

ORDINANCE # _____

AN ORDINANCE ENTITLED,
AN AMENDMENT TO WIND ENERGY SYSTEMS (WES) TO THE BROWN COUNTY
TITLE 4 ZONING ORDINANCES BY REPLACING: CHAPTER 4.36, WIND ENERGY
SYSTEM (WES) WITH THE PROPOSED CHANGES; ALL ADOPTED BY ORDINANCE
_____, AS AMENDED IN TITLE 4 ZONING ORDINANCE OF BROWN COUNTY,
SOUTH DAKOTA.

Purpose and intent:

The Brown County Planning/Zoning Department and the Brown County Planning/Zoning Commission, recommend approval for the following changes to Title 4 Zoning Ordinance to the Board of County Commissioner's for the jurisdictional areas of Brown County Planning/Zoning Department.

BE IT ORDAINED by the Board of County Commissioners of Brown County, South Dakota: that
CHAPTER 4.06 - AG-P District; adopted by Ordinance # _____ on _____, 2025
for Title 4 Zoning Ordinance of Brown County to amend the following portions in **bold font**:

CHAPTER 4.06 AGRICULTURE PRESERVATION DISTRICT (AG-P)

4.0604 Conditional Uses. *After notice and appropriate safeguards, the Zoning Board of Adjustment (BOA) may permit the following as special exceptions/conditional uses in the Agriculture Preservation District (AG-P).*

25. Wind Energy System (WES – Subject to Chapter 4.36).

26. Data Centers (Subject to Chapter 4.38).

BE IT ORDAINED by the Board of County Commissioners of Brown County, South Dakota: that Title 4
Zoning Ordinance of Brown County, adopted by Ordinance # _____ on _____, 2025
be amended as shown in the following Chapter 4.36:

CHAPTER 4.36 WIND ENERGY CONSERVATION SYSTEMS

~~4.3601 Purpose. The purpose of this ordinance is to ensure that the placement, construction and modification of a Wind Energy Conservation System (WECS) facility is consistent with the County's land use policies, to minimize the impact of WECS facilities, to establish a fair and efficient process for review of environmental impacts of such facilities, and to protect the health, safety and welfare of the County's citizens.~~

~~4.3602 Authority and Jurisdiction. South Dakota Codified Law 11-2-2 delegates the responsibility to the Board of County Commissioners of each county to adopt and enforce regulations designed for the purpose of promoting health, safety, and general welfare of the county.~~

4.3603 Federal and State Requirements. All WECS facilities shall meet or exceed standards and regulations of the Federal Aviation Administration and South Dakota State Statutes and any other agency of federal or state government with the authority to regulate WECS facilities.

4.3604 Large LWECS. The requirements of this Ordinance shall apply to all LWECS proposed after the effective date of this Ordinance. LWECS for which a required permit has been properly issued prior to the effective date of this Ordinance shall not be required to meet the requirements of this Ordinance; provided, that any such pre-existing LWECS, which does not provide energy for a continuous period of twelve (12) months, shall meet the requirements of this Ordinance prior to recommencing production of energy. Also, no modification or alteration to an existing LWECS shall be allowed without full compliance with this Ordinance.

