

# Minnesota State Permitting Process for Large Wind Energy Conversion Systems

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Office of Energy Security  
Minnesota Department of Commerce

# Minnesota Energy Facility Permitting



Large Wind Energy Conversion Systems



Large Electric Power Generating Plants



High Voltage Transmission Lines



Pipelines

# Minnesota Program Began in 1995

## Wind Siting Act – Minnesota Statute 216F

- The siting of Large Wind Energy Conversion Systems (LWECS) – projects of 5 MW or more – is to be made in an orderly manner compatible with environmental preservation, sustainable development, and the efficient use of resources (Minn. Stat. § 216F.03).
- Local government may regulate projects less than 25 MW in combined nameplate capacity.
  - Less than 5 MW is a Small Wind Energy Conversion Systems.
  - Between 5 MW and 25 MW if assume authority to regulate LWECS via Minn. Stat. § 216F.08.

# Wind Permitting Trends In Minnesota

> 1,800 MW (>1,400 turbines) in Minnesota today, plus 600 turbines permitted but not built.

Projects increasing in number and size

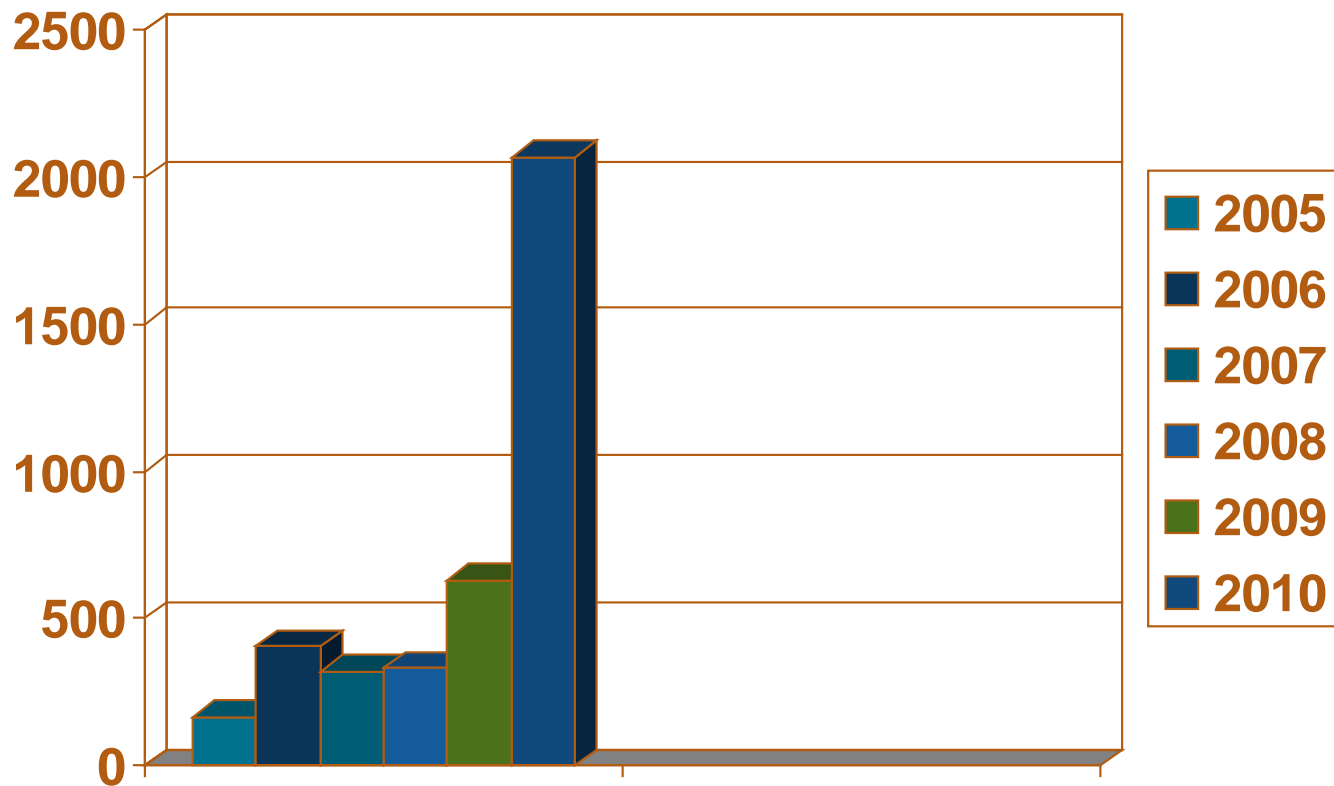
12+ projects in PUC process – 1,300+ MW, 800+ turbines

