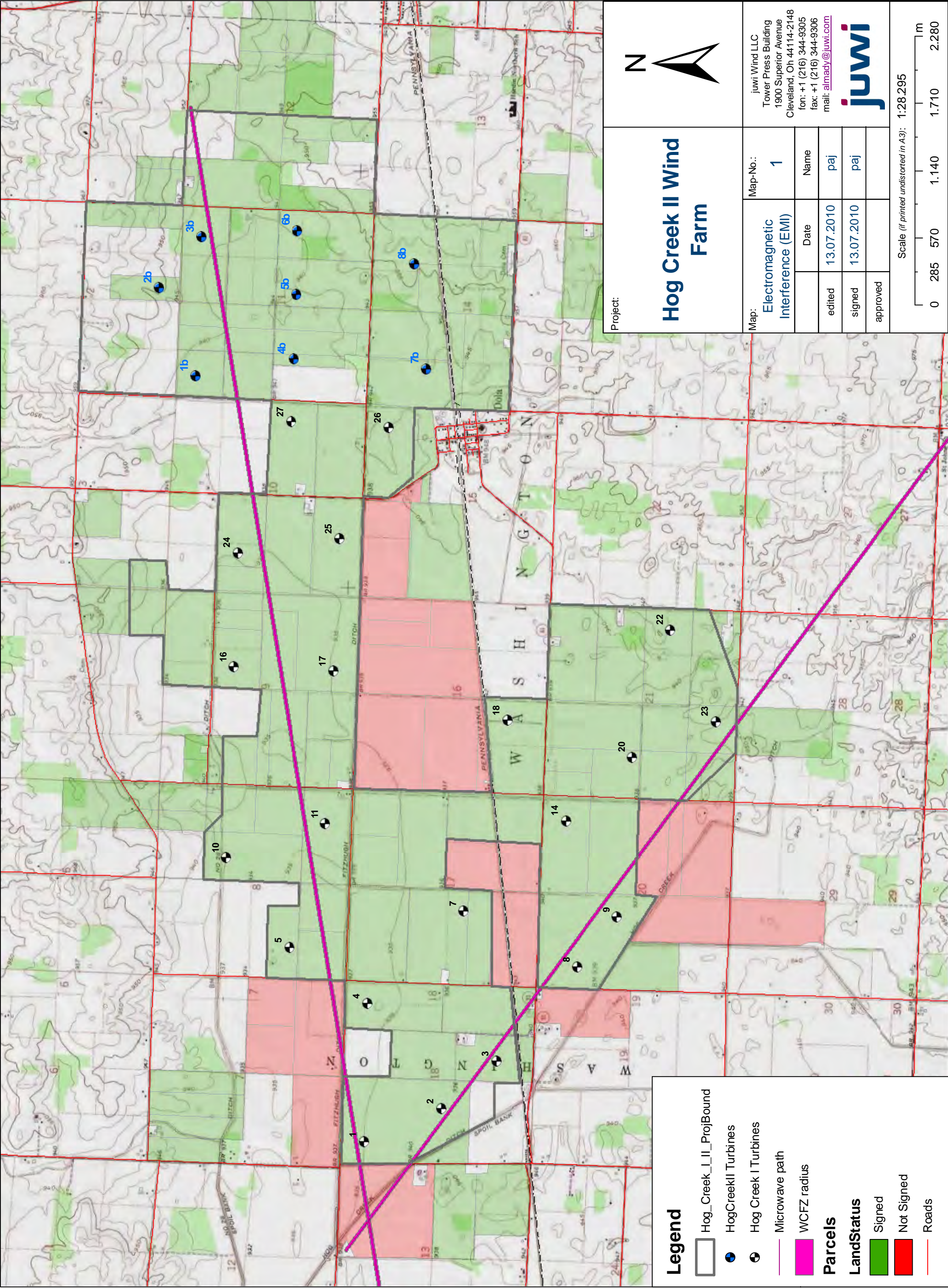




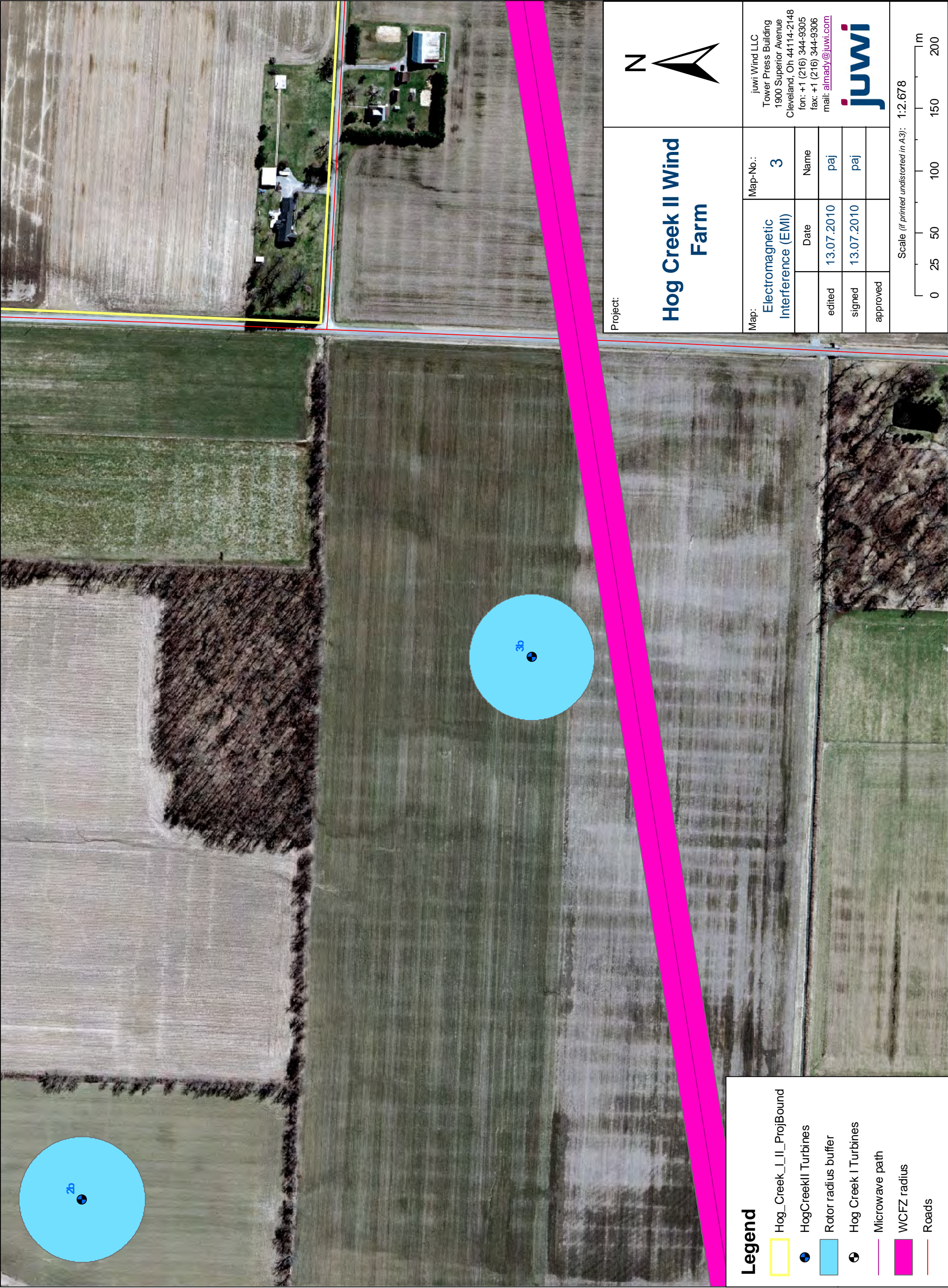
5. Contact Us

For questions or information regarding the Licensed Microwave Report, contact:

Contact person:	Denise Finney
Title:	Account Manager
Company:	Comsearch
Address:	19700 Janelia Farm Blvd., Ashburn, VA 20147
Telephone:	703-726-5650
Fax:	703-726-5595
Email:	dfinney@comsearch.com
Web site:	www.comsearch.com



----- Page Intentionally Left Blank -----



Project:

Hog Creek II Wind Farm

Map:

Electromagnetic Interference (EMI)

Map-No.:

3

edited

signed

approved

Date

13.07.2010

13.07.2010

Name

paj

paj

juwi Wind LLC

Tower Press Building

1900 Superior Avenue

Cleveland, Oh 44114-2148

fon: +1 (216) 344-9305

fax: +1 (216) 344-9306

mail: almady@juwi.com

Scale (if printed undistorted in A3):

1:2.678

0

25

50

100

150

200

m

----- Page Intentionally Left Blank -----



Exhibit 08-12
AM/FM Broadcast Stations Operations Report



19700 Janelia Farms Blvd
Ashburn, VA 20147
703-726-5500

Analysis of AM and FM Broadcast Station Operations in the Vicinity of the Hardin County North Wind Farm Project in Hardin County, Ohio

Comsearch was contracted by JW Great Lakes Wind, LLC to determine if there would be any degradation to the operational coverage of AM and FM Radio Broadcast Stations located in the vicinity of the proposed Hardin County North Wind Farm Project in Hardin County, Ohio.