A. General Requirements for LWECS

1. Site Clearance. The owner or operator shall disturb or clear the site only to the extent necessary to assure suitable access for construction, safe operation and maintenance of the LWECS.
2. Topsoil Protection. The owner or operator shall implement measures to protect and segregate topsoil from subsoil in cultivated lands unless otherwise negotiated with the affected landowner.
3. Compaction. The owner or operator shall implement measures to minimize compaction of all lands during all phases of the project's life and shall confine compaction to as small an area as practicable.
4. Livestock Protection. The owner or operator shall take precautions to protect livestock during all phases of the project's life.
5. Fences. The owner or operator shall promptly replace or repair all fences and gates removed or damaged during all phases of the project's life unless otherwise negotiated with the fence owner.
6. Color and Finish. Wind Turbines shall be painted a non-reflective color. Blades may be black in order to facilitate de-icing. Finishes shall be matte or non-reflective. At LWECS sites, the design of the buildings and related structures shall, to the extent reasonably possible, use materials, colors, textures, screening and landscaping that will blend the LWECS to the natural setting and existing environment.
7. Exceptions may be made for meteorological towers, where concerns exist relative to aerial spray applicators.
8. Tower configuration. All wind turbines, which are part of a LWECS, shall be installed with a tubular, monopole type tower. Meteorological towers may be guyed.
9. Lighting. LWECS sites shall be marked as required by the Federal Aviation Administration (FAA) and shall not be artificially lighted, except to the extent required by the FAA or other applicable authority. Lighting, including lighting intensity and frequency of strobe, shall adhere to but not exceed requirements established by Federal Aviation Administration permits and regulations. Red strobe lights are preferred for night time illumination to reduce impacts on migrating birds. Red pulsating incandescent lights should be avoided. Exceptions may be made for meteorological towers, where concerns exist relative to aerial spray applicators or infrared heating devices used to protect the monitoring equipment.
10. Signage. All signage on-site shall comply with the signs section of this ordinance. The manufacturers or owner's company name and/or logo may be placed upon the compartment containing the electrical generator, of the WECS. Wind turbines shall not be used for displaying any advertising except for reasonable identification of the manufacturer or operator of the LWECS sites.
11. Feeder Lines. The owner or operator shall place overhead electric lines, known as feeders, on public right of ways if a public right of way exists or immediately adjacent to the public

- right of way on private property. Changes in routes may be made as long as feeders remain on public right of way and approval has been obtained from the governmental unit responsible for the affected right of way. If no public right of way exists, the owner or operator may place feeders on private property. When placing feeders on private property, the owner or operator shall place the feeder in accordance with the easement(s) negotiated. The owner or operator shall submit the site plan and engineering drawings for the feeder lines to the Commission before commencing construction.
12. ~~Waste Disposal.~~ Solid and hazardous wastes, including but not limited to crates, packaging materials, damaged or worn parts, as well as used oils and lubricants, shall be removed from the site in a time period as established by the Brown County Health Department and disposed of in accordance with all applicable local, state and federal regulations.
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 for a LWECS system and twenty five (25) feet for a SWECS system.
14. ~~Signal Interference.~~ The applicant shall not operate the LWECS so as to cause any interference with electromagnetic communications, such as radio, telephone or television signals, or navigation interference contrary to Federal Communications Commission (FCC) regulations or other law. In the event such interference is caused by the LWECS or its operation, the owner or operator shall take the measures necessary to correct the problem.
15. ~~Federal Aviation Administration.~~ All LWECS shall comply with FAA standards and permits.
16. ~~Electrical Codes and Standards.~~ All LWECS and accessory equipment and facilities shall comply with the National Electrical Code and other applicable standards.
17. ~~Setbacks~~
- a) ~~The following setbacks and separation requirements shall apply to all wind turbines and meteorological towers; provided that the Board of Adjustment (BOA) upon recommendation by the Commission may reduce the standard setbacks and separation requirements if the intent of this Ordinance would be better served thereby. All other structures shall comply with the applicable setbacks as defined by the base zone district.~~
- (1) ~~Structures.~~ Each wind turbine and meteorological tower shall be set back from the nearest off-site residence, school, hospital, church or public library, a distance no less than the greater of (a) one point one (1.1) times its total height or (b) one thousand (1,000) feet. Distance from the residence of the landowner on whose property the tower(s) are erected shall be not less than five hundred (500) feet or one point one (1.1) times the system height, whichever is greater. For the purposes of this section only, the term "business" does not include agricultural uses.
- (2) ~~Property Lines.~~ At no time shall any part of the wind turbine and meteorological tower overhang an adjoining property without securing appropriate easements from adjoining property owners. Distance from property line shall be five hundred (500) feet or one point one (1.1) times the system height depending upon which is greater, measured from ground surface to the tip of the blade when in a fully vertical position.
- (3) ~~Public Right of Way.~~ Setbacks from public right of way, railroads, powerlines and structures shall be a minimum of 1.1 times the height of the tower and rotor.
- (4) ~~Communication and Electrical Lines.~~ Each wind turbine and meteorological tower shall be set back from the nearest above-ground public electric power line or telephone line a distance no less than 1.1 times its total height, determined from the existing power line or telephone line.