12+ additional projects expected in next year for another 1,000+ MW

Concentrated in southern Minnesota, but expanding across state

Drivers – MISO deadlines, Grants, Transmission, Wind Resources, Renewable Requirements

# Total Number of Megawatts by Year For Wind Power Projects in MN State Process 2005-2010



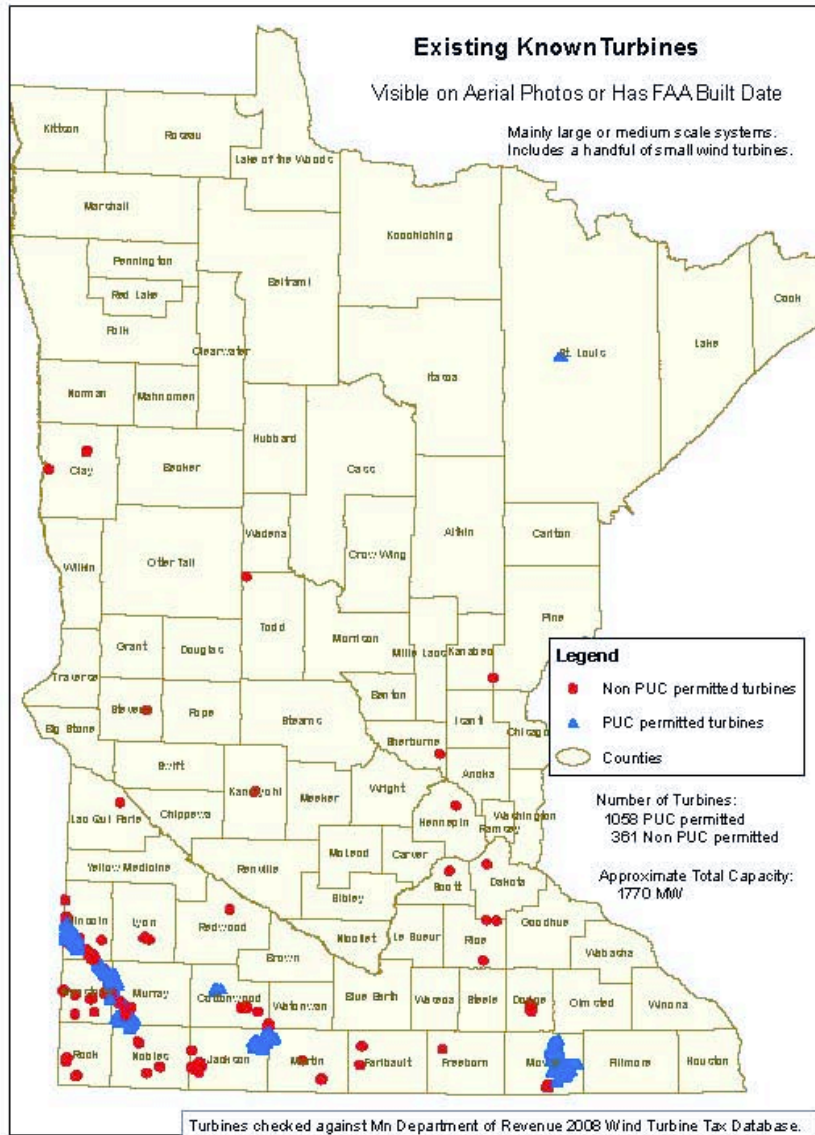
# Wind Development in Minnesota

## Wind Turbines in Minnesota as of January 15, 2010

### Existing Known Turbines

Visible on Aerial Photos or Has FAA Built Date

Mainly large or medium scale systems.  
Includes a handful of small wind turbines.



