



## DEPARTMENT OF PLANNING AND DEVELOPMENT

### **ZONING TEXT AMENDMENT: Case # ZCR-1044**

#### **Staff Report**

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**Planning Board Hearing: July 13, 2009 6:00pm**

**Board of Commissioners Public Hearing: July 20, 2009 6:00pm**

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**Applicant: Surry County Planning and Development Department**

**Proposed: The Surry County Planning and Development Department requests to amend the Surry County Zoning Ordinance text to incorporate provisions for the permitting of Wind Energy Facilities.**

**Overview of the Request:** The County zoning code does not provide for location or permitting of wind energy systems, which if unregulated may potentially have negative impact on surrounding properties due to noise, 'shadow flicker', and other aesthetic and safety-related factors. Note that no land use may be expressly prohibited by a zoning ordinance; therefore provision should be made for all uses or for all categories of uses.

The proposed amendments would establish wind energy facilities as conditional uses in all zoning districts, with specific conditions attached to address potential noise, safety and visual impact issues.

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**Zoning Code Analysis:** Article 4 of the Surry County zoning code establishes the process for initiating changes and amendments to the Surry County Zoning Code. The proposed text amendments are in compliance with these standards.

Article 16 of the zoning code provides for establishment of conditional uses for specific uses subject to quasi-judicial hearing and granting of the use permit by the Planning Board. The proposed standards for wind energy facilities may appropriately be inserted among the uses listed in this Article; and the use listing may be placed in Article 11. Table of Uses, to designate the use as a conditional use in all .

Article 30 of the zoning code provides definitions of land uses, concepts and terms used throughout the ordinance. Certain terms relating to wind energy facilities and employed in the proposed ordinance language may appropriately be added to the terms defined in this Article.

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**Planning Staff Recommendation:** Planning Staff has initiated this proposal following several months of discussion with the Planning Board, including a designated Planning Board subcommittee convened to study this issue and proposal, and recommends adoption to ensure safe and responsible installation and maintenance of wind energy facilities in the County.

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**Planning Board Recommendation:** The Planning Board heard and considered this proposed revision to the Surry County Zoning Ordinance at its regularly scheduled meeting on July 13, 2009. After a discussion of the proposed changes \_\_\_\_\_ made a motion to recommend (adoption)(denial) of the proposed changes to the Zoning ordinance as submitted; the motion was duly seconded by \_\_\_\_\_ and the motion (passed)(failed) on a vote of \_-\_.

Consistency Principles:

**Land Use Plan 2015:**

- 5.3.1 Seek a balance among the many diverse interests in the County, especially between the economic and environmental concerns.
- 5.3.3 Encourage economic and commercial development that does not detract from the rural environment.
- 5.3.13 Develop a sense of vision for the overall future of the County.
- 5.4.1.1 The County shall encourage new and expanding industries and businesses which 1.) diversify the local economy, 2.) utilize a more highly skilled workforce, and 3.) increase area residents incomes.
- 5.4.1.2. The County shall protect, enhance and encourage a high quality of life that results from greater economic opportunity and preservation of the rural environment.
- 5.4.1.3 The benefits of continued economic development shall be balanced against the possible detrimental effects such development may have on the quality of life enjoyed by area residents.
- 5.4.4.5 Industrial use should be compatible with surrounding land uses and should make an effort to blend harmoniously with the community.
- 5.4.4.10 Industrial growth should not interfere with the residential, commercial, cultural or leisure development of the community.
- 5.4.10.11 Development along mountain ridges shall adhere to the Mountain Ridge Protection Ordinance.

Proposed Adjustments:

1. Amend Article 11 to include the use 'Wind Energy Facilities' as a conditional use in all districts.
2. Add specific conditions for Wind Energy Facilities to Article 16.
3. Add definitions of terms pertaining to Wind Energy Facilities to Article 30.