18. ~~Soil Erosion and Sediment Control Plan.~~ The owner or operator shall develop a Soil Erosion and Sediment Control Plan prior to construction and submit the plan to the County Zoning Office. The Soil Erosion and Sediment Control Plan shall address the erosion control measures for each project phase, and shall at a minimum identify plans for grading, construction and drainage of roads and turbine pads; necessary soil information; detailed design features to maintain downstream water quality; a comprehensive re-vegetation plan that uses native plant species to maintain and ensure adequate erosion control and measures to minimize the area of surface disturbance. Other practices shall include containing excavated material, protecting exposed soil, stabilizing restored material and removal of silt fences or barriers when the area is stabilized. The plan shall identify methods for disposal or storage of excavated material.
19. ~~Noise.~~ Audible noise due to LWECS sites operations shall not exceed fifty-five (55) dBA for any period, when measured at any dwelling, school, hospital, church or public library existing on the date of approval of any conditional use permit from the property line.
- a) ~~In the event the ambient noise level (exclusive of the development in question) exceeds the applicable standard given above, the applicable standard shall be adjusted so as to equal the ambient noise level. The ambient noise level shall be expressed in terms of the highest whole number sound pressure level in dBA, which is succeeded for more than five (5) minutes per hour. Ambient noise levels shall be measured at the exterior of potentially affected existing residences, schools, hospitals, churches and public libraries. Ambient noise level measurement techniques shall employ all practical means of reducing the effect of wind-generated noise at the microphone. Ambient noise level measurements may be performed when wind velocities at the proposed project site are sufficient to allow wind turbine operation; provided that the wind velocity does not exceed thirty (30) mph at the ambient noise measurement location.~~
 - b) ~~In the event the noise levels resulting from the LWECS exceed the criteria listed above, a waiver to said levels may be granted by the Board of Adjustment (BOA) upon recommendation by the Commission provided that the following has been accomplished:~~
 - (1) ~~Written consent from the affected property owners has been obtained stating that they are aware of the LWECS and the noise limitations imposed by this Ordinance, and that consent is granted to allow noise levels to exceed the maximum limits otherwise allowed; and~~
 - (2) ~~If the applicant wishes the waiver to apply to succeeding owners of the property, a permanent noise impact easement shall be recorded in the Office of the Brown County Recorder which describes the burdened properties and which advises all subsequent owners of the burdened property that noise levels in excess of those permitted by this Ordinance may exist on or at the burdened property.~~
20. ~~Turbine Spacing.~~ The turbines shall be spaced no closer than is allowed by the turbine manufacturer in its approval of the turbine array for warranty purposes.
21. ~~Footprint Minimization.~~ The owner or operator shall design and construct the WECS so as to minimize the amount of land that is impacted by the WECS. Associated facilities in the vicinity of turbines such as electrical/electronic boxes, transformers and monitoring systems shall to the greatest extent feasible be mounted on the foundations used for turbine towers or inside the towers unless otherwise mutually agreed upon by the permittee and the landowner on whose property the LWECS is constructed.
22. ~~Permit Expiration.~~ The permit shall become void if no substantial construction has been completed within two (2) years of issuance.
23. ~~Safety.~~

- a) ~~All wiring between wind turbines and the LWECS substation shall be underground. If the developer can demonstrate the need for an overhead line and the acceptance of landowners for this line, such option may be approved conditionally by the Board of Adjustment (BOA)~~
- b) ~~Wind turbines and meteorological towers shall not be climbable up to 15 feet above ground level.~~
- c) ~~All access doors to wind turbines and meteorological towers and electrical equipment shall be locked when not being serviced.~~
- d) ~~Appropriate warning signage shall be placed on Wind Turbine towers, electrical equipment, and LWECS entrances.~~
- e) ~~For all LWECS, the manufacturer's engineer or another qualified engineer shall certify that the turbine, foundation and tower design of the LWECS is within accepted professional standards, given local soil and climate conditions.~~
- f) ~~For all guyed towers, visible and reflective objects, such as plastic sleeves, reflectors or tape, shall be placed on the guy wire anchor points and along the outer and innermost guy wires up to a height of eight (8) feet above the ground. Visible fencing shall be installed around anchor points of guy wires. The property owner must sign a notarized acknowledgement and consent form allowing construction of the turbine and guyed wires without fencing as required in this Ordinance to be presented to the Commission and Board of Adjustment (BOA).~~

