Huron County Master Plan Amendment
Agricultural Preservation & Alternative Energy Resource/Wind Energy Planning

Recommended by: Huron County Planning Commission on July 6, 2005
Adopted by: Huron County Board of Commissioners on July 12, 2005

Agriculture: Huron County is recognized for agriculture. There are nearly 1200 farms and almost 430,000 acres of land devoted to farming in Huron County. The average size farm consists of 358 acres and 100 or more farms consist of 1,000 acres or more.

Alternative Energy Resources -Wind Energy Conversion Facilities (WECF): There are some areas of Huron County which by virtue of strong prevailing winds and the absence of extensive development [due to extensive farming activity] are ideally suited for large scale development of wind energy conversions systems [WECF's].

Agricultural land supports the largest industry in Huron County and, as such, it should be protected from encroachment from non-agricultural uses. A unique opportunity is emerging in Huron County due to the desire to preserve prime farmland and need for alternative energy resources. There is a collaborative goal to indelibly preserve prime farmland and, at the same time, establish a manageable alternative-energy land use policy in Huron County. This goal is to encourage farmland preservation as well as identify locations appropriate for alternative energy resource facilities [i.e., wind energy conversion facilities]. Accordingly, a zoning overlay strategy is proposed, which will identify specific areas of the county where commercial wind turbines (wind farms) can be located and other alternative energy resources developed.

The Huron County Master Plan provides the following statement for developing an Alternative Energy Resources Policy.

Supporting Attributes:

There are physical attributes that support the development of Alternative Energy Resources. That is, these are the areas in the county that can best support this land use notwithstanding the limitations discussed on the next page.

1. Wind Availability: The Department of Energy's Wind Program and the National Renewable Energy Laboratory (NREL) recently published a new wind resource map for the state of Michigan. This resource map shows wind speed estimates at 50 meters above the ground and depicts the resource that could be used for utility-scale wind development. As a renewable resource, wind is classified according to wind power classes, which are based on typical wind speeds. These classes range from class 1 (the lowest) the class 7 (the highest). In general, wind power class 4 or higher can be useful for generating wind power with large turbines. Class 4 and above are considered good resources. The map indicates that a large area of Class 3 resource is located in Huron and Sanilac Counties, in the upper thumb of Michigan. Given the advances in wind energy technology, Huron County may have a number of locations in Class 3 areas suitable for utility-scale wind development (electrical generation).

2. Prime Agricultural Areas: The existing land use map identifies areas of the County known for agricultural use. A revised map should be developed that refines the selection of sites for those "prime" for preservation. This is an attribute supporting wind turbines and other alternate energy resource development because these areas are more isolated from non-farm uses which, in turn, may increase the financial viability of holding larger tracts of agricultural land. These areas are found throughout a large portion of the county's heartland. To a great extent, these areas have minimal non-agricultural land use patterns and, as such, should be preserved as "prime agricultural" areas.

The supporting factors affect certain parcels to a greater extent than others and some factors have more impact than others. It is the intent of the Agricultural Preservation/Alternate Energy Resource Overlay strategy to take advantage of the existing land use patterns (agriculture), preserving it into the future and

encouraging complimentary alternative energy resource development. (Discouraging non-agricultural uses)

Limiting Factors:

Several factors have been identified that clarify the Agricultural Preservation/Alternate Energy Resource Overlay strategy. These factors assist in establishing "overlay" sites, with potential sites limited by the following impacting conditions:

1. Tree Cover Areas: Areas of extensive tree cover are less suited to development of alternative energy resources (WECF's) because, generally, these areas have less open areas with less wind volume. Encouraging wind turbine development in heavily treed areas may also precipitate removal of existing vegetation to increase the efficiency of the generators. These areas are less suited for agricultural use and, assuming the soil conditions support development, more suitable for residential or other non-agricultural land use.

2. Wetland Areas: Wetland areas are considered environmentally sensitive, and generally speaking, very limited development is planned for these areas.