- Legend**
- Non PUC permitted turbines
  - PUC permitted turbines
  - Counties

Number of Turbines:  
1058 PUC permitted  
381 Non PUC permitted

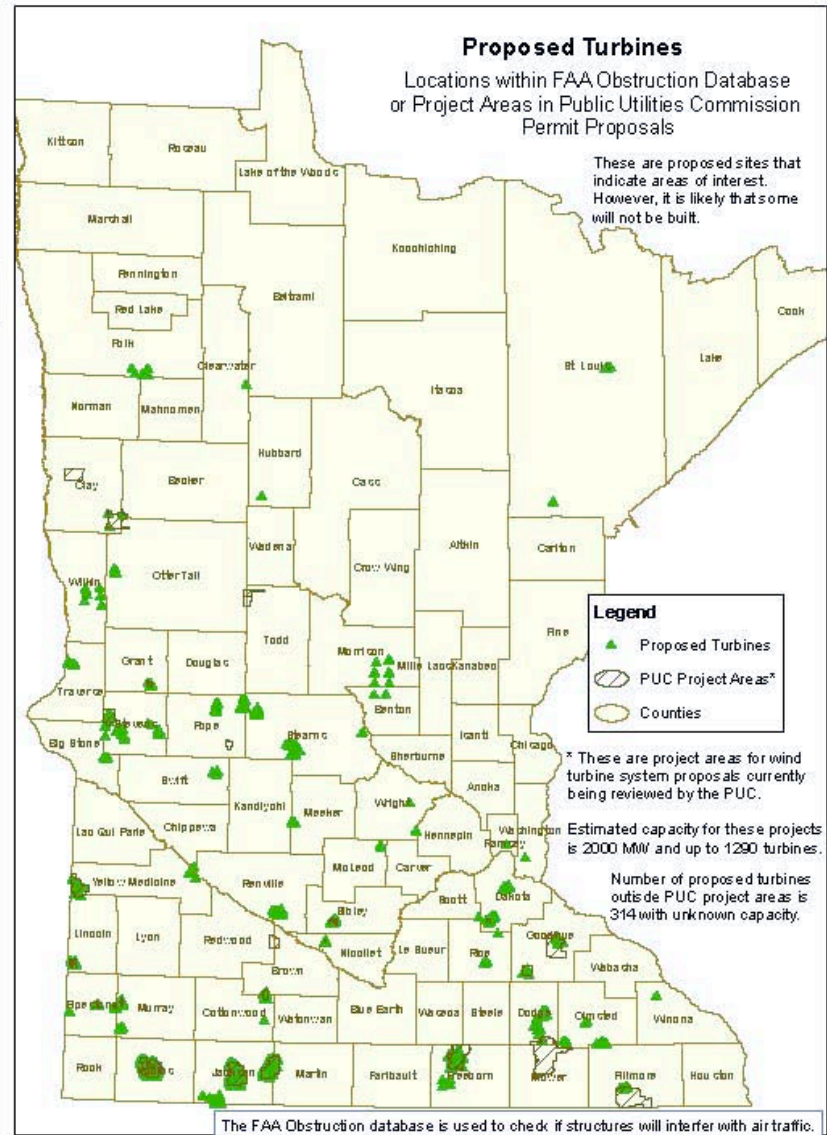
Approximate Total Capacity:  
1770 MW

Turbines checked against Mn Department of Revenue 2008 Wind Turbine Tax Database. Not included in the Revenue database are turbines less than 0.25 MW capacity and those owned by political subdivisions with less than 2 MW capacity.

### Proposed Turbines

Locations within FAA Obstruction Database or Project Areas in Public Utilities Commission Permit Proposals

These are proposed sites that indicate areas of interest. However, it is likely that some will not be built.



- Legend**
- ▲ Proposed Turbines
  - ▨ PUC Project Areas\*
  - Counties

\* These are project areas for wind turbine system proposals currently being reviewed by the PUC.

Estimated capacity for these projects is 2000 MW and up to 1290 turbines.