B. Discontinuation and De-commissioning.

- 1. ~~Cost Responsibility. The owner or operator of a LWECS is responsible for decommissioning that facility and for all costs associated with decommissioning that facility and associated facilities. The decommissioning plan shall clearly identify the responsible party.~~
- 2. ~~Useful Life. A LWECS is presumed to be at the end of its useful life if the facility generates no electricity for a continuous period of twelve (12) months. The presumption may be rebutted by submitting to the Commission for approval of a plan outlining the steps and schedule for returning the LWECS to service within 12 months of the submission.~~
- 3. ~~Decommissioning Period. The facility owner or operator shall begin decommissioning a LWECS facility within eight (8) months after the time the facility or turbine reaches the end of its useful life, as determined in b.(2). Decommissioning must be completed within eighteen (18) months after the facility or turbine reaches the end of its useful life.~~
- 4. ~~Decommissioning Requirements. Decommissioning and site restoration includes dismantling and removal of all towers, turbine generators, transformers, overhead and underground cables, foundations, buildings and ancillary equipment to a depth of forty two (42) inches; and removal of surface road material and restoration of the roads and turbine sites to substantially the same physical condition that existed immediately before construction of the LWECS. To the extent possible, the site must be restored and reclaimed to the topography and topsoil quality that existed just prior to the beginning of construction of the commercial wind energy conversion facility or wind turbine. Disturbed earth must be graded and reseeded, unless the landowner requests in writing that the access roads or other land surface areas be retained.~~
- 5. ~~Decommissioning Plan. Prior to commencement of operation of a LWECS facility, the facility owner or operator shall file with the Commission the estimated decommissioning cost per turbine, in current dollars at the time of the application, for the proposed facility and a decommissioning plan that describes how the facility owner will ensure that resources are available to pay for decommissioning the facility at the appropriate time. The Commission shall review a plan filed under this section and shall approve or disapprove the plan with six (6) months after the decommissioning plan was filed. The Commission may at any time require the owner or operator of a LWECS to file a report describing how the LWECS owner or operator is fulfilling this obligation.~~

- ~~6. Financial Assurance. After the tenth (10th) year of operation of a LWECS facility, the Commission may require a performance bond, surety bond, letter of credit, corporate guarantee or other form of financial assurance that is acceptable to the Commission to cover the anticipated costs of decommissioning the LWECS facility.~~
- ~~7. Failure to Decommission. If the LWECS facility owner and operator does not complete decommissioning, the Commission may take such action as may be necessary to complete decommissioning, including requiring forfeiture of the bond. The entry into a participating landowner agreement shall constitute agreement and consent of the parties to the agreement, their respective heirs, successors, and assigns, that the Board may take such action as may be necessary to decommission a LWECS facility and seek additional expenditures necessary to do so from the facility owner.~~

~~C. Avoidance and Mitigation of Damages to Public Infrastructure.~~

- ~~1. Roads. Applicants shall identify all roads to be used for the purpose of transporting LWECS, substation parts, cement, and/or equipment for construction, operation or maintenance of the LWECS and obtain applicable weight and size permits from the impacted road authority(ies) prior to construction. Where practical, all weather roads shall be used for all activities associated with the LWECS. For private roads, the owner or operator shall promptly repair private roads or lanes damaged when moving equipment or when obtaining access to the site, unless otherwise negotiated with the affected landowner. Construction of turbine access roads shall be minimized. Access roads shall be low profile roads so that farming equipment can cross them and shall be covered with Class 5 gravel or similar material. Access road shall avoid crossing streams and drainage ways wherever possible. If access roads must be constructed across streams and drainage ways, the access roads shall be designed in a manner so runoff from the upper portions of the watershed can readily flow to the lower portion of the watershed.~~
- ~~2. Existing Road Conditions. Applicant shall conduct a pre-construction survey, in coordination with the impacted local road authority(ies) to determine existing road conditions. The survey shall include photographs and a written agreement to document the condition of the public facility. The applicant is responsible for on-going road maintenance and dust control measures identified by the Brown County Highway Superintendent or Township official during all phases of construction. The owner or operator shall notify the County Zoning Office of such arrangements.~~
- ~~3. Drainage System. The Applicant shall be responsible for immediate repair of damage to public drainage systems stemming from construction, operation or maintenance of the LWECS.~~
- ~~4. Required Financial Security. The applicant shall be responsible for restoring or paying damages as agreed to by the applicable road authority(ies) sufficient to restore the road(s) and bridges to preconstruction conditions. Financial security in a manner approved by the Brown County Attorney's Office shall be submitted covering 130% the costs of all required improvements. This requirement may be waived by the Board of Adjustment (BOA) by recommendation from the Brown County Highway Superintendent.~~