3. Shoreline Areas: Huron County has 93 miles of Lake Huron shoreline. According to the current (existing) land use map this shoreline area is developed (or proposed) for residential and resort use. As a result, the shoreline area is generally excluded when considering sites for alternative energy resource development.

4. Proximity to Airports: According to information from the Federal Aviation Administration, any tall structure (greater than 200 feet in height) requires FAA approval. Further, towers less than 300 feet above ground level located closer than four nautical miles from an airport are considered an obstruction to air navigation and may require, on a case-by-case basis, "obstruction lighting". Obstruction lighting techniques need to be reviewed when located near residential areas due to it negative impact. Therefore, areas within 4 nautical miles of an airport are considered a limitation.

These limitations affect certain parcels to a greater extent than others; likewise, some of these factors are more limiting than others.

Agricultural Preservation/Alternative Energy Resource Overlay Zones

A review of the ***attributes*** and ***limitations*** can be used to identify possible "overlay" areas. The areas which exhibit "attributes" have potential as "agricultural preservation/alternative energy overlay" areas. Non-agricultural development (non-farm dwellings, resort development, airports, nearby villages, etc.) and natural features (such as wetlands & heavily forested areas) are factors that limit development of alternative energy resources.

An overlay zoning approach to accommodate the development of alternative energy resources is a planning tool aimed at limiting growth within a designated area. At the same time, the goal is to develop a technique to preserve agricultural land.

To the greatest extent possible, zoning standards for developing alternative energy resources should be based on industry norms and standards.

Development of alternative energy resources, including biomass digesters and similar facilities, should be directed to areas within this overlay zone.

Recommended by: Huron County Planning Commission on July 20, 2005
Adopted by: Huron County Board of Commissioners on July 26, 2005
effective date: November 4, 2005

Article X.
Huron County Wind Energy Conversion Facility Overlay Zoning Ordinance

Article X, Section 1. Purpose and Intent

The purpose of this Article is to provide a regulatory scheme for the designation of properties suitable for the location, construction and operation of Wind Energy Conversion Facilities [Wind Energy Facilities] in Huron County, to protect the health, welfare, safety, and quality of life of the general public, and to ensure compatible land uses in the vicinity of the areas affected by wind energy facilities. A Wind Energy Facility Overlay District shall be considered a map amendment, wherein lands so classified shall become pre-qualified for a Wind Energy Facility with construction of such facility approved pursuant to Section 5 Wind Energy Facility Site Plan Review, of this Article. It is further recognized that a Wind Energy Facility Overlay District is intended as an agricultural preservation measure.

Article X, Section 2. Definitions

As used in this Article, the following terms shall have the meaning indicated:

Board of Commissioners shall mean the Huron County Board of Commissioners.

Commission shall mean the Huron County Planning Commission.

County (Township) shall mean the County of Huron.

FAA shall mean the Federal Aviation Administration.

Hub Height shall mean, when referring to a Wind Turbine, the distance measured from ground level to the center of the turbine hub.

MET Tower shall mean a meteorological tower used for the measurement of wind speed.

Michigan Tall Structure Act (Act 259 of 1959) shall govern the height of structures in proximity to airport related uses and is included as a standard in this Article by reference.

Wind Energy Conversion Facility (WECF) or Wind Energy Facility shall mean an electricity generating facility consisting of one or more wind turbines under common ownership or operation control, and includes substations, MET Towers, cables/wires and other buildings accessory to such facility, whose main purpose is to supply electricity to off-site customers(s). It includes substations, MET towers, cables and wires and other buildings accessory to such facility.

Wind Energy Facility Site Permit is a permit issued upon compliance with standards of this Article.

Wind Energy Facility Site Plan Review is the process used to review a proposed Wind energy Facility.

Wind Energy Overlay Districts are districts created by the Huron County Board of Commissioners, upon receiving a recommendation of the Planning Commission, by identifying specific areas within the Agricultural District best situated for development of wind energy facilities and adopting specific provisions that apply in that area in addition to other provisions of the zoning ordinance.

