2.10 Wind Turbine Zoning

2.10.1 Purpose

This ordinance provides a framework for siting, construction, and operation of a wind energy facility in the County that will preserve the safety and well being of the residents and facilitate equitable and orderly development.

2.10.2 Regulatory Framework

A wind energy facility may only be constructed in the County if the applicant first obtains a permit and complies with the conditions of this ordinance.

2.10.3 Applicability

The requirements of this ordinance apply to a wind energy facility, or any portion of one, erected in this county after the effective date of this ordinance if the facility contains any wind turbine rated at 100 kilowatts or more nameplate capacity.

2.10.4 Definitions

"adjoining land" is real property that has a different owner than the host property and is either, contiguous to the host property at any point or segment, or is separated from the host property by an intervening fee simple interest that is less than 2RD.

"airstrip" is a takeoff and landing area for fixed wing aircraft, whether publicly or privately owned, that was given an FAA numerical designation sometime before 1 March 2009.

"applicant" is a person who filed an application for a conditional use permit.

"facility owner" means the person(s) having an equity interest in the wind energy facility.

"feeder lines" are power lines between a wind energy facility's collector stations or substations and the region's high voltage transmission lines.

"gross weight" means the weight of a vehicle without a load plus the weight of any load on it.

"host property" is the very lot on which a wind turbine is located. A wind energy facility may contain several host properties. The fact that adjoining properties having various respective owners are covered by related options, leases, or easements to a single facility owner does not cause the various land owners to be a single host property. Each parcel containing a turbine is a host property even if an abutting property belonging to another party contains a turbine belonging to the same facility owner.

"hub height" means the distance measured from the surface of the tower foundation to the height of the axis of the wind turbine hub.

"MET tower" means a meteorological structure used to collect data on wind and or weather conditions.

"occupied structure" is man made shelter in which people either live, meet, conduct business, or gather, in addition it includes but is not limited to a residence, dwelling, apartment house, condominium, residential subdivision platted and recorded under NDCC 11-33.2 its predecessor or successor law, a townsite, addition or subdivision platted and recorded under NDCC 40-50.1 its predecessor or successor law, or residential setting; any structure open to the public for business that regularly conducts business including but not limited to a hotel, motel, campground, mall, school, hospital, church, public library, store, airstrip, manufacturing facility, or sport venue; or other structure that is either legally inhabited, in use or under substantial construction (e.g. surface has been improved in preparation for construction) at the time the permit application is submitted for use as one of the above.

"operator" means the person responsible for the day-to-day operation and maintenance of a wind energy facility. A facility owner may contract with or hire a person to operate it.

"permitee" is the person holding the conditional use permit. Permittee may include the subsidiaries, agents, subcontractors, independent contractors, and employees of the person holding the permit; i.e. for purposes of liability for road damage caused in erection or maintenance.

"person" means an individual, partnership, joint venture, private or public corporation, association, firm, public service company, cooperative, political subdivision, municipal corporation, government agency, public utility district, or any other entity, public or private, however organized.

"public road" means every way or place generally open to vehicle travel, even though it may be temporarily closed or subject to restricted travel due to construction, reconstruction, repair, or maintenance. 57-43.1-01. A section line is a public road. 24-07-03.

"RD" is an abbreviation for "rotor diameter" which is the distance of a line segment that bisects the center of the hub and terminates at the circle that encompasses the tips of each rotor blade that are farthest from the hub. For example, "2RD" means a distance equal to two times the rotor diameter or four times the radius and on a turbine with rotor blades 70 meters (229.6 feet) long (measured from the center of the hub) the rotor diameter will be 140 meters (459.2 feet).

"site" is a contiguous tract or group of parcels for which one operator and/or facility owner or a group acting in concert has option agreements, easements, and/or leases acquired to operate a turbine, wind energy facility or accessory thereto.

"site perimeter" is the outside boundary of the contiguous parcels all having either an option, easement, and/or lease agreement for a wind energy facility accessory to the same facility owner.

"turbine height" means the distance measured from the ground level surface of the tower foundation to the highest point of the turbine rotor plane.

A "wind turbine" [also known herein as turbine] captures kinetic energy from the wind to drive an electrical generator. Its typical components include blades, tower, accelerator platform or nacelle body.