~~D. Submittal Requirements. In addition to the submittal requirements defined for Conditional Use Permit applications, all applications for LWECS must submit the following information (as applicable).~~

- ~~1. The names of project applicant~~
- ~~2. The name of the project owner~~
- ~~3. The legal description and address of the project.~~

- ~~4. A description of the project including: Number, type, name plate generating capacity, tower height, rotor diameter, and total height of all wind turbines and means of interconnecting with the electrical grid.~~
- ~~5. Site layout, including the location of property lines, wind turbines, electrical wires, interconnection points with the electrical grid, and all related accessory structures. The site layout shall include distances and be drawn to scale and an ALTA survey indicating that the proposed facilities are in compliance with the setbacks in the permit.~~
- ~~6. Engineer's certification(s) as required in these supplemental standards.~~
- ~~7. Documentation of land ownership or legal control of the property~~
- ~~8. The latitude and longitude of individual wind turbines.~~
- ~~9. A USGS topographical map, or map with similar data, of the property and surrounding area, including any other LWECS within 10 rotor diameters of the proposed LWECS.~~
- ~~10. Existing Resources Inventory.~~
- ~~11. An Acoustical analysis~~
- ~~12. FAA Permit Application~~
- ~~13. Location of all known communications towers/facilities within two (2) miles of the proposed LWECS.~~
- ~~14. Decommissioning Plan~~
- ~~15. Description of potential impacts on nearby all LWECS and Non LWECS and wind resources on adjacent properties.~~
- ~~16. Identification of significant migratory patterns and nesting areas for birds within two (2) miles.~~

~~4.3605 Small – SWECS. The requirements of this Ordinance shall apply to all SWECS proposed after the effective date of this Ordinance. SWECS for which a required permit has been properly issued prior to the effective date of this Ordinance shall not be required to meet the requirements of this Ordinance; provided, that any such pre-existing SWECS, which does not provide energy for a continuous period of twelve (12) months, shall meet the requirements of this Ordinance prior to recommencing production of energy. Also, no modification or alteration to an existing SWECS shall be allowed without full compliance with this Ordinance.~~

~~A. General Requirements for SWECS~~

- ~~1. Site Clearance. The owner or operator shall disturb or clear the site only to the extent necessary to assure suitable access for construction, safe operation and maintenance of the SWECS.~~
- ~~2. Color and Finish. SWECS shall remain painted or finished the color or finish that was originally applied by the manufacturer, unless approved in the building permit.~~
- ~~3. Lighting. A SWECS shall not be artificially lighted unless such lighting is required by the Federal Aviation Administration (FAA).~~
- ~~4. Signage. All signage on site shall comply with the signs section of this ordinance. All signs, other than the manufacturers or installer's identification, appropriate warning signs, or owner identification on a wind generator, tower, building, or other structure associated with a SWECS visible from any public road shall be prohibited.~~
- ~~5. Access. All ground mounted electrical and control equipment shall be labeled or secured to prevent unauthorized access, and the tower shall be designed and installed so as to not provide step bolts or a ladder readily accessible to the public for a minimum height of eight (8) feet above the ground.~~
- ~~6. Setbacks~~
 - ~~a) The minimum setback distance between each wind turbine tower and all surrounding property lines, overhead utility or transmission lines, other wind turbine towers, electrical substations, public roads and dwellings shall be equal to no less than one point one (1.1) times the system height, unless written permission is granted by each affected person.~~