Comsearch determined that there were two licensed AM stations within a search radius of (20 miles) of the center of the Project site. The two entries for the two stations are for two different transmit powers. For certain stations the FCC requires a lower transmit power after sundown.

Table 1 AM Radio Stations in the Vicinity of the Hardin County North Wind Farm Project

Location		Call Sign	Frequency	Tx-Power	Distance
LIMA	OH	WCIT	940 kHz	0.25 kW	19.13 mi
LIMA	OH	WCIT	940 kHz	0.006 kW	19.13 mi
FINDLAY	OH	WFIN	1330 kHz	1.0 kW	16.25 mi
FINDLAY	OH	WFIN	1330 kHz	0.079 kW	16.25 mi

OH = Ohio

kHz = kilohertz

kW = kiloWatt

mi = mile

Tx-Power = transmit effective radiated power

Figure 1 is a map that shows the location of the AM transmit antennas with respect to the Project site. No degradation of AM broadcast coverage will occur due to the presence of the wind turbines as long as the separation distance to the nearest wind turbine is greater than 2 miles. Potential problems with broadcast coverage are only anticipated when AM broadcast stations with directive antennas are within 2 miles of turbine towers and AM broadcast stations with non-directive antennas are within 0.5 mile. Since the AM transmit antenna is outside the project area and more than 2 miles from the planned wind turbines no problems with degradation is anticipated.

Comsearch determined that there were twenty-three data entries for FM stations within a 20 mile search radius of the center of the Project site. All of the stations are outside of the Project area-of-interest and at distances greater than 3 miles from any of the planned wind turbines. At distances of 3 miles or more from the wind turbines, the effects to the FM coverage for the FM Stations will be very minimal to non-existent. Therefore, all of the stations outside of the Project area-of-interest will be unaffected. The FM Stations are listed in Table 2 of this report. Figure 2 is a map that shows the location of the FM transmit antennas with respect to the Project site.

Table 2 FM Radio Stations in the Vicinity of the Fairwind Wind Power Project

Location		Call Sign	Status	Frequency	Tx-Power	Distance
FINDLAY	OH	WLFC	LIC	88.3 MHz	0.155 kW	18.99 mi
FINDLAY	OH	WTKC	LIC	89.7 MHz	0.125 kW	18.50 mi
LIMA	OH	880407ME	USE	93.1 MHz	NA	19.71 mi
FINDLAY	OH	W231AJ	LIC	94.1 MHz	0.05 kW	16.94 mi
ADA	OH	WONB	LIC	94.9 MHz	3. kW	5.86 mi
ADA	OH	880615MG	USE	94.9 MHz	NA	5.59 mi
KENTON	OH	WKTN	LIC	95.3 MHz	3.5 kW	12.80 mi
KENTON	OH	WKTN	USE	95.3 MHz	NA	12.80 mi
BAIRD	OH	NEW	APP	95.5 MHz	0.12 kW	17.93 mi
BAIRD	OH	NEW	APP	95.5 MHz	0.12 kW	17.93 mi
FINDLAY	OH	NEW	APP	97.5 MHz	0.08 kW	17.68 mi
VAN BUREN	OH	NEW	APP	97.5 MHz	0.08 kW	17.93 mi
BLUFFTON	OH	WBWH-LP	LIC	99.3 MHz	0.066 kW	12.05 mi
FINDLAY	OH	NEW	APP	99.5 MHz	0.12 kW	17.93 mi
FINDLAY	OH	NEW	APP	99.5 MHz	0.055 kW	18.43 mi
FINDLAY	OH	WKXA-FM	LIC	100.5 MHz	20. kW	11.49 mi
FINDLAY	OH	WKXA-FM	USE	100.5 MHz	NA	11.49 mi
FINDLAY	OH	WKXA-FM	CP	100.5 MHz	20. kW	11.49 mi
LIMA	OH	WEGE	LIC	104.9 MHz	3. kW	19.18 mi
LIMA	OH	WEGE	USE	104.9 MHz	NA	19.18 mi
KENTON	OH	W286AB	LIC	105.1 MHz	0.05 kW	12.27 mi
OTTAWA	OH	WBUK	LIC	106.3 MHz	1.4 kW	15.29 mi
OTTAWA	OH	WBUK	USE	106.3 MHz	NA	15.29 mi

OH = Ohio

NA = Not applicable

MHz = kilohertz

kW = kilowatt

mi = mile

Tx-Power = transmit effective radiated power

LIC = Licensed and Operational

CP = Construction Permit Issued but station is not operational

USE = Frequency Assigned awaiting license

NA = Not Applicable

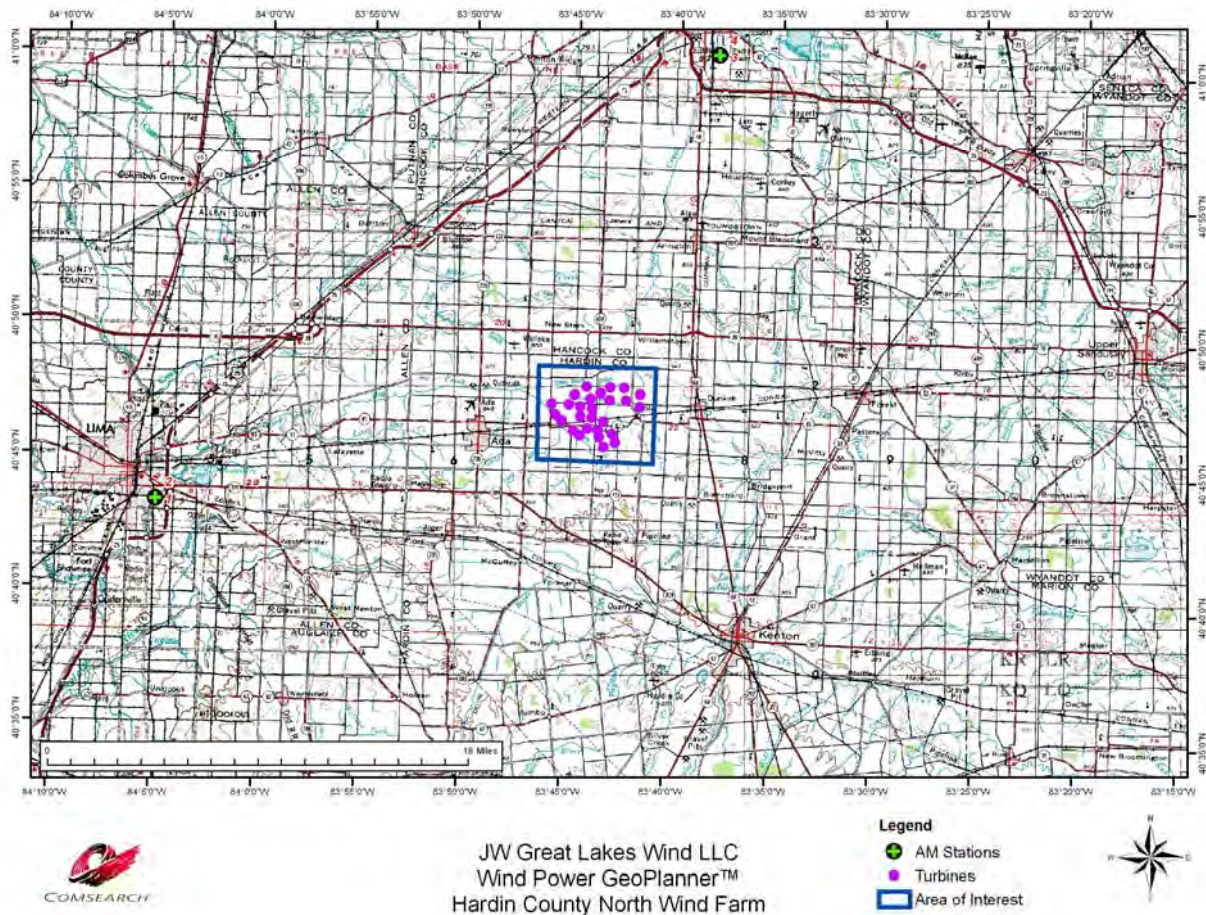


Figure 1 AM Stations in the Vicinity of the Hardin County North Wind Farm Project