Number of proposed turbines outside PUC project areas is 314 with unknown capacity.

The FAA Obstruction database is used to check if structures will interfere with air traffic. Some wind developers appear to check potential sites early in the process and the FAA permit does not indicate whether funding or an actual proposal exists.

# Public Utilities Commission Wind Permitting

- Provides consistent process and standards statewide
- Up to 6 month process
- Alternate form of Environmental Review – not required to prepare an EIS, EA, or EAW for Minnesota
- Public notice, participation, comments
- Site permits issued for up to 30 years and may be amended

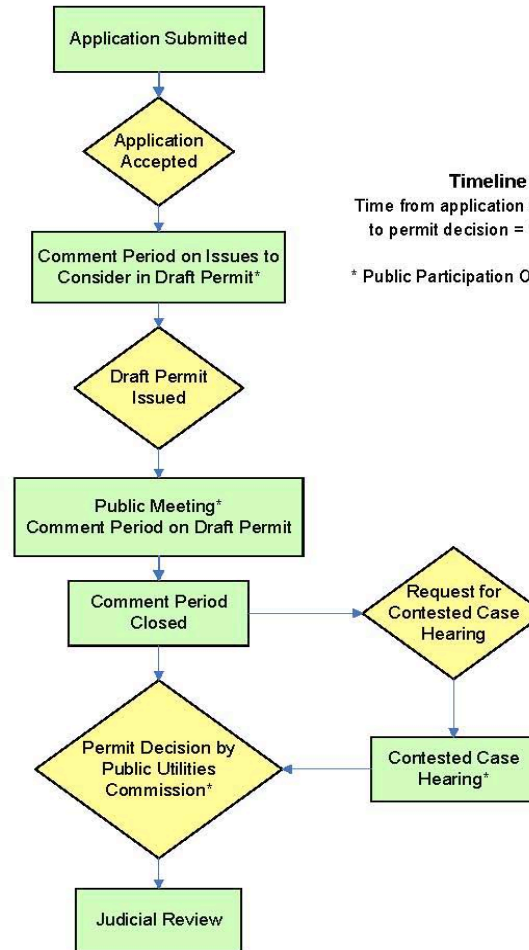
# PUC Permitting Process



## Large Energy Wind Conversion Systems Permitting Process

Minnesota Rules 7854

00  
15  
45  
60  
75  
180



**Timeline**  
Time from application acceptance  
to permit decision = 180 days.  
\* Public Participation Opportunities



# County Delegation (Minnesota Statutes Chapter 216F)

## County Delegation Program Overview

- PUC General permit standards for wind developed
- Standards apply to projects < 25 MW, variance allowed
- Counties may be more restrictive by ordinance
- Technical assistance to counties

## How to Assume Authority

- Adopt standards by ordinance and pass resolution
- Written notice to PUC

## Clarified Project Size Definition

- Established project sized determination procedure
- Applications to counties must include the determination

# LWECS Permitting Requirements

## General Permit Standards

- Minn. Stat. § 216F.08 directed PUC to adopt standards for projects less than 25 MW
- PUC Order, January 11, 2008 (Docket #: 07-1102)
- Establishes minimum standards.
  - Setbacks
  - Size Determination
  - Permittee Responsibilities
  - Studies/Surveys/Plans
  - Reporting
  - Pre-Construction Meeting

# County LWECs Permitting Approach

Amend existing ordinances to:

- Incorporate General Permit Standards
- Adopt more restrictive standards, such as:
  - Larger setbacks
  - Setbacks from additional features
  - Exclusion areas
- Can be different for commercial, non-commercial sized turbines

Current Counties with Delegation:

Lyon	Freeborn
Murray	Lincoln
Stearns	Meeker

# PUC General Permit Setbacks

Issue	PUC General Permit Setback Minimums
Wind Access Buffer (setback from lands not in permittee's control)	3 RD (760 – 985 ft) on east-west axis 5 RD (1280 – 1640 ft) on north-south (RD = rotor diameter = 78 – 100 m)
Homes	500 feet + distance to meet state noise standard.
Noise Standard	750 – 1500 ft typically required to meet state noise standard. (Minnesota Rules Chapter 7030).
Public Roads	250 ft from edge of public road ROW.
Wetlands	No turbines in wetlands and no setback; but Wind Access Buffer setback applies to public lands.