- ~~7. Noise. SWECS facilities shall not exceed fifty five (55) dBA for any period of time, when measured at any dwelling, school, hospital, church or public library existing on the date of approval of any conditional use permit from the property line. The level, however, may be exceeded during short term events such as utility outages or wind storms, in its approval of the turbine array for warranty purposes.~~
- ~~8. Code Compliance. A SWECS shall comply with all applicable state construction and electrical codes, and the National Electrical Code.~~
- ~~9. Utility Notification. No SWECS shall be installed until evidence has been given that the utility company has been informed of the customer's intent to install an interconnected customer-owned generator. Off-grid systems shall be exempt from this requirement.~~
- ~~10. Permit Expiration. The permit shall become void if no substantial construction has been completed within two (2) years of issuance.~~
- ~~11. Discontinuation and De-commissioning.~~
 - ~~a) Cost Responsibility. The owner or operator of a SWECS is responsible for removing the wind generator from the tower at their sole expense within 3 months of receipt of Notice of Abandonment. If the owner fails to remove the wind generator from the tower, the Commission may pursue legal action to have the wind generator removed at the owner's expense.~~
 - ~~b) Useful Life. A SWECS that is out of service for a continuous 12-month period will be deemed to have been abandoned. The Commission may issue a Notice of Abandonment to the owner of a SWECS that is deemed to have been abandoned. The owner shall have the right to respond to the Notice of Abandonment within thirty (30) days from Notice receipt date. The Commission shall withdraw the Notice of Abandonment and notify the owner that the Notice has been withdrawn if the owner provides information that demonstrates the small wind energy system has not been abandoned.~~
- ~~12. Submittal Requirements. In addition to the submittal requirements defined for Conditional Use Permit applications, all applications for SWECS must submit the following information (as applicable):~~
 - ~~a) The names of project applicant~~
 - ~~b) The name of the project owner~~
 - ~~c) The legal description and address of the project.~~
 - ~~d) A description of the project including: Number, type, name plate generating capacity, tower height, rotor diameter, and total height of all wind turbines and means of interconnecting with the electrical grid.~~
 - ~~e) Site layout, including the location of property lines, wind turbines, electrical wires, interconnection points with the electrical grid, and all related accessory structures. The site layout shall include distances and be drawn to scale and an ALTA survey indicating that the proposed facilities are in compliance with the setbacks in the permit.~~
 - ~~f) Engineer's certification(s) as required in these supplemental standards.~~
 - ~~g) Documentation of land ownership or legal control of the property~~
 - ~~h) Location of all known communications towers/facilities within two (2) miles of the proposed SWECS.~~
- ~~13. Violations. It is unlawful for any person to construct, install, or operate a SWECS that is not in compliance with this ordinance or with any condition contained in a building permit issued pursuant to this ordinance. SWECS facilities installed prior to the adoption of this ordinance are exempt.~~
- ~~14. Severability. The provisions of this ordinance are severable, and the invalidity of any section, subdivision, paragraph, or other part of this ordinance shall not affect the validity or effectiveness of the remainder of the ordinance.~~

4.3601 APPLICABILITY

The requirements of these regulations shall apply to all WES facilities except private non-commercial facilities with a single tower height of less than one-hundred forty (140) feet and used primarily for on-site consumption of power.

4.3602 FEDERAL AND STATE REQUIREMENTS

All WES Facilities shall meet or exceed standards and regulations of the Federal Aviation Administration, South Dakota State Statutes and any other agency of federal or state government with the authority to regulate WES facilities.

4.3603 GENERAL PROVISIONS**1. Mitigation Measures**

- A. Site Clearance. The permittees shall disturb or clear the site only to the extent necessary to assure suitable access for construction, safe operation and maintenance of the WES.
- B. Topsoil Protection. The permittees shall implement measures to protect and segregate topsoil from subsoil in cultivated lands unless otherwise negotiated with the affected landowner.
- C. Compaction. The permittees shall implement measures to minimize compaction of all lands during all phases of the project's life and shall confine compaction to as small an area as practicable.
- D. Livestock Protection. The permittees shall take precautions to protect livestock during all phases of the project's life.
- E. Fences. The permittees shall promptly replace or repair all fences and gates removed or damaged during all phases of the project's life unless otherwise negotiated with the affected landowner.
- F. Roads.
 - i. Public Roads. Prior to commencement of construction, the permittees shall identify all state, county or township "haul roads" that will be used for the WES project and shall notify the state, county or township governing body having jurisdiction over the roads to determine if the haul roads identified are acceptable. The governmental body shall be given adequate time to inspect the haul roads prior to use of these haul roads. Where practical, existing roadways shall be used for all activities associated with the WES. Where practical, all-weather roads shall be used to deliver cement, turbines, towers, assemble nacelles and all other heavy components to and from the turbine sites.