Wind Turbine shall mean a wind energy conversion system which converts wind energy into electricity through the use of a wind turbine generator, and includes the turbine, blade, tower, base and pad transformer, if any; provided that such a system shall only be a wind turbine for purposes of this Article if it both has a total height greater than 100 feet and nameplate capacity of greater than 100 kilowatts.

Article X, Section 3. Regulatory Framework

3.1 Zoning

A Wind Energy Facility may be constructed on land that is zoned Agricultural and within an area designated as a Wind Energy Facility Overlay District on the official zoning map for the County, subject to provisions and standards of Section 5 Wind Energy Facility Site Plan Review of this Article.

3.2 Principal or Accessory Use

A Wind Energy Facility and related accessory uses may be considered either principal or accessory uses. A different existing use or an existing structure on the same parcel shall not preclude the installation of a Wind Energy Facility or a part of such facility on such parcel. Wind Energy Facilities that are constructed and installed in accordance with the provisions of this Article shall not be deemed to constitute the expansion of a nonconforming use or structure. Wind Energy Facilities shall be reviewed and approved pursuant to Section 5 of this Article.

After designation as a Wind Energy Overlay District, new structures and uses within the "overlay" area shall be limited to those uses identified within Article IV. Agricultural District and wind energy facilities, subject to any additional standards of this Article.

Article X, Section 4. 0 Applicability

A. Large-Scale Wind Energy Conversion Facility: a wind energy conversion system which has a total height of more than 100 feet and a rated capacity of more than 100 kW. Large -scale wind energy facilities shall be permitted in Agricultural Districts with a Wind Energy Facilities Overlay District classification. Wind Energy Facility Site Plan Review standards shall be used when reviewing a large-scale wind energy facility.

B. Small-Scale Wind Energy Conversion Facility: Wind turbine generators 100 feet or less in height or 100 kW or less of rated capacity and MET towers shall be permitted land use in Agricultural Districts where parcel size is one (1) acre or larger, subject to standards of Article XV., Special Approval Uses in the Agricultural District.

Article X., Section 5.0 Wind Energy Facilities Site Plan Review procedure

The following process shall be utilized when reviewing a Large-Scale Wind Energy Conversion Facility:

Within an Agricultural District, a Wind Energy Facility Overlay District shall be created based on "attributes" and "limitations" identified in the Huron County MasterPlan. A "Wind Energy Overlay District" classification is a prerequisite to developing a Large-Scale Wind Energy Facility. It is the intent of this "overlay district" to identify agricultural land eligible for commercial, large-scale wind energy conversion facilities and, at the same time, provide for maximizing and preserving agricultural activity.

5.1 Site Plan Review Required. Wind Energy Conversion Facilities shall not be located, constructed, erected, altered, or used without first obtaining a Wind Energy Facilities Permit pursuant to this Article. The Wind Energy Facilities Site Plan must be reviewed and approved by the Huron County Planning Commission pursuant to standards contained herein. A site plan which does not fully comply with the standards of this Article shall be submitted to the Board of Commissioners for further review and possible approval. Modifications of development standards shall be based on a recommendation by the Planning Commission that said modification is in the best interest of the County and the applicant. Where modification of a standard is requested, the Board of Commissioners shall hold a public hearing prior to consideration of a modified site plan. An applicant proposing a Wind Energy Facility must submit the following site plan materials:

1. Survey of the property showing existing features such as contours, large trees, buildings, structures, roads (rights-of-way), utility easements, land use, zoning district, ownership of property, and vehicular access;

2. Plan(s) showing the location of proposed turbine towers, underground and overhead wiring (including depth underground wiring), access roads (including width), substations and accessory structures;

3. A description of the routes to be used by construction and delivery vehicles and of any road improvements that will be necessary in the County to accommodate construction vehicles, equipment or other deliveries, and an agreement or bond which guarantees the repair of damage to public roads and other areas caused by construction of the Wind Energy Facility;

4. Engineering data concerning construction of the tower and its base or foundation, which must be engineered and constructed in such a manner that upon removal of said tower, the soil will be restored to its original condition to a depth of 3 feet;

5. Anticipated construction schedule; and
6. Description of operations, including anticipated regular and unscheduled maintenance.