# Additional Standards Include

- Native prairie, biological and archeological surveys.
- Public road permits required and repair construction related damages.
- NPDES storm water permit for construction projects.
- Utility scale, monopole design turbines, not prototypes. Off white or white in color.
- Lighting and safety marking limited to FAA requirements.
- Conditions for crop damage and restoration; drain tile avoidance, repair.
- Preconstruction emergency plan.
- Tower identification and “as-built” GIS data submitted to PUC.
- TV signal strength study (baseline) and preconstruction microwave beam path analysis.
- Decommissioning plan.
- Special Conditions.

# PUC Permit Prevails

PUC's permits preempt local planning and zoning –  
LWECS permit is the only site approval required.

Local governments encouraged to comment during the  
state permitting process – PUC must apply county  
standards for LWECS unless PUC finds good cause  
to not apply those setbacks.

# Docket Records Define Conditions

General Permit Standards Docket

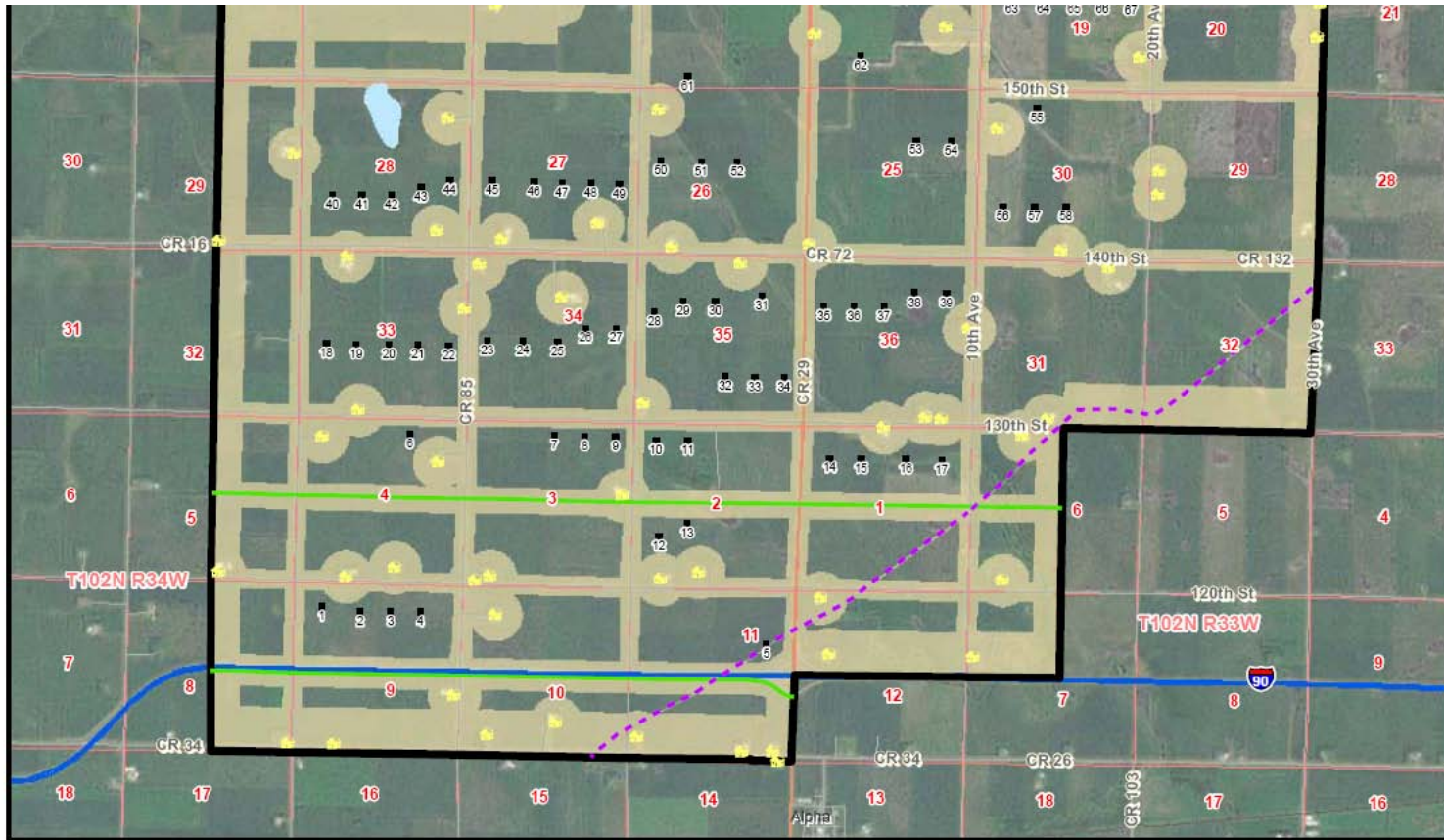
Health Effects Docket

Natural Resource, including Avian and Bat Impacts

Individual Project Dockets

If PUC's state permitting authority is to be used to establish conditions, the record for these conditions must be developed within PUC's process.

# PUC Permits the Box



## Legend

- Preliminary Turbine Location
- Existing Transmission Lines
- - - Existing Gas Pipelines
- ▭ Project Area
- Trimont Wind Substation
- Setbacks
- ★ Homes
- Interstate Highway
- US/State Highway
- County Highway
- Local Roads
- Section Lines