"wind energy facility" means an electric generating facility, the main mechanical or electrical purpose of which is to supply electricity. It consists of one or more wind turbine and other accessory structures and buildings, including substations, meteorological towers, electrical infrastructure, transmission lines and other appurtenant structures and facilities.

2.10.5 County Zoning Administrator

Wind turbine zoning shall be administered by the County Board with supervisory assistance from the County Zoning and Planning Commission, the County Zoning Administrator, and supplemental assistance from other county departments. The Zoning Administrator shall have the following duties.

(A) Conduct preliminary administrative review of each permit application, variance request, and other information as required by this Ordinance and forward recommendations for disposition to County Zoning and Planning Commission or the County Board.

(B) Schedule meetings and hearings that are required by law or by this ordinance, providing notice to the board members, the press, and the party who sought the hearing.

(C) If there is cause to believe work is being done or a condition exists that is contrary to the provisions of this Ordinance, the Zoning Administrator shall in his discretion decide whether to investigate personally or with the assistance of the Sheriff's office and whether to recommend to the County Planning and Zoning Commission that a stop work order be issued. Any stop work order shall be served upon the owner and/or operator in accord with the provisions of Rule 4 of the North Dakota Rules of Civil Procedure, service upon the permittee's named agent for service of process is satisfactory.

(D) Mail notice of authorization to proceed to the owner and/or operator after the County Planning and Zoning Commission has determined that a violation of this Ordinance, for which a stop work order was issued, has been remedied.

(E) Conduct in depth appraisal of applications for conditional use or variances to ensure they satisfy the criteria for the benefit sought.

(F) Mail any permit issued by the Planning and Zoning Commission to the facility owner.

(G) Maintain records and permits as required by this Ordinance. Any records required to be maintained by the State shall be provided by the Zoning Administrator upon request.

(H) Provide open records to requesters concerning this Ordinance in accord with the open

records law.

(I) Inspect wind energy facilities to insure compliance with the standards of this Ordinance. The Zoning Administrator is to rely on the Sheriff's office and its trained investigators for detailed investigations. The Zoning Administrator should consider requesting the Sheriff's assistance if there is cause to believe there is a violation of this ordinance that may require issue of a stop work notice.

2.10.6 Conditional Use Permit Availability by Zone

A wind energy facility or part of one will be conditionally permitted or not permitted based on the generating capacity and land use district as established in the table below

zoning district	not permitted	conditional use permitted
agricultural (A)		yes
rural residential zone (RR)		yes
residential community zone (RC)		yes
commercial zone (C)		yes
industrial zone (I)		yes
recreational/open space zone (R/O)		yes

2.10.7 Conditional Use Permit Application Process

Work may commence to construct a wind energy facility only after a county conditional use permit has been issued by the County Board. This does not preclude wind monitoring, soil testing, or survey work prior to obtaining a permit, however, even prior to applying for or receiving a conditional use permit for a wind energy facility, MET towers must be marked with high visibility balls and flags and painted according to this ordinance.

A permit application must be submitted to the County Zoning Administrator, at the Stutsman County Auditor's office. Each application must be signed by a representative of the prospective permittee who is authorized to contractually bind the person. An application must include the following.

(A) A check or money order for the full amount of permit fees calculated at the rate of $500 per turbine.

(B) The name, business address and phone number of the person in whose name the permit is to be issued and if the authorized agent for service of process is different than the permit holder, the name and North Dakota address of the agent of the person authorized to receive service of process on the person's behalf.

(C) Evidence of the applicant's capacity to contractually bind the person seeking the permit and authority to make binding representations on the person's behalf to municipalities for purposes of zoning, siting, and construction of a wind energy

facility.

(D) A schedule for the proposed start and completion of construction of the facility which includes the applicants proposal for final repairs to public roads.

(E) The applicant shall include in the application information describing the applicant's property rights within the boundaries of the proposed site.

(F) The applicant shall provide a registered professional engineer's report as described below in road protection.