5.2 Application Fee: An applicant for a Wind Energy Facility shall remit an application fee to the County in the amount specified in the fee schedule adopted by resolution of the Huron County Board of Commissioners. This schedule shall be based on the cost to the county of the review which may be adjusted from time to time.

5.3 - Application Material. The following shall be included and/or be utilized as standards when preparing, submitting and reviewing an application for a Wind Energy Facility. A site plan which differs from these standards can be approved only upon the review of the Planning Commission and approval of the Board of Commissioners that the modification is in the best interest of the County and applicant.

A. Avian Analysis. The applicant shall submit an avian study to assess the potential impact of proposed Wind Energy Facilities upon bird and bat species. The avian study shall at a minimum report on a literature survey for threatened and endangered species, and any information on critical flyways. The applicant must identify any plans for post-construction monitoring or studies. The analysis should also include an explanation of potential impacts and propose a mitigation plan, if necessary.

B. Visual Appearance; Lighting; Powerlines. The applicant shall use measures to reduce the visual impact of wind turbines to the extent possible, utilizing the following:

1) Wind turbines shall be mounted on tubular towers, painted a non-reflective, non-obtrusive color. The appearance of turbines, towers and buildings shall be maintained throughout the life of the wind energy facility pursuant to industry standards (i.e., condition of exterior paint, signs, landscaping, etc). A certified registered engineer and authorized factory representative shall certify that the construction and installation of the wind energy conversion system meets or exceeds the manufacturer's construction and installation standards.

2) The design of the Wind Energy Facility's buildings and related structures shall, to the extent reasonably possible, use materials, colors, textures, screening and landscaping that will blend facility components with the natural setting and then existing environment.

3) Wind Energy Facilities shall not be artificially lighted, except to the extent required by the FAA or other applicable authority, or otherwise necessary for the reasonable safety and security thereof.

4) Wind turbines shall not be used for displaying any advertising except for reasonable identification of the manufacturer or operator of the Wind Energy Facility.

5) The electrical collection system shall be placed underground within the interior of each parcel at a depth designed to accommodate the existing agricultural land use to the maximum extent practicable. The collection system may be placed overhead adjacent to County roadways, near substations or points of interconnection to the electric grid or in other areas as necessary.

C. Setbacks, Separation and Security. The following setbacks and separation requirements shall apply to all wind turbines within a Wind Energy Facility; provided, however, that pursuant to Section 5.1 of this Article a reduction to the standard setbacks and separation requirements may be permitted if the intent of this Article would be better served thereby.

1) Inhabited structures: Each wind turbine shall be set back from the nearest residence, school, hospital, church or public library, a distance no less than the greater of (a) two [2] times its Hub Height or (b) one thousand [1000] feet. A lesser setback may be approved pursuant to Section 5.1 of this Article if the intent of this Article would be better served thereby. A reduced setback shall be considered only with written approval from the owner of the inhabited structure. Where a Wind Energy Facility is located in the vicinity of a city or village, a setback of 1000 feet from the city/village limits shall be required.

2) Property line setbacks: Excepting locations of public roads (see below), drain rights-of-way and parcels with inhabited structures, wind turbines shall not be subject to a property line setback. Along the border of the Wind Energy Facility Overlay District, there shall be a setback distance equal to two (2) times the Hub Height of the wind turbine. Wind turbines and access roads shall be located so as to minimize the disruption to agricultural activity and, therefore, the location of towers and access routes is encouraged along internal property lines. Where a turbine

location is proposed nearer to an internal property line than one and one-half (1.5) times the Hub Height of the wind turbine, an easement shall be established on the abutting parcel(s).