**AN ORDINANCE TO AMEND  
THE SURRY COUNTY  
ZONING ORDINANCE**

**WHEREAS**, pursuant to N.C Gen. Statute 153A-342, as amended and for the purpose of promoting the health, safety, morals, or general welfare of the inhabitants of the County by lessening congestion in and around the streets; securing safety; preventing the overcrowding of land; avoiding undue congestion; and facilitating the adequate provision of transportation,

**NOW, THEREFORE, BE IT ORDAINED** by the Board of Commissioners of the County of Surry that the Surry County Zoning Ordinance be amended as follows:

- 1. Add Wind Energy Facilities as a Conditional Use in All Districts; apply as a single entry in Article 11. Table of Uses]:**

| Use                    | RA | RE | RR | RL | RG | MR | CP | MHP | VR | RB | CB | HB | MI | Site Standards in Article 11 |
|------------------------|----|----|----|----|----|----|----|-----|----|----|----|----|----|------------------------------|
| Wind Energy Facilities | c  | c  | c  | c  | c  | c  | c  | c   | c  | c  | c  | c  | c  |                              |

- 2. Add the following entry to the specific conditional uses listed in Article 16, Section 8.:**

**Wind Energy Facilities.**

Zoning Districts: All

Compliance with Other County Ordinances

Proposed wind energy facilities and additions of wind turbines to existing wind energy facilities reaching a total height from ground level of forty (40) feet or higher shall be considered as Tall Buildings or Structures as defined in the Surry County Mountain Ridge Protection Ordinance, adopted December 19, 1983, Article V., Section 500, Subsection 501.10; and shall not be construed as any one of the provided exceptions listed in that definition, if such development is proposed to be located on a protected mountain ridge as defined in Subsection 501.06 of that Ordinance.

Additional Site Plan Requirements:

1. Engineer’s certification that the facility as proposed will meet all industry standards for safety and durability.
2. A narrative describing the proposed Wind energy facility, including an overview of the project;
3. The proposed total rated capacity of the Wind energy facility;

4. The proposed number, representative types and height or range of heights of wind turbines to be constructed; including their generating capacity, dimensions and respective manufacturers, and a description of ancillary facilities;
5. Identification and location of the properties on which the proposed Wind energy facility will be located; and of all adjacent properties, including information regarding owners and any leases or other agreements pertaining to the proposed Wind energy facility.
6. A site plan showing the planned location of all wind turbines, property lines, setback lines, access roads and turnout locations, substation(s), electrical cabling from the Wind energy facility to the substation(s), ancillary equipment, building(s), transmission and distribution lines. The site plan must also include the location of all structures and properties, demonstrating compliance of the setbacks; location of all electrical metering points and associated equipment.
7. Certification of compliance with applicable local, state and Federal regulations, such as FAA and FCC regulations.
8. An environmental assessment for large wind energy facilities, which shall be provided for review by the applicant to the Zoning Administrator and to NCDENR. The applicant must also present a certification of distribution of the Environmental Assessment;
8. Other relevant information as may be reasonably requested by Surry County to ensure compliance with the requirements of this Ordinance.
9. Decommissioning plans that describe the anticipated life of the wind power project, the estimated decommissioning costs in current dollars, the method for ensuring that funds will be available for decommissioning and restoration, and the anticipated manner in which the wind power project will be decommissioned and the site restored;
10. Documentation of agreement(s) between Participating Landowner(s) and the Facility Owner/Operator of the Wind energy facility; and
11. Signature of the Applicant.

Throughout the permit process, the Applicant shall promptly notify the Zoning Administrator of any proposed changes to the information contained in the permit application that would alter the impact of the project.

Changes to the approved application that do not materially alter the initial site plan in the estimation of the Zoning Administrator may be adopted administratively. The Zoning Administrator may waive this provision at his/her discretion.

#### Height and Setback Requirements:

Maximum height of a wind energy facility shall be determined by application of the setback standards below.