(G) A USGS topographical map of the wind energy facility and 1,320 feet of adjoining land, non-participating land, contiguous with any proposed host property. The following shall be clearly marked on the map:

(1) each existing: wind turbine, wind energy facility fixture, regardless of ownership, accessory structure or building, including substation, meteorological tower, electrical infrastructure, and collector line or transmission line;

(2) each of the applicant's proposed improvements for the wind energy facility or accessory structure or building, including each wind turbine, MET tower, electrical line, and access road;

(3) each occupied structure, improvement, public road, private road, utility line, public facility;

(4) all section lines and any boundaries between abutting parcels, tracts, or lots owned by different parties;

(5) boundaries of any easement for a section line, public road, highway, that is within 5RD of any envisioned or probable wind turbine site;

(6) boundaries of any filed lease, easement, or option for wind energy facilities, whether they benefit the applicant, the applicant's probable operator, or an unrelated party;

(7) the site boundary;

(8) each public or private airstrip with FAA identification number, see http://www.faa.gov/airports_airtraffic/airports/airport_safety/airportdata_5010/;

(9) natural terrain features; and

(10) either noted on the map and/or via a key, the names of the property owners inside the site and of the property owners for adjoining land.

2.10.8 Public Hearing

After receipt of the application, the Zoning Commission will review the application and will hold at least an initial public hearing on the application within 45 days of receiving the application. The Zoning Administrator shall publish notice of the meeting in the official newspaper of the County at least 14 days prior to the hearing.

2.10.9 Deliberation and Decision

If the Zoning Commission finds that the application satisfies the application criteria and is satisfied the prospective permittee will satisfy the conditions in this ordinance, then it shall issue a conditional use permit within 15 days of making that finding. The County Board stands as the Board of Adjustment and Appeals.

2.10.10 Demonstration of Compliance

The Permit issued pursuant to the this ordinance is conditioned on the Permitee's final demonstration of compliance with the requirements of the ordinance following completion of construction of the facility. Within 90 days of facility construction completion, the Permitee shall submit to the Zoning Commission an updated and final USGS topographical map, or survey if available, providing all information pursuant to 2.10.7 and demonstrating actual compliance with the requirements and conditions of the Permit.

2.10.11 Appearance, Lighting, Sound, Agricultural Operations, Roads, and Power Lines

(1) Wind turbines shall be painted a non-reflective coating and in a non-obtrusive color.

(2) Turbines shall not display any advertising.

(3) Each turbine will be marked with an identification number large enough to assist identification of the turbine number in an emergency.

(4) Turbines are to be lighted to the extent advised by the FAA in FAA Advisory Circulars 47 CFR §§ 17.21-17.58 or their successors.

(5) At wind energy facilities, the location and construction of access roads and other infrastructure shall, to the extent reasonably possible, not disrupt farming, agricultural operations, or the landscape. In order to preserve the integrity of fields and capacity for efficient tilling, planting, and harvesting, access roads should be built parallel or perpendicular to existing roads, not diagonally across fields for mere convenience of the shortest route to a turbine.

(6) The Permitee shall promptly replace or repair all fences or gates removed or damaged during all phases of the Wind Energy Facility's life, unless otherwise negotiated with the affected landowner. When the Permitee installs a gate where electric fences are present, the Permitee shall provide for continuity in the electric fence circuit.

(7) The Permitee shall place electrical lines, known as collectors, and communication cables underground when located on private property, unless the Permittee either first obtains a waiver from the private land owner and the Permittee provides clear and convincing evidence to the Planning and Zoning Commission that satisfies the Permittee's heavy burden of proving there are either geographic and/or geologic conditions present that make underground location impossible, impractical or infeasible, in which case a variance would be granted. Similarly, where the Permittee obtains a waiver from the landowner and can show by clear and convincing evidence presented to the Planning and Zoning Commission that the physics of conductivity will cause such a power loss due to transmitting over such a long distance underground, a variance will be granted. Use of the public right of way must be in compliance with the associated governing body's criteria for use. Collectors and cables shall also be placed within or adjacent to the land necessary for wind turbine access roads, unless otherwise negotiated with the affected landowner. Feeder lines are excepted from the requirements in this paragraph.

(8) The Permitee shall place overhead feeder lines on public rights-of-way, if a public right-of-way exists, or the Permitee may place feeder lines on private property. A change of routes may be made as long as the feeder remains on public right of way and

approval has been obtained from the government responsible for the affected right-of-way. When placing a feeder on private property, the Permitee shall place the feeder in accordance with the easement negotiated with the affected landowner.