3) Public Roads: Each wind turbine shall be set back from the nearest public road a distance no less than 400 feet or 1.5 times its Hub Height, whichever is greater, determined at the nearest boundary of the underlying right-of-way for such public road.
4) Communication and electrical lines: Each wind turbine shall be set back from the nearest above-ground public electric power line or telephone line a distance no less than 400 feet or 1.5 times its Hub Height, whichever is greater, determined from the existing power line or telephone line.

5) Tower separation: Turbine/tower separation shall be based on 1) industry standards, 2) manufacturer recommendation, and 3) the characteristics [prevailing wind, topography, etc.] of the particular site location. At a minimum, there shall be a separation between towers of not less than 3 times the turbine (rotor) diameter; and, the Wind Energy Facility shall be designed to minimize disruption to farmland activity. Documents shall be submitted by the developer/manufacturer confirming specifications for turbine/tower separation.

6) Following the completion of construction, the applicant shall certify that all construction is completed pursuant to the Wind Energy Site Permit and, in addition, that appropriate security will be in place to restrict unauthorized access to Wind Energy Facilities.

D. Wind Turbine/Tower Height (Total Height): The total height of a wind turbine shall be the distance to the center of the hub of the wind turbine plus the distance to the tip of the turbine blade at its height point. Generally, the Hub Height shall be limited to 275 feet from existing grade unless modification of this maximum height is approved pursuant to Section 5.1 of this Article. The applicant shall demonstrate compliance with the Michigan Tall Structure Act (Act 259 of 1959, as amended) and FAA guidelines as part of the approval process.

E. Noise

1) Audible noise or the sound pressure level from the operation of the Wind Energy Facility shall not exceed fifty (50) dBA, or the ambient sound pressure level plus five (5) dBA, whichever is greater, for more than ten percent (10%) of any hour, measured at any residence, school, hospital, church or public library existing on the date of approval of any Wind Energy Facility Site Permit. The applicant shall be able to provide sound pressure level measurements from a reasonable number of sampled locations at the perimeter and in the interior of the Wind Energy Facility to demonstrate compliance with this standard.

2) In the event audible noise from the operation of the Wind Energy Facility contains a steady pure tone, the standards for audible noise set forth in subparagraph a) of this subsection shall be reduced by five (5) dBA. A pure tone is defined to exist if the one-third (1/3) octave band sound pressure level in the band, including the tone, exceeds the arithmetic average of the sound pressure levels of the two (2) contiguous one-third (1/3) octave bands by five (5) dBA for center frequencies of five hundred (500) Hz and above, by eight (8) dBA for center frequencies between one hundred and sixty (160) Hz and four hundred (400) Hz, or by fifteen (15) dBA for center frequencies less than or equal to one hundred and twenty-five (125) Hz.

3) The ambient noise level shall be expressed in terms of the highest whole number sound pressure level in dBA, which is exceeded for more than five (5) minutes per hour. Ambient noise levels shall be measured at a building's 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 operations, provided that the wind velocity does not exceed thirty (30) mph at the ambient noise measurement location.

4) Any noise level falling between two whole decibels shall be the lower of the two.

5) In the event the noise levels resulting from the Wind Energy Facility exceed the criteria listed above, a waiver to said levels may be approved provided that the following has been accomplished:

a. Written consent from the affected property owner(s) has been obtained stating that they are aware of the Wind Energy Facility and the noise limitations imposed by this Article, and that consent is granted to allow noise levels to exceed the maximum limits otherwise allowed; and

b. If the applicant wishes the waiver to apply to succeeding owners of the property, a permanent noise impact easement must recorded in the Huron County Register of Deeds office which describes the benefitted and burdened properties and which advises all subsequent owners of the burdened property that noise levels in excess of those otherwise permitted by the ordinance may exist on or at the burdened property.

G. Minimum Ground Clearance

The blade tip of any Wind Turbine shall, at its lowest point, have ground clearance of not less than seventy-five (75) feet.