The following setback requirements shall apply for wind energy facilities, in any proposal where such a setback would exceed the general District requirements of Article 12:

1. Small wind energy systems shall be set back a minimum distance of twice (2x) the wind turbine height as measured from the center of the proposed facility base to all property lines.
2. Large wind energy systems shall be set back a minimum distance of three times (3x) the wind turbine height as measured from the center of the proposed facility base to all property lines.

#### Noise and Shadow Flicker:

This provision shall only apply to large wind energy facilities.

1. Audible sound from a wind energy facility shall not exceed fifty-five (55) dBA, as measured at any property line.
2. Shadow flicker at any building on surrounding property caused by a wind energy facility located within 2,500 ft of the building shall not exceed thirty (30) hours per year.

Installation and Design:

1. The installation and design of the wind energy facility shall conform to applicable industry standards, including those of the American National Standards Institute, and take into consideration local conditions.
2. All structural, electrical and mechanical components of the wind energy facility shall conform to relevant and applicable local, state and national codes.
3. Any on-site collector system shall be placed underground.
4. The visual appearance of wind energy facilities shall at a minimum:
  - a. Be a non-obtrusive color such as white, off-white or gray;
  - b. Not be artificially lighted, except to the extent required by the Federal Aviation Administration or other applicable authority that regulates air safety; and,
  - c. Not display advertising (including flags, streamers or decorative items), except for identification of the turbine manufacturer, facility owner and operator.
5. The blade tip of any wind turbine shall, at its lowest point, have ground clearance of no less than 2/3 the height of the tower to the center of the turbine, or 15 feet, whichever is greater.

Decommissioning:

1. The wind energy facility owner shall have 6 months to complete decommissioning of the Facility if no electricity is generated for a continuous period of 12 months.
2. Decommissioning shall include removal of wind turbines, buildings, cabling, electrical components, roads, and any other associated facilities down to 36 inches below grade.
3. Disturbed earth shall be graded and re-seeded, unless the landowner requests in writing that the access roads or other land surface areas not be restored.

**3. Add the following definitions to Article 30:**

**APPLICANT.** A person or entity filing an application under this Ordinance.

**ENVIRONMENTAL ASSESSMENT.** A detailed examination of the applicant's proposal and its local environmental context with an emphasis on avoiding, minimizing, and mitigating adverse impacts.

**SHADOW FLICKER.** The visible flicker effect caused by wind energy facilities when rotating turbine blades cast shadows on the ground and nearby structures causing the repeating pattern of light and shadow.

**WIND ENERGY FACILITY.** An electric generating facility, whose main purpose is to supply electricity, consisting of one or more Wind Turbines and other accessory structures and buildings, including substations, meteorological towers, electrical infrastructure, transmission lines and other

appurtenant structures & facilities. For the purpose of this ordinance, the term does not apply to roof-mounted or building integrated roof mounting systems.

**WIND ENERGY FACILITY, LARGE.** A wind energy system consisting of one or more wind turbine(s), a tower(s), and associated control or conversion electronics, or which has a total rated capacity of more than 20 kW.

**WIND ENERGY FACILITY, SMALL.** A wind energy facility comprised by a single system designed to supplement other electricity sources as an accessory use to existing buildings or facilities, wherein the power generated is used primarily for on-site consumption. A small wind energy conversion system consists of a single wind turbine, a tower, and associated control or conversion electronics, which has a total rated capacity of 20 kW or less.

**WIND POWER.** The conversion of wind energy into another form of energy.

**WIND TURBINE.** A wind energy conversion system that converts wind energy into electricity through the use of a wind turbine generator, and may include a nacelle, rotor, tower, guy wires and pad transformer.

**WIND TURBINE HEIGHT.** The distance measured from grade at the center of the tower to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation.

This ordinance shall become effective on the date of its adoption.

Adopted this Twentieth day of July, 2009.

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Craig Hunter, Chairman

ATTEST:

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Conchita Atkins, Clerk to the Board