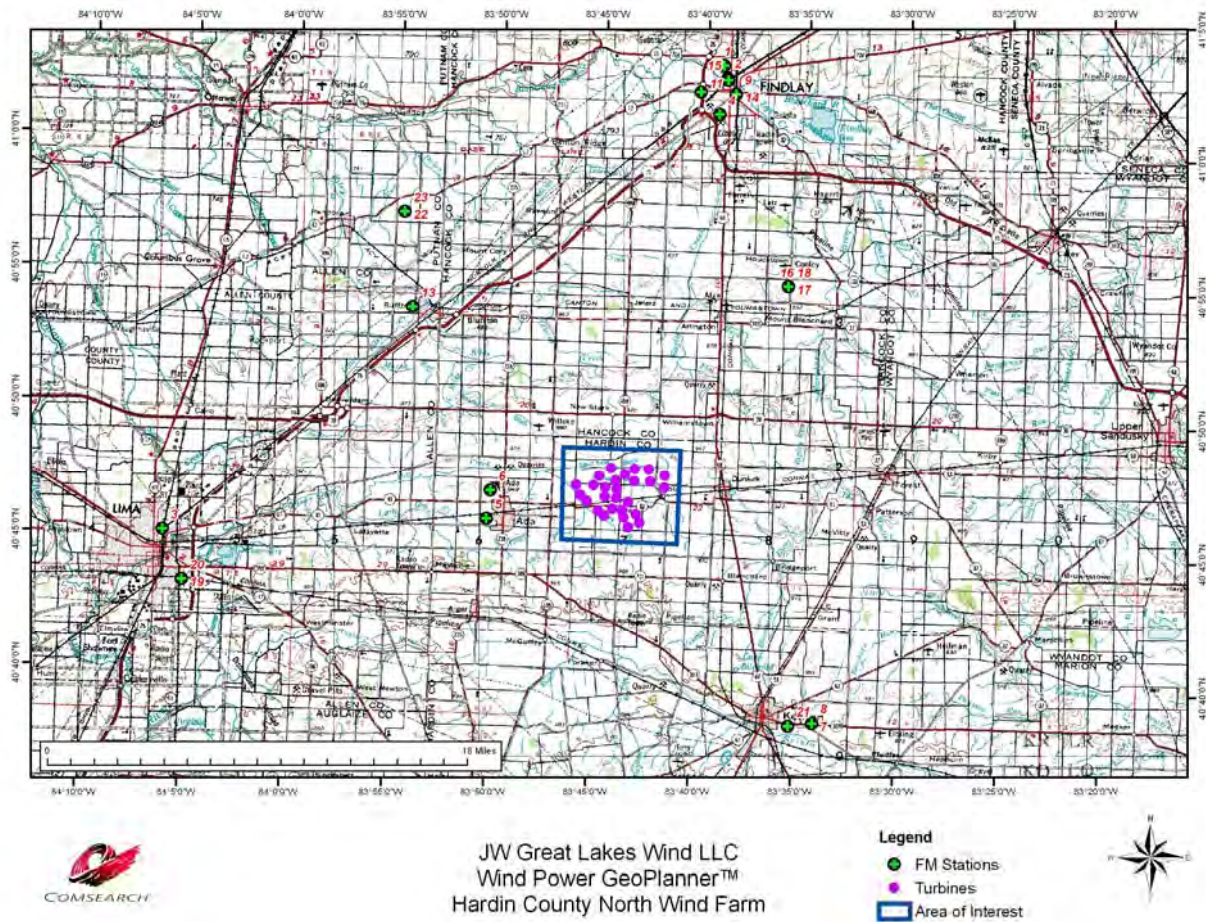


Figure 2 FM Stations in the Vicinity of the Hardin County North Wind Farm Project

Exhibit 08-13
Off-Air TV Reception Analysis



19700 Janelia Farms Blvd
Ashburn, VA 20147
703-726-5500

Off-Air TV Reception Analysis at the Hardin County North Wind Farm Project Area in Hardin County, Ohio

Comsearch was contracted by JW Great Lakes Wind, LLC to identify all of the off-air television stations within a 100-mile radius of the Hardin County North Wind Farm Project (the Project) in Hardin County, Ohio. Off-air television stations are broadcasters that transmit signals that can be received directly on a television receiver from terrestrially located broadcast facilities. Comsearch examined the coverage of the off-air TV stations and the communities in the area that could potentially have degraded television reception because of the location of the Project's wind turbines. The proposed wind energy facility boundaries and local communities are shown in Figure 1 of this memorandum. Table 1 lists the off-air television stations within 100 mile radius of the Project and Table 2 lists the off-air television stations within 40 miles of the Project. Figure 2 shows the location of the off-air TV channel broadcast antennas with respect to the Project.

Table 1 Off-Air TV Stations within 100 Miles of the Hardin county North Wind Farm Project

Location		Call Sign	Channel	Service	Status	Distance
TOLEDO	OH	WLMB	5	DT	LIC	68.02 mi
COLUMBUS	OH	WSYX	6	TV	LIC	69.27 mi
AUBURN	IN	W07CL	7	TX	LIC	78.90 mi
COLUMBUS	OH	WGCT-CA	8	CA	LIC	67.14 mi
LIMA	OH	WLIO-DR	8	DR	GRANT	21.34 mi
LIMA	OH	WLIO	8	DS	STA	21.34 mi
LIMA	OH	WLIO	8	DS	STA	21.33 mi
COLUMBUS	OH	WGCT-CA	8	CA	APP	64.42 mi
LIMA	OH	WLIO	8	DT	CP MOD	21.34 mi
LIMA	OH	WLIO	8	DS	APP	21.34 mi
COLUMBUS	OH	WGCT-CA	8	DC	CP	64.42 mi
FINDLAY	OH	W09CG	9	TX	LIC	22.97 mi
FORT WAYNE	IN	WFWC-LD	10	LD	CP	77.28 mi
TOLEDO	OH	WTOL	11	DT	CP MOD	63.98 mi
ANGOLA	IN	WINM	12	DT	LIC	72.71 mi
MANSFIELD	OH	WMFD-TV	12	DT	LIC	58.25 mi
MANSFIELD	OH	WMFD-TV	12	DT	CP	58.25 mi
COLUMBUS	OH	WSYX	13	DS	STA	69.30 mi
COLUMBUS	OH	WSYX	13	DT	LIC	69.30 mi
TOLEDO	OH	WTVG	13	DT	CP MOD	64.20 mi
COLUMBUS	OH	WCMH-TV	14	DS	STA	67.14 mi
COLUMBUS	OH	WCMH-TV	14	DS	STA	67.14 mi
COLUMBUS	OH	WCMH-TV	14	DT	LIC	67.14 mi
DAYTON	OH	WPTD	16	DT	CP MOD	78.34 mi
DAYTON	OH	WPTD	16	DS	APP	78.34 mi
COLUMBUS	OH	WDEM-CA	17	CA	LIC	67.14 mi