(9) MET towers 100 feet or more tall must be marked in a way that satisfies FAA advice set out in FAA Advisory Circulars 47 CFR §§ 17.21-17.58 or their successors. http://wireless.fcc.gov/antenna/documentation/faadocs/7460-1K.pdf The drafters of this ordinance understand perfectly well that the FAA only requires painting for towers 200' or taller. Those who erect, maintain, own or operate a MET tower in Stutsman County that is 100 feet or taller must apply the advice, methods and guidance in the FAA circulars to any tower 100 feet or higher. Neither an environmental statement nor assessment is required. In lieu of lighting, using the following combination of balls, flags, and sleeves is allowed.

(a) One high visibility cable ball at least 21" (53cm) in diameter on each outer guy-wire placed at about half the height of the MET tower;

(b) four high visibility flags at least 24" x 12" (78cm x 40cm) on each outer guy-wire placed at intervals that segment the guy wire evenly;

(c) high visibility sleeves, one per each anchor and one installed at 26 feet or (7.93m) height on each of the guy wires.

(10) This ordinance adopts EPA guidelines on noise levels. The guidelines are contained in the EPA publication, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare With an Adequate Margin Of Safety*. Operation of the wind energy facility must not cause any EPA level for activity interference or hearing loss to be exceeded either inside or within 50 feet of an occupied structure.

2.10.12 Setbacks

These setbacks apply to all wind turbines in a wind energy facility.

Setbacks are measured from the vertical or nearly vertical surface of the wind turbine's tower at ground level to the closest near vertical surface of the occupied or unoccupied structure, improvement, or the nearest point of a boundary, bridge, line, or the center line of the improved surface of a road or airstrip.

(1) Each wind turbine must be set back at least 5RD from any **occupied structure**.

(2) Each wind turbine must be set back at least 1.1 times the turbine height from any: public road or bridge; rail line; above ground electrical or communication line. Turbines must be set back at least 1.1 times the turbine height from each antenna, tower, unoccupied structure, or improvement with an estimated value over $25,000. The Planning and Zoning Commission can estimate the value without appraisal, but interested parties may timely submit an appraisal.

(3) Each wind turbine must be set back at least 2RD from the boundary between the host property and any property that adjoins the host property. Public roads are excepted from this 2RD setback requirement but have an applicable setback above.

2.10.12A Variance to Setback
A Variance to a setback related to private property may be granted if the Permitee and the affected party sign a waiver agreement.

The Planning and Zoning Commission may issue a variance from a set back requirement regarding an occupied structure if that structure has not been used as an occupied structure in a year or more prior to submission of the permit application or request for variance. The act of providing this particular example of one reason a variance to a setback can be issued does not limit the Commission to issuing variances for only that reason.

2.10.12B Notice of hearing on application for variance to a setback
It is the obligation of the party seeking the variance to the setback requirement to serve notice of the initial hearing on the application, in accord with the ND Rules of Civil Procedure, to all property owners land located inside the setback area sought to be diminished. Proof of service must be filed with the Zoning Commission prior to the hearing. The Zoning Commission can authorize notice by publication according to the Rules of Civil Procedure.

2.10.12C Waiver of Setback
Where the provisions for variances on wind turbines differs from the general variance provision in section 4.5 of this ordinance, this wind turbine's special provision governs for wind turbine issues.

A permit applicant, permittee, or host property owner may apply for a variance from a setback requirement involving an occupied structure, unoccupied structure, improvement, antenna, tower, road, or bridge.

2.10.12D Contents of setback waiver
The party seeking the variance from the setback must attempt to obtain from the effected property owner and should provide to the Planning and Zoning Commission a waiver executed by each affected owner sought to be removed from the applicable setback protection. The waiver should be for a period of time equal to or greater than the greatest period of time granted to the operator in the lease, easement, option or the greatest combination thereof given by the host property owner.

The setback waiver signed by the effected property owner must contain a notice to the property owner of the setback required by this ordinance, describe how the proposed wind turbine location is not in compliance with the setback, and clearly state that consent is granted for the wind turbine or accessory to be closer to the owner's property than allowed by the ordinance. The waiver must also contain the following notice.