- ii. The permittees shall, prior to the use of approved haul roads, make satisfactory arrangements with the appropriate state, county or township governmental body having jurisdiction over approved haul roads for construction of the WES for the maintenance and repair of the haul roads that will be subject to extra wear and tear due to transportation of equipment and WES components. A haul road agreement in accordance with county standards shall be executed between the applicant and appropriate road authority. The permittees shall notify the County of such arrangements upon request of the County.
- iii. Turbine Access Roads. Construction of turbine access roads shall be minimized. Access roads shall be low profile roads so that farming equipment can cross them and shall be covered with Class 5 gravel or similar material. When access roads are constructed across streams and drainageways, the access roads shall be designed in a manner so runoff from the upper portions of the watershed can readily flow to the lower portion of the watershed.
- iv. Private Roads. The permittees shall promptly repair private roads or lanes damaged when moving equipment or when obtaining access to the site, unless otherwise negotiated with the affected landowner.
- v. Control of Dust. The permittees shall utilize all reasonable measures and practices of construction to control dust.
- vi. Soil Erosion and Sediment control Plan. The permittees shall develop a Soil Erosion and Sediment Control Plan prior to construction and submit the plan to the County. The Soil Erosion and Sediment Control Plan shall address the erosion control measures for each project phase, and shall at a minimum identify plans for grading, construction and drainage of roads and turbine pads; necessary soil information; detailed design features to maintain downstream water quality; a comprehensive revegetation plan to maintain and ensure adequate erosion control and slope stability and to restore the site after temporary project activities; and measures to minimize the area of surface disturbance. Other practices shall include containing excavated material, protecting exposed soil, stabilizing restored material and removal of silt fences or barriers when the area is stabilized. The plan shall identify methods for disposal or storage of excavated material.

2. Setbacks

Wind turbines shall meet the following minimum spacing requirement.

- A. Distance from existing non-participating residences and businesses shall not be less than four times the height of the wind turbine. Distance from existing participating residences, businesses and public buildings shall not be less than fifteen hundred feet. Non-participating property owners shall have the right to waive the respective

setback requirements. For purposes of this section only, the term “business” does not include agricultural uses.

- B. Distance from public right-of-way shall be one hundred ten percent (110%) the height of the wind turbines, measured from the ground surface to the tip of the blade when in a fully vertical position.
 - C. Distance from any property line shall be one hundred ten percent (110%) the height of the wind turbine, measured from the ground surface to the tip of the blade when in a fully vertical position unless wind easement has been obtained from adjoining property owner.
 - D. Distance from any property line shall be ~~3 miles~~ 1.5 miles from any Lake Front Residential District (R-3) parcel.
 - E. Distance from any property line shall be 2 miles from any residence in an unincorporated city and from the city limit line of any incorporated city.
3. Electromagnetic Interference. The permittees shall not operate the WES so as to cause microwave, television, radio, or navigation interference contrary to Federal Communications Commission (FCC) regulations or other law. In the event such interference is caused by the WES or its operation, the permittees shall take the measures necessary to correct the problem.
4. Lighting. Towers shall be marked as required by the Federal Aviation Administration (FAA). There shall be no lights on the towers other than what is required by the FAA. This restriction shall not apply to infrared heating devices used to protect the monitoring equipment. Upon commencement of construction of a Tower, in cases where there are residential uses located within a distance which is three hundred (300) percent of the height of the Tower and when required by federal law, dual mode lighting shall be requested from the FAA. Beacon lighting, unless required by FAA, shall not be utilized.
5. Turbine Spacing. The turbines shall be spaced no closer than is allowed by the turbine manufacturer in its approval of the turbine array for warranty purposes.
6. Footprint Minimization. The permittees shall design and construct the WES so as to minimize the amount of land that is impacted by the WES. Associated facilities in the vicinity of turbines such as electrical/electronic boxes, transformers and monitoring systems shall to the greatest extent feasible be mounted on the foundations used for turbine towers or inside the towers unless otherwise negotiated with the affected landowner.
7. Electrical Cables. The permittees shall place electrical lines, known as collectors, and communication cables underground when located on private property except when total distance of collectors from the substation require an overhead installation due to line loss of current from an underground installation. Collectors and cables shall also be placed within or immediately adjacent to the land necessary for turbine access roads

unless otherwise negotiated with the affected landowner. This paragraph does not apply to feeder lines.