CELINA	OH	W17AA	17	TX	LIC	44.23 mi
LIMA	OH	-	17	TA	-	39.36 mi
TOLEDO	OH	WTOL	17	DS	STA	63.98 mi
TOLEDO	OH	WTOL	17	DT	LIC	63.98 mi
CELINA	OH	W17AA	17	LD	CP	44.22 mi
COLUMBUS	OH	WDEM-CA	17	DC	LIC	67.14 mi
FORT WAYNE	IN	WISE-DR	18	DR	APP	79.34 mi
FORT WAYNE	IN	WISE-TV	18	DT	APP	79.33 mi
LIMA	OH	WLQP-LP	18	TX	LIC	27.24 mi
SPRINGFIELD	OH	WBDT	18	DT	LIC	78.22 mi
LEXINGTON	OH	W32AR	18	LD	APP	58.25 mi
TOLEDO	OH	W22CO	18	LD	CP	61.98 mi
LIMA	OH	WLQP-LP	18	LD	APP	19.93 mi
FORT WAYNE	IN	WISE-TV	19	DS	STA	78.78 mi
FORT WAYNE	IN	WISE-TV	19	DS	APP	78.78 mi
FORT WAYNE	IN	WISE-TV	19	DT	LIC	78.78 mi
FORT WAYNE	IN	WISE-TV	19	DS	APP	78.78 mi
COLUMBUS	OH	WCLL-CA	19	CA	LIC	68.40 mi
TOLEDO	OH	WTVG	19	DT	LIC	64.20 mi
SPRINGFIELD	OH	W20CL	20	TX	LIC	57.13 mi
FINDLAY	OH	NEW	20	LD	APP	19.93 mi
COLUMBUS	OH	WBNS-TV	21	DS	STA	67.14 mi
COLUMBUS	OH	WBNS-TV	21	DT	LIC	67.14 mi
COLUMBUS	OH	WBNS-TV	21	DT	APP	67.14 mi
BUCYRUS	OH	WBKA-CA	22	CA	LIC	43.46 mi
DAYTON	OH	WKEF	22	TV	LIC	78.56 mi
FINDLAY	OH	WFND-LP	22	TX	LIC	22.97 mi
FINDLAY	OH	WFND-LP	22	TX	CP	13.40 mi
FINDLAY	OH	WFND-LP	22	LD	APP	22.97 mi
MUNCIE	IN	WIPB	23	DT	CP MOD	99.83 mi
MUNCIE	IN	WIPB	23	DS	APP	99.83 mi
COLUMBUS	OH	W23BZ	23	TX	LIC	71.30 mi
LIMA	OH	W23DE-D	23	TX	CP	27.24 mi
COLUMBUS	OH	W23BZ	23	LD	CP	71.30 mi
LIMA	OH	W23DE-D	23	LD	LIC	27.24 mi
FORT WAYNE	IN	WPTA	24	DT	LIC	79.33 mi
NEWARK	OH	WSFJ-TV	24	DS	STA	90.38 mi
NEWARK	OH	WSFJ-TV	24	DS	STA	73.01 mi
NEWARK	OH	WSFJ-TV	24	DT	LIC	73.01 mi
SPRINGFIELD	OH	W24DG-D	24	LD	CP	57.13 mi
LIMA	OH	WOHL-CA	25	CA	LIC	27.24 mi
LIMA	OH	WOHL-CA	25	DC	APP	27.24 mi
COLUMBUS	OH	WCPX-LP	25	LD	CP	64.75 mi
COLUMBUS	OH	WCPX-LP	25	LD	APP	64.75 mi
AUBURN	IN	W26DH-D	26	LD	CP	78.90 mi
DEFIANCE	OH	WDFM-LP	26	TX	STA	54.93 mi
DEFIANCE	OH	WDFM-LP	26	TX	LIC	54.93 mi
SPRINGFIELD	OH	WBDT	26	DT	CP MOD	78.22 mi

MARION	IN	WSOT-LP	27	TX	CP	99.90 mi
MARION	IN	WSOT-LP	27	LD	CP	99.90 mi
BOWLING GREEN	OH	WBGU-TV	27	DT	CP MOD	26.09 mi
MIILLERSBURG	OH	W69AO	27	LD	APP	81.10 mi
BOWLING GREEN	OH	WBGU-TV	27	DS	APP	26.09 mi
DEFIANCE	OH	W52CO	28	TX	APP	54.93 mi
TOLEDO	OH	W28DH-D	28	LD	CP	60.05 mi
TOLEDO	OH	WGTE-TV	29	DT	LIC	62.22 mi
DAYTON	OH	WRGT-TV	30	DT	CP	78.22 mi
DAYTON	OH	WRGT-TV	30	DS	STA	78.22 mi
FORT WAYNE	IN	WANE-DR	31	DR	GRANT	78.95 mi
FORT WAYNE	IN	WANE-TV	31	DS	STA	78.95 mi
FORT WAYNE	IN	WANE-TV	31	DS	APP	78.95 mi
FORT WAYNE	IN	WANE-TV	31	DS	APP	78.95 mi
FORT WAYNE	IN	WANE-TV	31	DT	CP MOD	78.95 mi
FORT WAYNE	IN	WANE-TV	31	DS	APP	78.95 mi
NEWARK	OH	W31AA	31	TA	-	85.84 mi
NEWARK	OH	W31AA	31	TX	LIC	84.50 mi
TOLEDO	OH	W59DC	32	TX	APP	60.74 mi
LEXINGTON	OH	W32AR	32	TX	LIC	58.25 mi
XENIA	OH	960722KP	32	TV	APP	73.29 mi
XENIA	OH	960722KP	32	TA	-	72.74 mi
COLUMBUS	OH	WCSN-LP	32	TX	LIC	64.75 mi
DAYTON	OH	WWRD-LP	32	TX	LIC	78.42 mi
CENTERVILLE	OH	WWRD-LP	32	TX	APP	78.42 mi
MAPLEWOOD	OH	W63AH	32	LD	APP	32.18 mi
LIMA	OH	W55CH	33	TX	APP	27.24 mi
ASHLAND	OH	W33BW	33	TX	LIC	74.17 mi
COLUMBUS	OH	WCSN-LD	33	LD	CP	64.75 mi
TOLEDO	OH	WBTL-LP	34	TX	LIC	60.71 mi
COLUMBUS	OH	WCLL-LD	35	LD	CP	68.40 mi
LIMA	OH	WOHL-CA	35	DC	APP	21.34 mi
LIMA	OH	WOHL-CA	35	LD	APP	21.34 mi
FORT WAYNE	IN	WFFT-TV	36	DS	STA	79.98 mi
FORT WAYNE	IN	WFFT-TV	36	DT	CP MOD	79.98 mi
COLUMBUS	OH	WTTE	36	DT	CP	69.30 mi
COLUMBUS	OH	WTTE	36	DS	STA	69.30 mi
COLUMBUS	OH	WTTE	36	DS	STA	69.30 mi
FORT WAYNE	IN	W38EA-D	38	LD	LIC	79.68 mi
COLUMBUS	OH	WOSU-TV	38	DT	LIC	60.46 mi
LIMA	OH	WLMO-LP	38	TX	LIC	27.24 mi
TOLEDO	OH	W38DH	38	TX	LIC	59.91 mi
LIMA	OH	WLMO-LP	38	LD	APP	19.93 mi
COLUMBUS	OH	WOSU-TV	38	DT	CP	60.46 mi
RICHMOND	IN	WKOI-TV	39	DS	STA	100.03 mi
RICHMOND	IN	WKOI-TV	39	DT	LIC	100.03 mi
RICHMOND	IN	WKOI-TV	39	DT	CP	100.03 mi
MARION	OH	WOCB-CA	39	CA	LIC	33.40 mi