H. Signal Interference

No Large-Scale Wind Energy Facility shall be installed in any location where its proximity with existing fixed broadcast, retransmission, or reception antennas for radio, television, or wireless phone or other personal communication systems would produce electromagnetic interference with signal transmission or reception. No Large-Scale Wind Energy Facility shall be installed in any location along the major axis of an existing microwave communications link where its operation is likely to produce electromagnetic interference in the link's operation.

I. Safety

1) All collection system wiring shall comply with all applicable safety and stray voltage standards.

2) Wind Turbine towers shall not be climbable on the exterior.

3) All access doors to wind turbine towers and electrical equipment shall be lockable.

4) Appropriate warning signs shall be placed on wind turbine towers, electrical equipment, and Wind Energy Facility entrances.

Article X. Section 6.0 Certification. Any approval for Wind Energy Facilities shall require the applicant to provide a post-construction certification that the project complies with applicable codes and industry practices.

Article X. Section 7.0 Inspections. The applicant shall submit bi-annual inspection reports to the Planning Commission or its designated officer confirming compliance with applicable codes and industry practices.

Article X. Section 8.0 Decommissioning. The applicant shall submit a plan describing the intended disposition of the Wind Energy Facilities at the end of their useful life, and shall describe any agreement with the landowner regarding equipment removal upon termination of the lease. A performance bond or equivalent financial instrument shall be posted in an amount determined by the County [to be utilized in the event the decomissioning plan needs to be enforced with respect to tower removal, site restoration, etc.]. The bond shall be in favor of Huron County, and may be provided jointly as a single instrument for multiple townships within a single wind farm, provided that any such single instrument shall be in an amount of at least $1 million and shall contain a replenishment obligation.

Zoning Amendment (ZA) 06-05

Amend specific sections within Article IV. AGR Agricultural District as listed herein to read as follows (any section not listed is to remain as previously adopted):

Amend Section 4.01 Intent and Purpose to read:

The Agricultural Districts are designated to preserve those areas historically used for farming and animal husbandry, dairying, horticulture and other agricultural activities At the same time, in order to provide a degree of flexibility, it is the intent of these provisions to allow single family, non-farming dwellings and related residential uses on larger parcels and certain limited uses related to farming. In addition, an "overlay zoning" technique is incorporated into this Ordinance to encourage the development of alternative energy resources in the Agricultural District (wind energy, biomass digesters, etc.) as well as to preserve large tracks of land within the district for future agriculture use.

Amend Section 4.02 by adding the following new subsections N) and O): Add to Uses Permitted by Right in the Agricultural District

N) Anemometer towers (MET) used to conduct wind assessment studies for possible installation of wind energy conversion facilities. Anemometer towers & attached equipment are limited to a height of 199 feet and shall be located to conform to a height vs. setback requirement of 1 ½ times the height of the towner. Use temporary towers (those without permanent foundations) are limited to a two (2) year period.

O) On-Site Wind Energy Systems and related wind site assessment devices, subject to the conditions described below:

1) An on-site use wind energy system is intended to serve the needs of the on-site consumer. An on-site use wind energy system with a tip height of 45 meters (150 feet) or higher shall be consider a large-scale wind energy conversion facility for siting purposes (refer to Article X of this Ordinance).

2) Anemometer towers (MET) used to conduct a wind site assessment for possible installation of an on-site use wind energy system must conform to a height vs. setback requirement of 1 ½ times the height of the tower. Anemometer towers & attached equipment are limited to a height of 199 feet.

3) Prior to the installation of an on-site wind energy system, an application for a site permit shall be filed with the Zoning Administrator that shall include:

a. Application identification (property ownership, property identification number).

b. A site plan (location of proposed use vs. property lines, buildings, roadways, right-of-ways, easements, etc.).

c. Documentation that sound pressure level, construction code, tower interconnection (if applicable), and safety requirements have been met.

d. Proof of the applicant's public liability insurance.