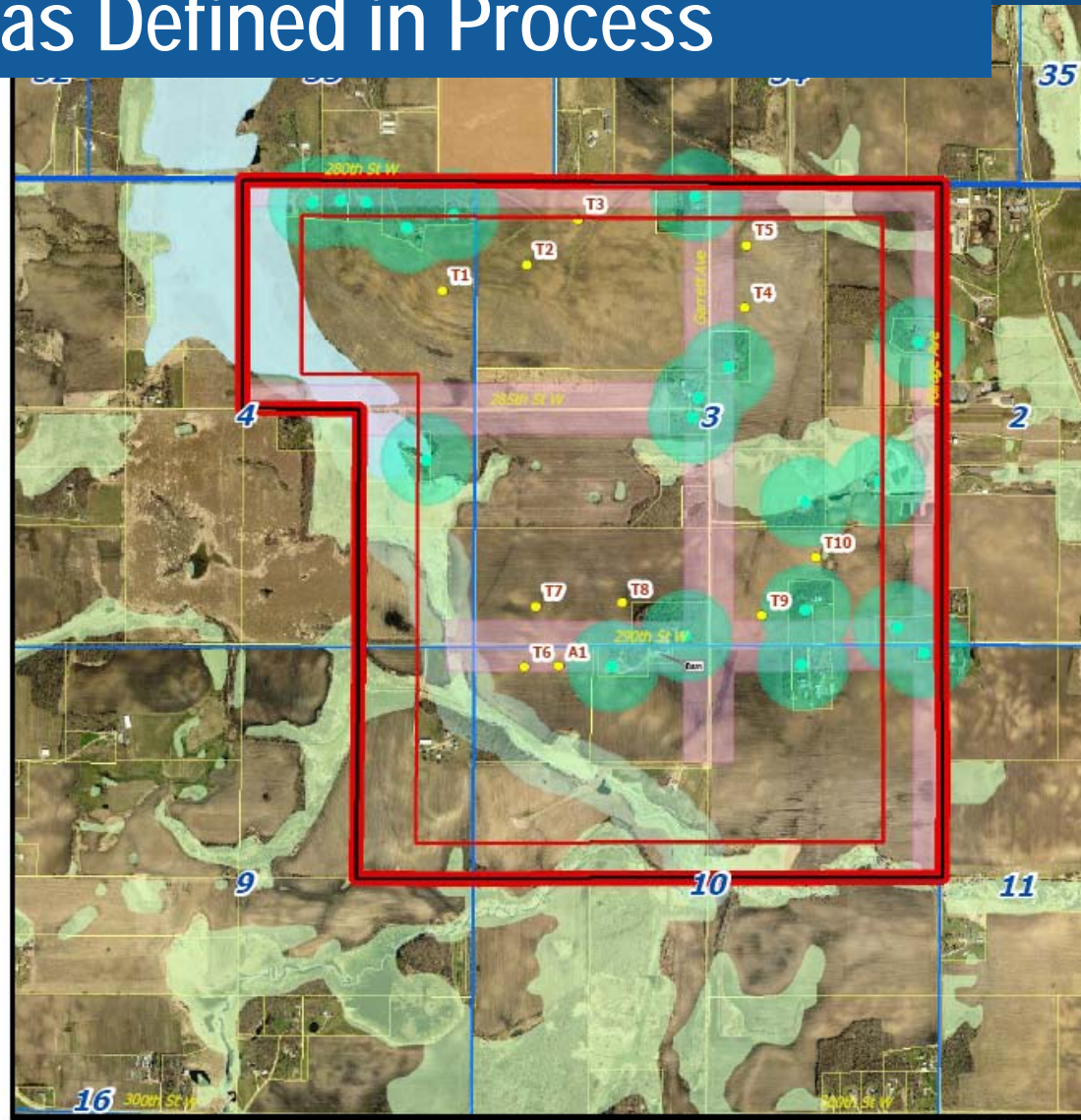


**Figure 1-4**  
**Preliminary Turbine Layout**  
**with Setbacks**  
**Elm Creek II Wind Project**  
**Jackson & Martin**  
**Counties, MN**