MARION	OH	WOCB-CA	39	DC	LIC	33.54 mi
FORT WAYNE	IN	WFWA	40	DT	LIC	79.68 mi
FORT WAYNE	IN	WFWA	40	DT	APP	79.68 mi
DAYTON	OH	WRCX-LP	40	TX	LIC	78.22 mi
DAYTON	OH	WRCX-LP	40	LD	CP	78.22 mi
SANDUSKY	OH	W41AP	41	TX	LIC	70.35 mi
DAYTON	OH	WHIO-TV	41	DS	STA	77.48 mi
DAYTON	OH	WHIO-TV	41	DT	LIC	77.48 mi
DAYTON	OH	WHIO-TV	41	DT	CP	77.48 mi
DAYTON	OH	WHIO-TV	41	DS	APP	77.48 mi
DELAWARE	OH	WXCB-CA	42	CA	LIC	49.06 mi
SANDUSKY	OH	WGGN-TV	42	DS	STA	64.63 mi
SANDUSKY	OH	WGGN-TV	42	DS	APP	69.74 mi
DELAWARE	OH	WXCB-CA	42	DC	CP	48.21 mi
DELAWARE	OH	WXCB-CA	42	CA	APP	48.21 mi
DELAWARE	OH	WXCB-CA	42	DC	CP	48.20 mi
SANDUSKY	OH	WGGN-TV	42	DT	CP MOD	69.77 mi
COLUMBUS	OH	W43BZ	43	TX	LIC	67.14 mi
LIMA	OH	WTLW	44	DT	CP MOD	23.92 mi
LIMA	OH	WTLW	44	DS	APP	23.92 mi
FORT WAYNE	IN	WFWC-CA	45	CA	LIC	77.30 mi
LIMA	OH	WLQP-LP	45	LD	APP	21.34 mi
CHILLICOTHE	OH	WWHO	46	DT	LIC	88.64 mi
TOLEDO	OH	WUPW	46	DT	LIC	61.98 mi
TOLEDO	OH	WUPW	46	DT	APP	61.98 mi
MANSFIELD	OH	W47AB	47	TA	-	63.49 mi
LIMA	OH	WTLW	47	DS	STA	23.92 mi
MANSFIELD	OH	W47AB	47	TX	LIC	65.34 mi
LIMA	OH	WTLW	47	DT	LIC	23.92 mi
MANSFIELD	OH	W47AB	47	LD	CP	65.34 mi
COLUMBUS	OH	W47DI-D	47	LD	CP	63.98 mi
MANSFIELD	OH	W47AB	47	LD	APP	65.36 mi
LIMA	OH	WLMO-LP	47	LD	APP	21.34 mi
BOWLING GREEN	OH	W50CD	48	TX	APP	26.09 mi
TOLEDO	OH	WMNT-CA	48	CA	LIC	60.91 mi
COLUMBUS	OH	WCPX-LP	48	LD	APP	60.46 mi
COLUMBUS	OH	WCPX-LP	48	TX	LIC	64.75 mi
COLUMBUS	OH	WSYX-DR	48	DR	APP	69.30 mi
TOLEDO	OH	WNWO-TV	49	DT	LIC	63.99 mi
MANSFIELD	OH	WOHZ-CA	50	TX	LIC	58.25 mi
DAYTON	OH	WDTN	50	DS	STA	78.61 mi
DAYTON	OH	WDTN	50	DT	LIC	78.61 mi
TOLEDO	OH	NEW	50	LD	APP	60.71 mi
DAYTON	OH	WKEF	51	DS	STA	78.22 mi
DAYTON	OH	WKEF	51	DT	LIC	78.22 mi
FINDLAY	OH	W09CG	51	LD	APP	22.97 mi
DAYTON	OH	WKEF	51	DT	APP	78.22 mi
LOUDONVILLE	OH	WIVX-LP	51	LD	APP	81.10 mi

MUNCIE	IN	WIPB	52	DS	STA	99.83 mi
DEFIANCE	OH	NEW	56	DN	APP	26.09 mi
BOWLING GREEN	OH	WBGU-TV	56	DS	STA	26.09 mi
BOWLING GREEN	OH	WBGU-TV	56	DT	LIC	26.09 mi
DAYTON	OH	WPTD	58	DT	LIC	78.34 mi
MAPLEWOOD, ETC.	OH	W63AH	63	TX	LIC	32.18 mi
LOUDONVILLE	OH	WIVX-LP	65	TX	LIC	81.12 mi
SPRINGFIELD	OH	-	66	TA	-	59.25 mi
DAYTON	OH	W66AQ	66	TX	APP	78.56 mi
DAYTON	OH	W66AQ	66	TX	LIC	78.56 mi
TOLEDO	OH	W22CO	68	TX	LIC	60.74 mi
MILLERSBURG	OH	W69AO	69	TX	LIC	94.88 mi

TV –Normal Broadcast Station

DS-Digital Service Television, Temporary Operation, STA Operation

DT-Digital Television Broadcast Station

DR- Indicates Station has Applied for FCC Rule Making

GRA-Indicates Rule Making was granted by FCC

LP-Low Power Television Broadcast Station

TX-Translator Television Broadcast Station

LIC – Licensed and operational station

CP – License approved construction permit granted

APP – License application, not yet operational

STA – Special transmit authorization, usually granted by FCC for temporary operation

CA – Class A Television, Low-power

LD - Digital Low power

TA – Vacant channel

The most likely TV stations that will produce off-air coverage to the area near the Project will be those stations at a distance of 40 miles or less. Of the stations listed in Table 1 there are a total of 39 stations registered within this range and they are listed in Table 2 below. Fifteen of the twenty-eight stations are presently licensed and operational. Of these fifteen stations two are full-power digital stations. Four are full-power digital stations operating under a special transmit authority granted by the FCC. The remaining nine stations are low-power stations. One is a low-power-digital station and two are full-service low-power stations. One is a full-service low power digital station. There are also five low-power translator stations in the area. The low-power translators and full-service stations are probably still utilizing analog modulation as they were not required to switch to digital modulation by the FCC on the June 12, 2009 cut-off date for analog modulation for full-power television broadcast stations..

Table 2 Off-Air TV Stations within 40 Miles of the Hardin North Wind Farm Project

Location		Call Sign	Channel	Service	Status	Distance
FINDLAY	OH	WFND-LP	22	TX	CP	13.40 mi
LIMA	OH	WLQP-LP	18	LD	APP	19.93 mi
FINDLAY	OH	NEW	20	LD	APP	19.93 mi
LIMA	OH	WLMO-LP	38	LD	APP	19.93 mi

LIMA	OH	WLIO	8	DS	STA	21.33 mi
LIMA	OH	WLIO-DR	8	DR	GRANT	21.34 mi
LIMA	OH	WLIO	8	DS	STA	21.34 mi
LIMA	OH	WLIO	8	DT	CP MOD	21.34 mi
LIMA	OH	WLIO	8	DS	APP	21.34 mi
LIMA	OH	WOHL-CA	35	DC	APP	21.34 mi
LIMA	OH	WOHL-CA	35	LD	APP	21.34 mi
LIMA	OH	WLQP-LP	45	LD	APP	21.34 mi
LIMA	OH	WLMO-LP	47	LD	APP	21.34 mi
FINDLAY	OH	W09CG	9	TX	LIC	22.97 mi
FINDLAY	OH	WFND-LP	22	TX	LIC	22.97 mi
FINDLAY	OH	WFND-LP	22	LD	APP	22.97 mi
FINDLAY	OH	W09CG	51	LD	APP	22.97 mi
LIMA	OH	WTLW	44	DT	CP MOD	23.92 mi
LIMA	OH	WTLW	44	DS	APP	23.92 mi
LIMA	OH	WTLW	47	DS	STA	23.92 mi
LIMA	OH	WTLW	47	DT	LIC	23.92 mi
BOWLING GREEN	OH	WBGU-TV	27	DT	CP MOD	26.09 mi
BOWLING GREEN	OH	WBGU-TV	27	DS	APP	26.09 mi
BOWLING GREEN	OH	W50CD	48	TX	APP	26.09 mi
DEFIANCE	OH	NEW	56	DN	APP	26.09 mi
BOWLING GREEN	OH	WBGU-TV	56	DS	STA	26.09 mi
BOWLING GREEN	OH	WBGU-TV	56	DT	LIC	26.09 mi
LIMA	OH	WLQP-LP	18	TX	LIC	27.24 mi
LIMA	OH	W23DE-D	23	TX	CP	27.24 mi
LIMA	OH	W23DE-D	23	LD	LIC	27.24 mi
LIMA	OH	WOHL-CA	25	CA	LIC	27.24 mi
LIMA	OH	WOHL-CA	25	DC	APP	27.24 mi
LIMA	OH	W55CH	33	TX	APP	27.24 mi
LIMA	OH	WLMO-LP	38	TX	LIC	27.24 mi
MAPLEWOOD	OH	W63AH	32	LD	APP	32.18 mi
MAPLEWOOD, ETC.	OH	W63AH	63	TX	LIC	32.18 mi
MARION	OH	WOCB-CA	39	CA	LIC	33.40 mi
MARION	OH	WOCB-CA	39	DC	LIC	33.54 mi
LIMA	OH	-	17	TA	-	39.36 mi