Prior to the installation of an anemometer tower more than 20 meters (66 feet) in height, a site permit shall be filed with the zoning administrator that will include:

e. Applicant information (property ownership, property identification number).

f. A site plan (location of proposed use vs. property lines, buildings, roadways, right-of-ways, easements, etc.).

g. A copy of that portion of the applicant's lease with the land owner granting authority to install the Met tower and requiring the applicant to remove all equipment and restore the site after completion of the wind site assessment.

h. Proof of the applicant's public liability insurance.

4) On-Site Wind Energy Systems Site Permit Application

a. An on-site wind energy system is designed and intended to primarily serve the needs of the consumer. Prior to the installation of an on-site wind energy system, an application for a site permit must be file and subsequently approved by the zoning administrator and shall include the following:

i. Applicant information: name, address and contact information.
ii. Project description: A general description of the proposed project including a legal description (property identification number) of the property on which the project would be located.

iii. Site Plan: The site plan shall include maps showing the physical features and land uses of the project area, both before and after construction of the proposed project. The site plan shall include:

- the project area boundaries.
- the location, height and dimensions of all existing and proposed structures and fencing.
- the location, grades and dimensions of all temporary and permanent on-site and access roads from the nearest county or state maintained road.
- existing topography.
- water bodies, waterways, wetlands, and drainage ditches (county drains).
- all new infrastructure above ground related to the project.

iv. Insurance: Proof of the applicant's public liability insurance.

v. Consent documents: Copies of any written waivers from neighboring property owners.

vi. Sound Pressure Level: A copy of the modeling and analysis report for the system to be installed.

vii. Certifications: Certification that applicant has complied or will comply with all applicable state and federal laws and regulations.

5. An on-site wind energy system shall meet the following standards and requirements:

a. Property setbacks:

i. The distance between an on-site wind energy use/tower and the owner's property lines shall be at least 1 ½ times the height of the wind energy system tower including the top of the blade in its vertical position (tip height).

ii. The distance between an anemometer (met) tower and the owner's property lines shall be at least 1 ½ times the height of the tower.

iii. Exceptions for neighboring properties are allowed with the written consent of those property owners. Written consent letters must be submitted at the time of the site permit.

iv. No part of the wind energy system structure, including guy wire anchors, may extend closer than ten (10) feet to the owner's property line.

6. Other Required Setbacks:

a. The distance between an on-site wind energy system and a road or a public right-of-way shall be at least 1 ½ times the height of the wind energy system tower including the top of the blade in its vertical position (tip height).

b. The distance between an anemometer (met) tower and a road or a public right-of-way shall be at least 1 ½ times the height of the tower.

7. Sound Pressure Level:

a. On Site wind energy system shall not exceed 55 dBA at the property line closet to the wind energy system.

b. Exceptions for neighboring property are allowed with the written consent of those property owners.

c. This sound pressure level may be exceeded during short-term events such as utility outages and/or severe wind storms. If the ambient sound pressure level exceeds 55 dBA, that standard shall be ambient dBA plus 5 dBA.

8. Construction Codes, Towers & Interconnections Standards:

a. On-site wind energy systems including towers shall comply with all applicable state construction and electrical codes and local building permit requirements.

b. On site wind energy systems including towers shall comply with Federal Aviation Administration requirements, the Michigan Airport Zoning Act, The Michigan Tall Structures Act, and local jurisdiction airport overlay zoning regulations.

c. An interconnected on-site wind energy system shall comply with Michigan Public Service Commission and utility interconnection requirement. Off-grid system share exempt from this requirement.

9. Safety:

a. An onsite wind energy system shall have a governing, or a feathering system to prevent uncontrolled rotation or over speeding.

b. All wind energy towers shall have lightning protection.

c. If a tower is supported by guy wires, the wires shall be clearing visible to a height of a least six (6) feet above the guy wire anchors.

d. The minimum vertical blade tip clearance from grade shall be 20 feet for a wind energy system employing a horizontal axis rotor.