8. Feeder Lines. The permittees may place overhead electric lines, known as feeders, on public rights-of-way if a public right-of-way exists. Changes in routes may be made as long as feeders remain on public rights-of-way and approval has been obtained from the governmental unit responsible for the affected right-of-way. If no public right-of-way exists, the permittees may place feeders on private property. When placing feeders on private property, the permittees shall place the feeder in accordance with the easement negotiated with the affected landowner. The permittees shall submit the site plan and engineering drawings for the feeder lines before commencing construction.
9. Decommissioning/Restoration/Abandonment
 - A. Decommissioning Plan. Within 120 days of completion of construction, the permittees shall submit to the County a decommissioning plan describing the manner in which the permittees anticipate decommissioning the project in accordance with the requirements of paragraph (B) below. The plan shall include a description of the manner in which the permittees will ensure that it has the financial capability to carry out these restoration requirements when they go into effect. The permittees will ensure that it carries out its obligation to provide for the resources necessary to fulfill these requirements. The County may at any time request the permittees to file a report with the County describing how the permittees are fulfilling this obligation. The decommissioning plan shall include the requirement that Permittee post a bond or other adequate security sufficient to pay the entire cost of the decommission process.
 - B. Site Restoration. Upon expiration of this permit, or upon earlier termination of operation of the WES, the permittees shall have the obligation to dismantle and remove from the site all towers, turbine generators, transformers, overhead and underground cables, foundations, buildings and ancillary equipment to a depth of forty-two (42 inches). To the extent possible the permittees shall restore and reclaim the site to its pre-project topography and topsoil quality. All access roads shall be removed unless written approval is given by the affected landowner requesting that one or more roads, or portions thereof, be retained. Any agreement for removal to a lesser depth or for no removal shall be recorded with the County and shall show the locations of all such foundations. All such agreements between the permittees and the affected landowner shall be submitted to the County prior to completion of restoration activities. The site shall be restored in accordance with the requirements of this condition within eighteen months after expiration.
10. Abandoned Turbines. The permittees shall advise the County of any turbines that are abandoned prior to termination of operation of the WES. The County may require the permittees to decommission any abandoned turbine.

11. Height from Ground Surface. The minimum height of blade tips, measured from ground surface when a blade is in fully vertical position, shall be twenty-five (25) feet.
 12. Towers.
 - A. Color and Finish. The finish of the exterior surface shall be non-reflective and non-glass.
 - B. All towers shall be singular tubular design, except for those towers identified in Section 4.3601.
 13. Noise and Shadow Flicker.
 - A. Noise level for non-participating residences shall not exceed 45 DBA, average A-Weighted Sound pressure. The noise level is to be measured at the perimeter of existing non-participating residences.
 - B. Limit for allowable shadow flicker at existing residences to no more than 30 hours annually.
 14. Permit Expiration. The permit shall become void if no substantial construction has been completed within three (3) years of issuance. Overall project Wind Energy System (WES) permit may be extended in the zoning office for one (1) additional year if renewed before expiration date. Individual tower permits are good for two (2) years from issue date and may also be extended for one (1) year if renewed before the expiration date.
 15. Required Information for Permit.
 - A. Boundaries of the site proposed for WES and associated facilities on United States Geological Survey Map or other maps as appropriate.
 - B. Map of easements for WES.
 - C. Copy of easement agreements with landowners.
 - D. Map of occupied residential structures, businesses and public buildings.
 - E. Map of sites for WES, access roads and utility lines.
 - F. Proof of utility right-of-way easement for access to transmission lines.
 - G. Location of other WES in general area.
 - H. Project schedule.
-