There are enough off-air television stations available to the Project's local communities that they have to be considered as the primary source of television programming in the area. It should be expected that some off-air television channels will be affected at certain homes and businesses in the area once the wind turbines are installed. The other delivery modes of television programming to the area are via cable, where available, and direct broadcast satellite. These services will be unaffected by the presence of the wind turbine facility. These modes of TV service delivery can be offered by the wind energy facility developer to those area residents who can show that their off-air TV reception is disrupted by the presence of the wind turbines after they are installed. Another mitigation technique for degraded reception would be to improve the television reception system at the home or business where degradation is experienced. This mitigation involves the use of a rotatable high gain antenna installed at a height above local terrain and trees. It also utilizes low-loss

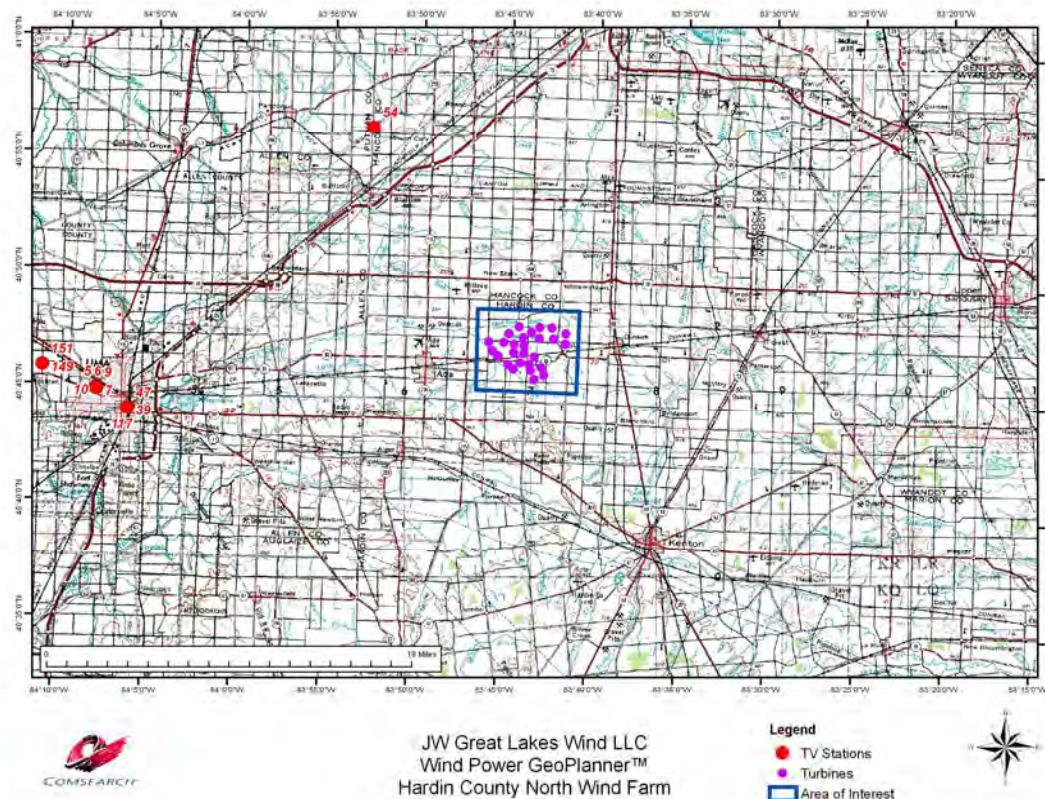


Figure 1 Map of Off-Air TV Stations near the Hardin County Wind Farm Project Area and Local Communities

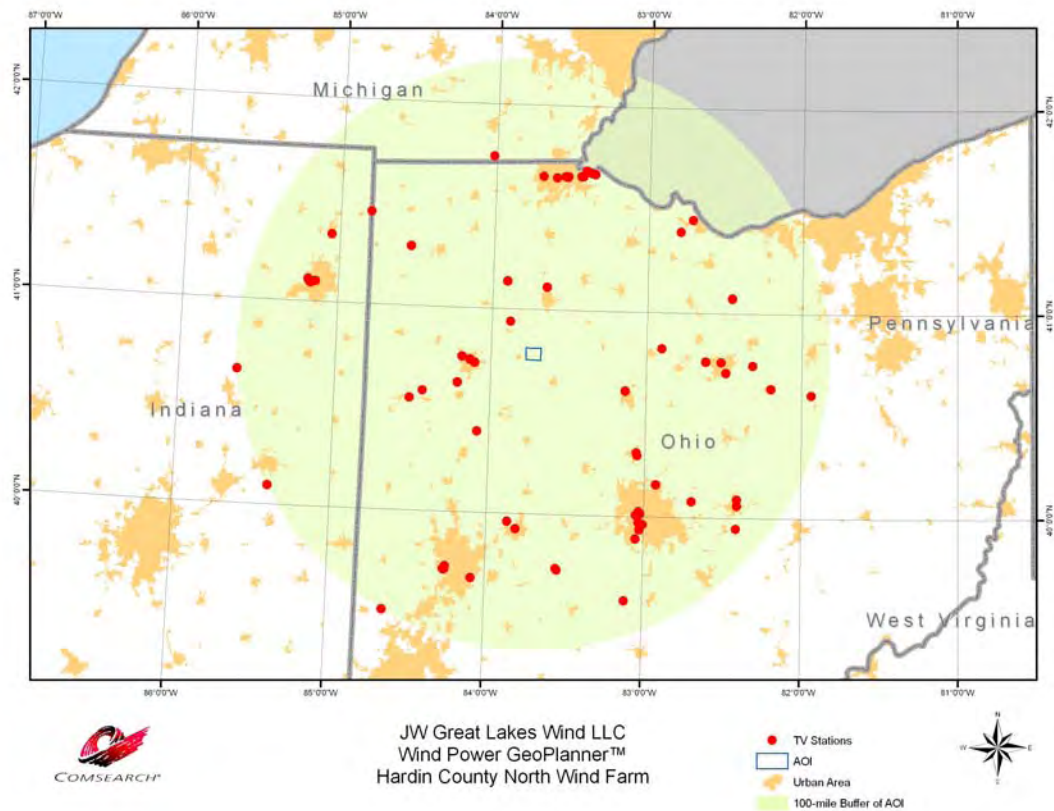


Figure 2 -TV Stations within 100 Miles of the Hardin County Wind Farm Project Area