> A wind turbine absorbs energy from a stream of wind. Once the stream of wind passes through the rotors of a turbine, it loses energy, becomes disarrayed, and until the wake is calmed and the stream reinvigorated, is less useful to another

turbine set up down wind from the first. Wind wakes can extend more than 5 rotor diameters down wind from a turbine. So, if your neighbor has a turbine up wind from you and within 5 rotor diameters of your boundary, it will probably be unfeasible for you to place a turbine on your property close to the boundary in the wake of your neighbor's turbine. To protect you from having a neighbor and a power company place a turbine so close to your property that it saps the potency of the wind before it arrives over your land, Stutsman County passed a setback requiring all turbines to be placed at least two rotor diameters (2RD) from any property boundary. You may waive that setback protection. You may want to strike an agreement with a neighbor and a power company that gives you a part of the proceeds of the turbine in exchange for allowing your neighbor to place the turbine less than 2RD from your property. You may wish to charge the neighbor or the power company for your waiver. You probably ought to contact a private attorney before you sign a setback waiver.

2.10.12E Required Dignities of Valid Variance

A setback variance is only valid if granted by duly passed motion of the Planning and Zoning Commission, issued in writing, and signed by either the chairman of the Planning and Zoning Commission or the Zoning Administrator.

2.10.13 Minimum Ground Clearance

The blade tip of any Wind Turbine shall, at its lowest point, have ground clearance of no less than seventy-five (75) feet.

2.10.14 Restoration of Property

Within one hundred and eighty (180) days of termination or abandonment of leases or easements for a wind energy facility in the County, the Permitee shall cause, at its expense, removal of all structures to a depth of three feet below preconstruction grade.

2.10.17 Road Protection

The permittee is responsible for abiding by the State and local overweight load permitting process. See NDCC chapter 39-12 and Stutsman County Highway Department (701) 252-9040. A conditional use permit issued under this ordinance to erect a wind energy facility does not negate a hauler's obligation to obtain an overweight load permit prior to hauling.

Any road damage caused by the permittee, its independent contractor, employee, agent, contractor, or subcontractor shall be promptly repaired at the permittee's expense to current standards set out in the NDDOT's Standard Specifications for Road and Bridge Construction. http://www.dot.nd.gov/dotnet/supplspecs/StandardSpecs.aspx . If it reasonably foreseeable that continued trips will make prompt repair to this standard absurd, then intermediary measures must be taken by the operator , if approved by the political subdivision in charge of the road, to ensure the public road remains passable and useable as has been the tradition in the community. Final repairs to these standards must be made promptly after the completion of the construction of the

wind energy facility.

Engineer's Report

The applicant shall identify, by map, each public road in Stutsman County that the permittee may or will travel on with a gross weight of over 80,000 lbs.

The Applicant will at its own expense, supply to the County both a pre and post-construction/haul inspections. The reports must be approved by a civil engineer registered as a professional engineer under NDCC chapter 43-19.1. The report shall use objectively verifiable, generally accepted means of testing to catalogue the condition of any public road or bridge in Stutsman County that the permittee may or will use to carry, cross, or traverse with a gross weight over 80,000 lbs.

The report will describe the gross weights the permittee anticipates running for certain classes of jobs; a rough estimate of the number of extreme (over 150,000 lbs) gross weight trips; what general damage or wear the engineer expects to see; and what places the engineer expects to see the pavement entirely fail.

Both the pre-haul inspection and the post haul inspection must address the following.

1. Video recording of the haul road(s) from start to finish taken from a vehicle driven at 25 mph.
2. Use straight edge to check for rutting every 0.10 miles.
3. Use still photography with notations re location and length to record breakups and yielding aka alligator aka checkerboard.
4. Record round (steel) and joint alignment (concrete) on major centerline culverts.
5. Record width of traveled way and depth of pavement or gravel every 0.10 miles.

Any damage caused or thought to be exacerbated by the permittee's loads or work that has not been repaired or remedied at the time of the report will be identified and a time line for repairing each will be identified along with an explanation of the repair or replacement proposed.

2.10.15 Transfer of Wind Energy Facility Siting Permit

In the event of a change in ownership or controlling interest in a wind energy facility and the transfer of the Permit, any successors and assigns of the original Permitee must agree to abide by and comply with the requirements and conditions of the Permit for the duration of operation of a wind energy facility permitted in the County, or give notice of intent to not honor it and forfeit the permit and its rights. Within thirty (30) days of such change in ownership or controlling interest of any entity owning a wind energy facility, the Permitee shall notify the County Zoning Administrator aka County Auditor. If the new entity has a different agent for service of process in the state, then the new agent's address and name need to be provided at the same time. A change of ownership that results in either inability, unwillingness, or failure to abide by the conditions of this ordinance can be a basis for revocation of the permit.