

RESOLUTION NO. 23-2

**Special Use Permit #22-250  
Text Amendment**

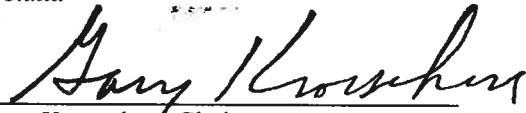
**WHEREAS**, the Marshall County Zoning Board of Appeals held a Public hearing on November 17, 2022 for ZBA #22-250 Text Amendment requested by the Marshall County Zoning Committee to amend the ordinance regarding Wind Energy Conversion Systems (WECS) including requirements for setbacks, design and installation, operation, decommissioning plan, platting requirements, good neighbor provisions and fees.

**WHEREAS**, the Marshall County Zoning Board of Appeals voted 6 Ayes and no nays, to recommend approval of ZBA #22-250 Application for Text Amendment.

**NOW, THEREFORE, BE IT ORDAINED** that the Marshall County Board hereby approves Text Amendment #22-250.

Passed and Adopted at Lacon, Illinois, Marshall County, Illinois on this 12<sup>th</sup> day of January 2023, by a vote of 10 ayes, 0 nays, and 0 abstain.

2 Absent

  
\_\_\_\_\_  
Gary Kroescher, Chairman  
Marshall County Board

ATTEST:  
  
\_\_\_\_\_  
Jill Kenyon, Marshall County Clerk



## ***Marshall County***

*Flood Plain  
Subdivisions  
Plats  
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To: County Board

From: Patrick Sloan  
Zoning Administrator

Date: December 28, 2022

Re: Wind Energy Conversion System (WECS) Text Amendment

At your December 8, 2022, meeting you asked several questions regarding the WECS Text Amendment. Following is my analysis for your consideration for the amendment which has been tabled until your January meeting.

### Repowering

Repowering is the process of putting new generators and blades on the wind turbines. It should be expected for any wind farm. Wind farms have been repowered at around 20 years of age. The Camp Grove Wind Farm will be at this age in 4 to 5 years. Several older wind farms have already been repowered, including in Bureau County. I called their zoning administrator and discussed their experience.

The technology of wind turbines is always developing, and the new equipment will be more efficient. It is likely that the process will result in a higher output from each turbine, which would occur with a larger generator and longer blades.

The Bureau County wind farm appears to have had a typical process – some towers were eliminated; some were reused and some turbines at new locations were installed. Turbines that were eliminated were removed to below ground and the property was returned to farming.

All existing wind farms in Marshall County are lawful special uses and have been properly approved. Our Section 5.4, EXISTING SPECIAL USES EXEMPT, would be applied to a repowering project:

“Where a use exists on the date that this Ordinance becomes effective and is permitted by this Ordinance only on a special use in the district in which it is located, such use shall not be deemed a nonconforming use, but shall, without further action, be deemed a lawful special use in such district. No such lawful

special use shall be substantially expanded unless a supplementary special use permit is secured in accordance with the provisions of this Ordinance.”

If the wind farm is replacing a turbine with the same capacity and length of blades on an existing tower, a new special use permit will not be required. However, if the height, generator size or length of blades is increased a supplemental special use permit will be required. In either case a building permit will be required.

A repowered turbine may not meet setback distances, but they will be able to obtain waivers from adjoining landowners. As a prior use, it is anticipated that the wind farm will have good neighbor relations with the party that will be providing them a waiver. If a supplemental special use permit is required, they will need to provide the parts of the application that have changed from the original submittal and approval. An example is that a new noise study will be required because the equipment and blades will be different, and there may be new receptors (residences). This would be the fairest approach for surrounding landowners and allow them to present evidence and testimony at a supplemental special use permit public hearing.

Setbacks

Both of our existing windfarms have been built to the original setback requirements, namely, 1.0 times the hub height from property lines and 1,000’ from primary structures. In 2019, after the Bennington Wind Farm was approved, we changed the set backs to 1.0 times the tip height, 1,500’ or 3.0 times the tip height, whichever is greater, from primary structures and 2,640’ from a primary structure in an incorporated community or an unincorporated community that has more than three residences.

The proposed text amendment will increase the setbacks to 1.1 times the tip height, 4.0 times the tip height from primary structures and 2,640’ or 5.0 times the tip height, whichever is greater, from a primary structure in an incorporated area. The following table summarizes the height and blade lengths for the turbines at Camp Grove, Bennington and a potential turbine at the wind farm currently under study in the Toluca area between Pattonsburg and Wenona.

	Camp Grove	Bennington	Theoretical
Tip Height	400	499	676
Hub Height	265	291	410
Blade Length	135	208	266
Bottom Clearance	130	83	144
Setbacks:			
When Built	265 1,000	291 1,000	
Current Ordinance	400 1,500	499 1,500	676 2,028
Proposed Ordinance	440 1,600	549 2,000	744 2,704

The attached sketch provides the same information.