Modify Date: 5/18/2009



# Exclusion Areas Defined in Process



**MAP 2**



**Bonestroo**

7/6/2009  
Study Area = 1,265 Acres

**MEDIN RENEWABLE ENERGY LLC  
SPARKS ENERGY, LLC**

**PROJECT SITE MAP  
Greenvale Wind Farm**

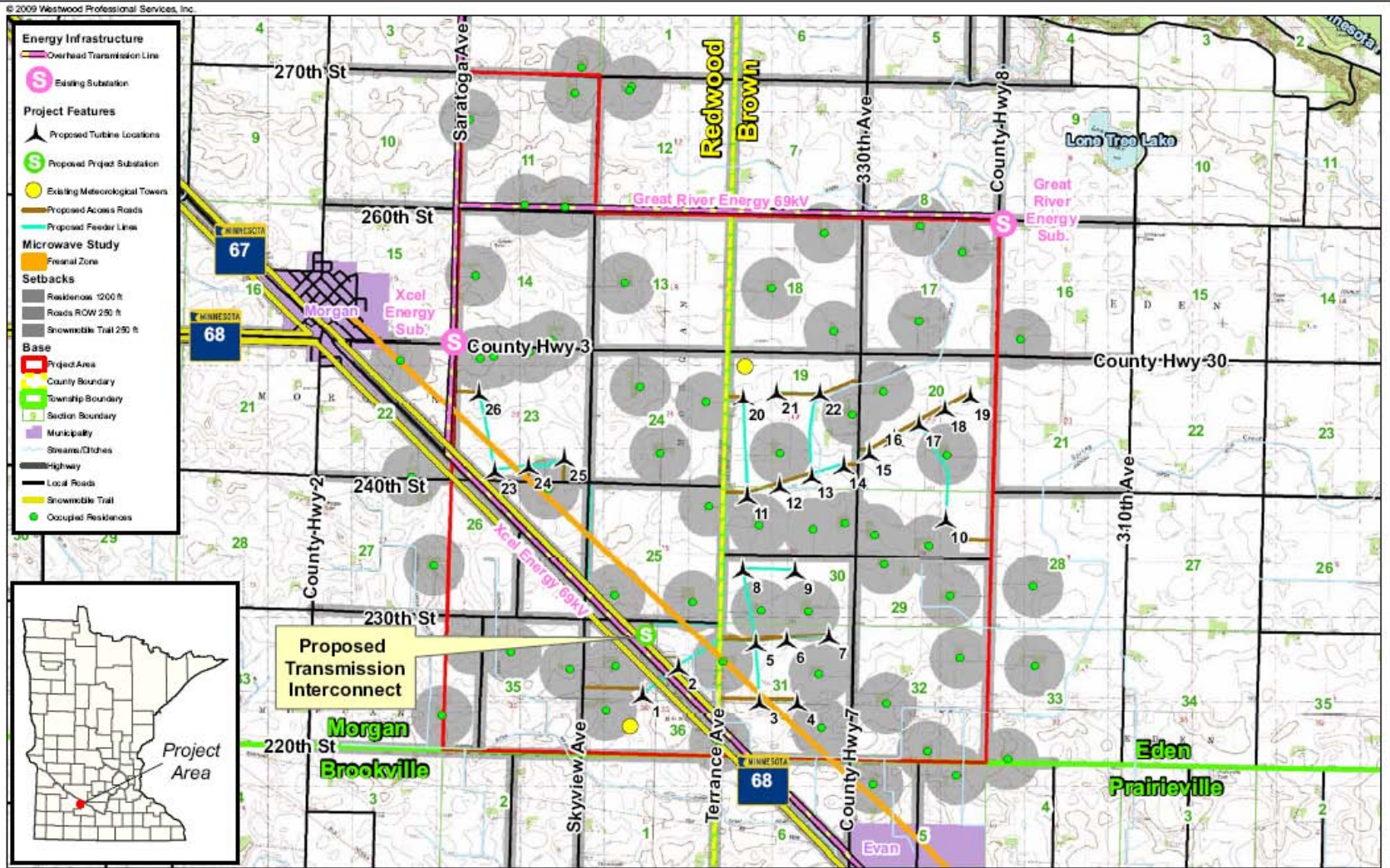
0 750 1,500 3,000  
Feet

Data Provide By: Bonestroo, MNDNR, USGS, Dakota County  
L:\4820\4820090010\GIS\Projects\Map2.mxd

**Legend**

- Turbine Locations
- Home Location
- Study Area
- Study Area Setback
- 500' Home Buffer
- 250' ROW Buffer
- County Boundary
- Township
- Section
- WMA Boundary
- PWA Waterbody
- NW Wetland
- PWA Watercourse
- 300' Chute Creek Buffer

# Details Come Through Compliance



Data Source(s): USDA USGS DRG Mosaic (2000), MN Land Management Information Center (2004), MnDNR, PLSS (1980), MnDOT BaseMap (2004), USGS NHD Water Features, ESRI Political Boundaries (2006), Westwood (2009).

## Morgan Wind Project

Brown and Redwood Counties, Minnesota

Preliminary Site Layout

EXHIBIT A-3



Westwood Professional Services, Inc.  
7699 Anagram Drive  
Eden Prairie, MN 55344

PHONE 952-937-5150  
FAX 952-937-5822  
TOLL FREE 1-888-937-5150

www.westwoodps.com



# Other Permits

## Wetland and Water Impacts

- Section 404 (COE), WCA (SWCD), PWI (DNR)
- License to cross public waters (DNR)

## Turbine Location and Lighting

- Proposed Construction or Alteration (FAA)

## Sediment Control

- NPDES storm water permit for construction projects

## Transportation and Road Permits

- State, County, Township – oversize/overweight, driveway access, utility crossing.

## Other Project Specific Permits

- Additional permitting maybe be required for the interconnection, O&M building, and other project components.

# Local Review of Associated Facilities

## Associated Facilities

- Transmission lines, substations, O&M building

## Local Review for Transmission Lines

- Minn. Stat. § 216E.05, Minn. Rule 7850.5300
  - HVTL between 100 and 200 kV
  - Substations with a voltage designed  $\geq$  100 kV
  - Other facilities
  - Within 10 days of notifying local government, applicant must notify PUC
  - Local government can request PUC to assume jurisdiction within 60 days.
  - Requires Environmental Review with scoping

For Further Information on Minnesota's  
Permitting Process for Large Wind Energy  
Conversion Systems see:

[http://energyfacilities.puc.state.mn.us/  
wind.html](http://energyfacilities.puc.state.mn.us/wind.html)

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