Exhibit 08-14
Department of Defense
Preliminary Screening Tool

DoD Preliminary Screening Tool

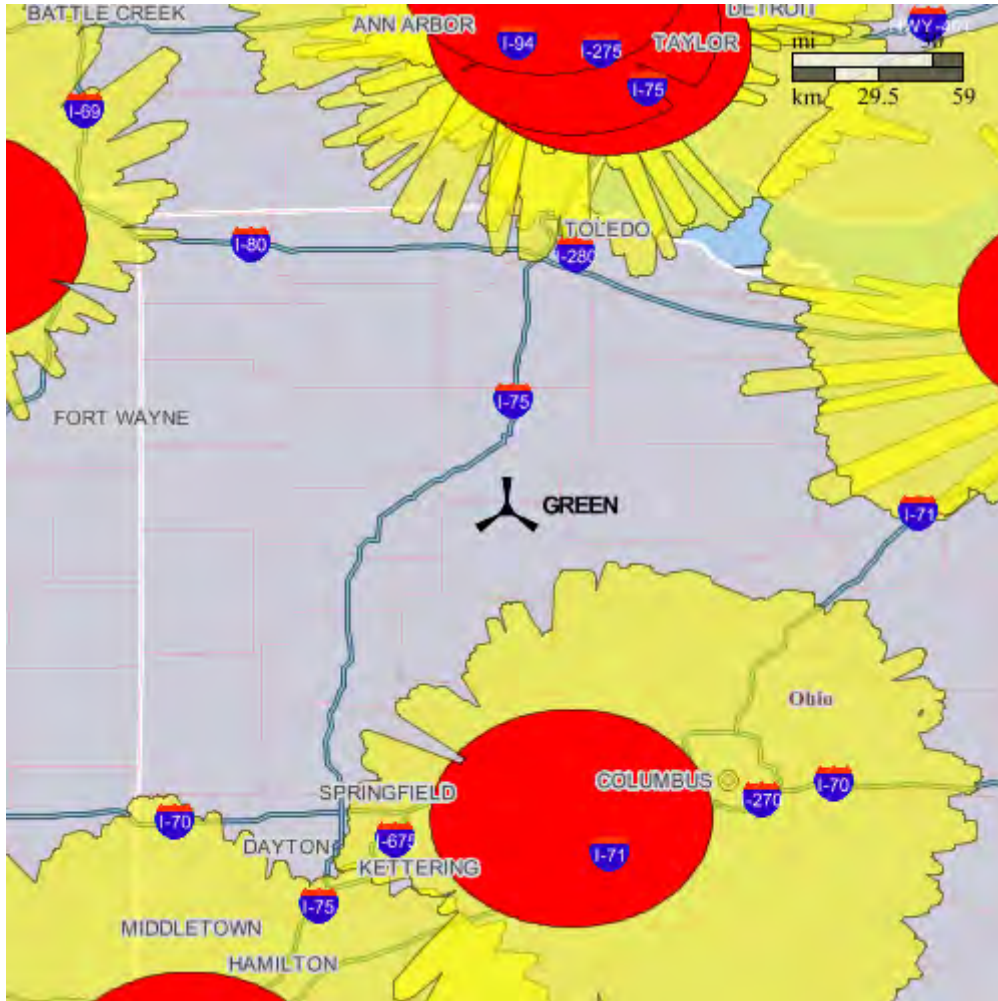
<https://oeaaa.faa.gov/oeaaa/external/gisTools/gisAction.jsp>

Screening Type:

Military Operations

Geometry
Type:

Single Point



Map Legend:

- **Green:** No anticipated impact to Air Defense and Homeland Security radars. Aeronautical study required.
- **Yellow:** Impact likely to Air Defense and Homeland Security radars. Aeronautical study required.
- **Red:** Impact highly likely to Air Defense and Homeland Security radars. Aeronautical study required.

DoD Preliminary Screening Tool

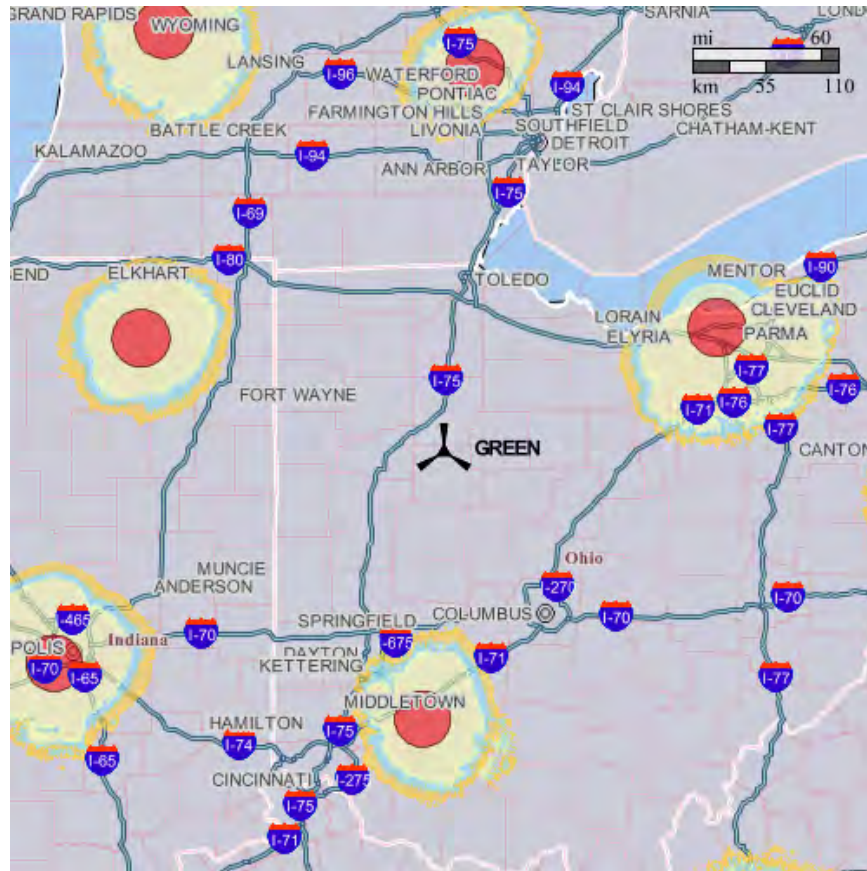
<https://oeaaa.faa.gov/oeaaa/external/gisTools/gisAction.jsp>

Screening Type:

Military Operations

Geometry
Type:

Single Point

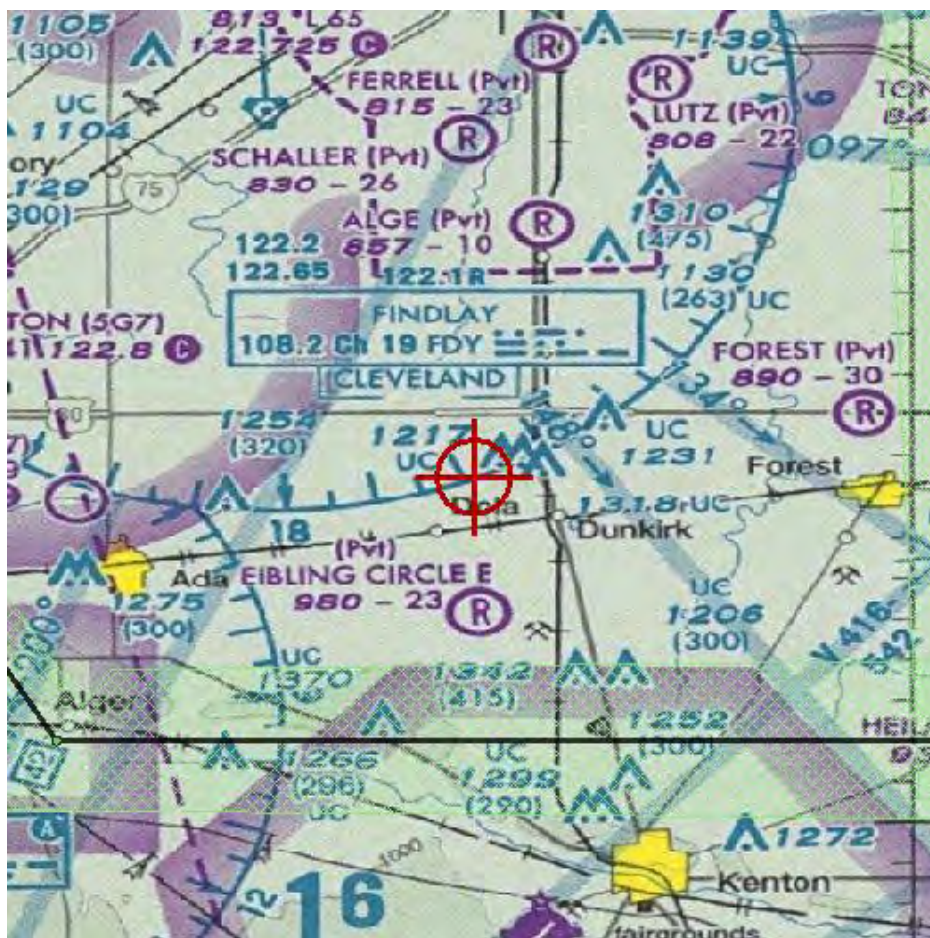


Map Legend:

- Green:** Minimal to no impact to Weather Surveillance Radar-1988 Doppler (WSR-88D) weather radar operations. National Telecommunications & Information Administration (NTIA) notification advised.
- Yellow:** RLOS Coverage At or Below 130m AGL. Impact likely to WSR-88D weather radar operations. Turbines likely in radar line of sight. Impact study required. NTIA notification advised.
- Blue:** RLOS Coverage At or Below 160m AGL. Impact likely to WSR-88D weather radar operations. Turbines likely in radar line of sight. Impact study required. NTIA notification advised.
- Gold:** RLOS Coverage At or Below 200m AGL. Impact likely to WSR-88D weather radar operations. Turbines likely in radar line of sight. Impact study required. NTIA notification advised.
- Red:** Impact highly likely to WSR-88D weather radar operations and wind turbine electronics. Turbines likely in radar line of sight. Aeronautical study required. NTIA notification strongly advised.