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December 28,2022  
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The intent of the proposed ordinance is to encourage cooperation between the wind farm developer, landowners who are leasing property for the wind tower location and surrounding landowners, “non-participating” landowners and residents. The text amendment requires a Good Neighbor agreement be offered to all residents and landowners (within unincorporated areas) within one mile of a turbine. The agreement will be a vehicle for surrounding owners to become “participating”, including providing a waiver for a wind turbine to be built closer to their property or residence than what is specified in the ordinance.

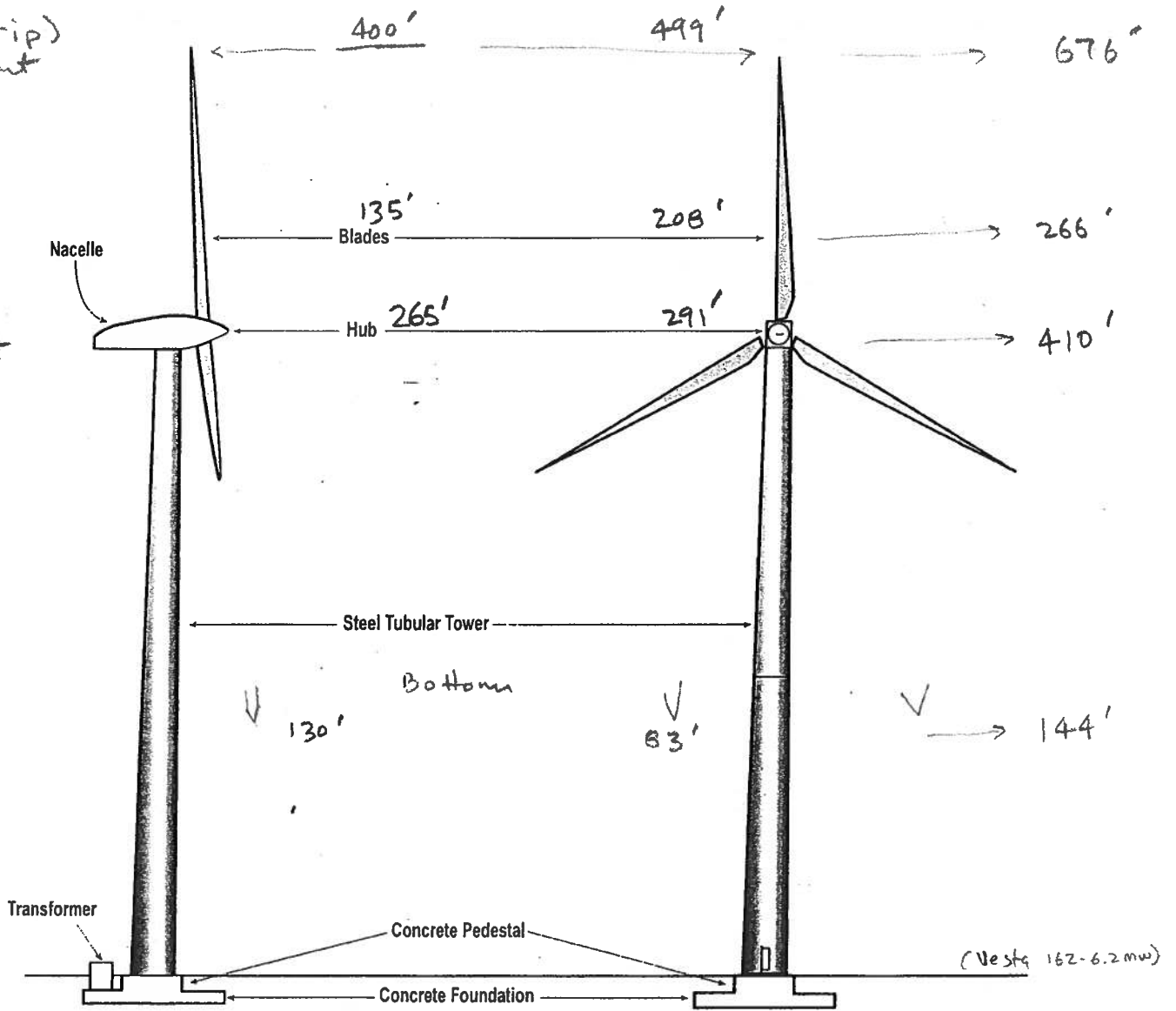
CAMP GROVE

BENNINGTON

THEORETICAL

Total (Tip) Height

Hub Height



Marshall County Ordinance

When Built:

Setback = 265'  
Separation = 1000'

Setback = 291'  
Separation = 1000'

Current:

Setback = 400'  
Separation = 1500'

Setback = 500'  
Separation = 1500'

676'  
2028'

Wind Turbine and Tower

Proposed:

Setback = 440'  
Separation = 1600'

Setback = 550'  
Separation = 2000'

744'  
2,704'