<https://oeaaa.faa.gov/oeaaa/external/qisTools/qisAction.jsp>

Single Point



The preliminary review of your proposal does not return any likely impacts to military airspace. Please contact Mr. Paul Friday at the USMC Regional Enviromental Coordinator at (910)322-2128/449-9791 for confirmation and documentation.

Exhibit 08-15
Letter of Notification to NTIA
and
Response Letter



Sent via FedEx
June 22, 2010

Mr. Ed Davison
U.S. Department of Commerce
1401 Constitution Avenue N.W., Room 4099A
Washington DC 20230

RE: Notification of the Hog Creek Wind Farm II in Hardin County, OH
(Expansion of Hardin County North Wind Farm)

Dear Mr. Davison:

This letter and its attachments will serve as notification to the government that Hog Creek Wind Farm, LLC (subsidiary of JW Great Lakes) plans to install a wind energy facility in Hardin County, OH.

Enclosed are a table and map that describe the location of the project.

- Table 1 is a list of the coordinates of the turbine locations using the coordinate system: WGS 1984.
- Figure 1 is a map of the project area showing the turbine locations in reference with the communities of Dola and Dunkirk, OH.

The dimensions of the wind turbines to be installed at this facility are:

- Turbine Hub Height: 100 meters (328 feet)
- Turbine Blade Diameter: 101 meters (331.3 feet)
- Blade Tip Height: 151.5 meters (497 feet)

If you have any questions with regard to this notification, or if you need further information, please contact me at 216.344.9305 or almady@juwi.com.

Sincerely,

Joseph E. Almady
Project Manager
juwi / JW Great Lakes Wind
enc.

cc: Project File



Table 1: Turbine Coordinates, WGS 1984

Turbine Number	Longitude	Latitude
1b	-83°41'15.55"	40°48'13.56"
2b	-83°40'44.15"	40°48'24.27"
3b	-83°40'25.14"	40°48'13.02"
4b	-83°41'08.25"	40°47'46.81"
5b	-83°40'45.08"	40°47'46.55"
6b	-83°40'21.88"	40°47'46.76"
7b	-83°41'10.38"	40°47'10.33"
8b	-83°40'32.79"	40°47'14.59"

Project Hog Creek II

Hog Creek II Map
for Micrositing

Map:

General Layout

Map-No.: 1

Date

5/7/2010

Name

JWGL

edited

5/7/2010

JWGL

signed

5/7/2010

JWGL

approved

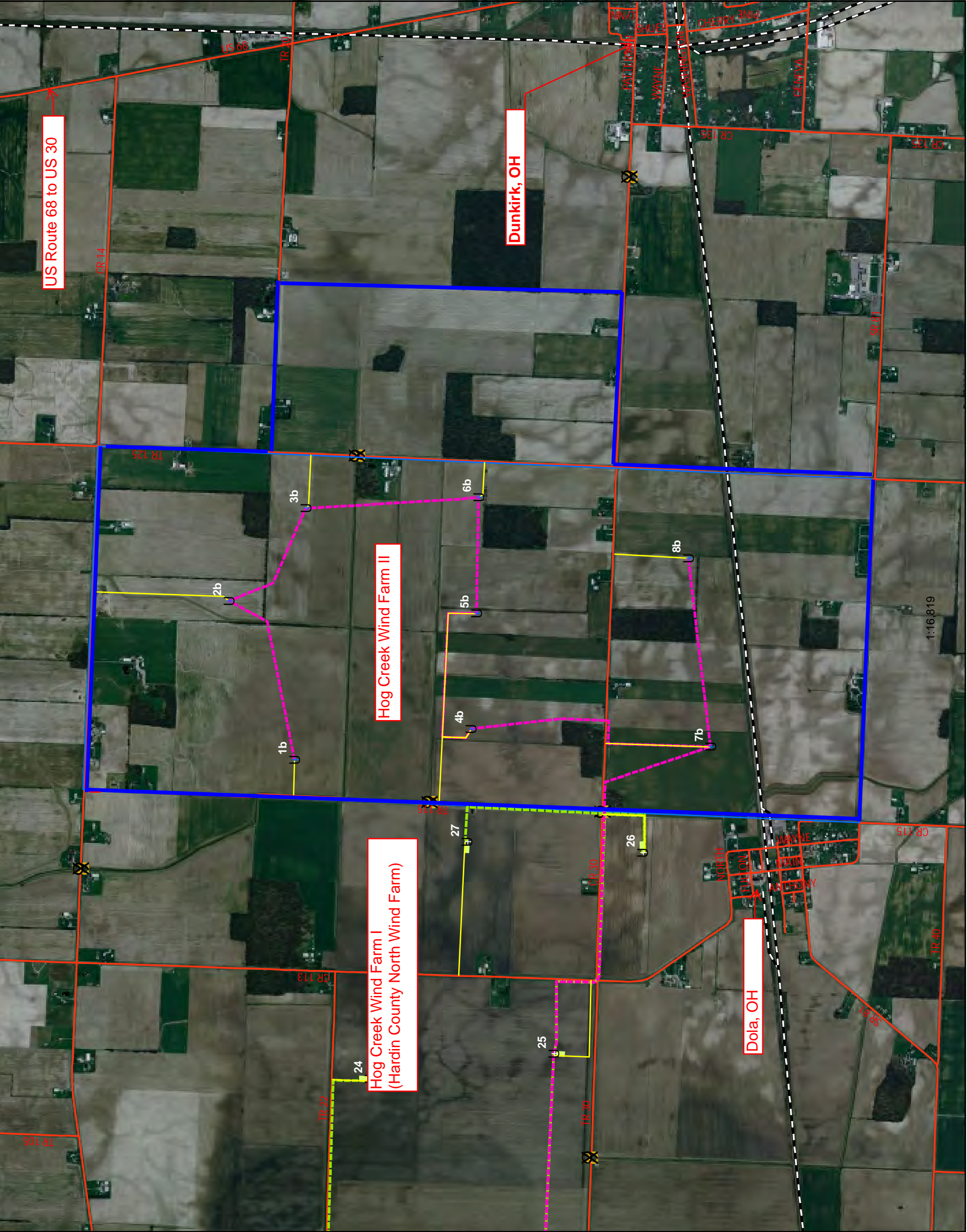
juwi Wind LLC
Tower Press Building
1900 Superior Avenue
Cleveland, Oh 44114-2148
fon: +1 (216) 344-9305
fax: +1 (216) 344-9306
mail: almady@juwi.com

juwi

Scale (if printed undistorted in A3):

0 115 230 460 690 920

Meters



----- Page Intentionally Left Blank -----



UNITED STATES DEPARTMENT OF COMMERCE
National Telecommunications and
Information Administration
Washington, D.C. 20230

AUG 17 2010

Mr. Joseph E. Almady
Project Engineer
JW Great Lakes Wind, LLC
1900 Superior Avenue, Suite 333
Cleveland, OH 44114-2148

Re: Hog Creek Wind Farm II Project, in Hardin County, OH

Dear Mr. Almady:

In response to your request on June 22, 2010, the National Telecommunications and Information Administration provided to the federal agencies represented in the Interdepartment Radio Advisory Committee (IRAC) the plans for the Hog Creek Wind Farm II Project, located in Hardin County, Ohio.

After a 45 day period of review, no federal agencies identified any concerns regarding blockage of their radio frequency transmissions.

While the IRAC agencies did not identify any concerns regarding radio frequency blockage, this does not eliminate the need for the wind energy facilities to meet any other requirements specified by law related to these agencies. For example, this review by the IRAC does not eliminate any need that may exist to coordinate with the Federal Aviation Administration concerning flight obstruction.

Thank you for the opportunity to review these proposals.

Sincerely,

Edward M. Davison
Deputy Associate Administrator
Office of Spectrum Management

