CITY OF IONIA
Ordinance No. 475

AN ORDINANCE TO AMEND THE CODIFIED ORDINANCES OF THE CITY OF IONIA BY ADDING A NEW CHAPTER WHICH NEW CHAPTER SHALL BE DESIGNATED CHAPTER 1287 ENTITLED WIND ENERGY SYSTEMS TO TITLE SIX – ZONING OF PART TWELVE – PLANNING AND ZONING CODE OF THE CODIFIED ORDINANCES

THE CITY OF IONIA HEREBY ORDAINS:

That a new Chapter 1287 entitled Wind Energy Systems shall be added to Title Six - Zoning of Part Twelve – Planning and Zoning Code of the Codified Ordinances of the City of Ionia.

PART TWELVE – PLANNING AND ZONING CODE

Title Six –Zoning

Chapter 1287

Wind Energy Systems

1287.01 PURPOSE.

The purpose of this Chapter is to establish standards and procedures by which the installation and operation of Wind Energy Systems shall be regulated within the City of Ionia, in order to promote the safe, effective and efficient use of wind energy.

1287.02 DEFINITIONS.

(1) Ambient Sound Level. The amount of background noise at a given location prior to the installation of a Wind Energy System which may include, but not be limited to, traffic, machinery, lawnmowers, human activity, and the interaction of wind with the landscape. The ambient sound level is measured on the dB(A) weighted scale as defined by the American National Standards Institute.

(2) Applicant. The person, firm, corporation, company, limited liability corporation or other entity which applies for City approval pursuant to this Chapter for permission to construct a Wind Energy System, as well as the applicant's successors, assigns, and/or transferees.

(3) Building Mounted Wind Energy System. A Wind Energy System mounted or attached to a building.

(4) Interconnected Wind Energy System. A Wind Energy System which is electrically connected to the local electrical power utility system and can provide power to the local electrical power utility system.

(5) Nacelle. The structure which houses all of the generating components, gearbox, drive train and other components.

(6) Rotor Diameter. The cross-sectional dimension of the circle swept by the rotating blades of a Wind Energy System.

(7) Shadow Flicker. The moving shadow created by the sun shining through the rotating blades of a Wind Energy System. The amount of shadow flicker created by a Wind Energy System is calculated by a computer model that takes into consideration turbine locations, elevation, tree cover, location of all structures, wind activity and sunlight.

(8) Total Wind Energy System Height. The vertical distance measured from the ground at the base of a tower or pole mounted Wind Energy System mounting system tower to the uppermost vertical extension of any blade or to the maximum height reached by any part of the Wind Energy System. This definition shall not apply to a building mounted Wind Energy System.

(9) Tower Mount Wind Energy System. A Wind Energy System mounted or attached to a tower, pole or similar structure which is not a building.

(10) Wind Energy System Setback. The distance from the base of the structure, tower, pole or building upon which the Wind Energy System is mounted to a public right-of-way, overhead public utility line or lot line. In the case of multiple parcels utilized a single or multiple Wind Energy System(s), the setbacks shall be taken from the outside boundary of the parcels utilized for the Wind Energy System project.

(11) Wind Energy System. Equipment that converts and then stores or transfers energy from the wind into usable forms of energy and includes any base, blade, foundation, generator, nacelle, rotor, tower, transformer, turbine, vane, wire or other component used in the system.

1287.03 STANDARDS FOR ALL WIND ENERGY SYSTEMS.

All Wind Energy Systems shall comply with the following requirements:

(1) Sounds Pressure Level.

A. When in operation a Wind Energy System shall not exceed either 55 dB(A), or ambient noise level as measured at any property line of the parcel containing the Wind Energy System. For example, if the ambient noise level is less than 55 dB(A) before the Wind Energy System begins operation then the noise level when the WES is operating shall not exceed 55 dB(A) and if the ambient noise level before the Wind Energy System begins operating is 60dB(A) then the noise level when the Wind Energy System is operating shall not exceed 60dB(A). This sound pressure level may be exceeded during short-term events such as severe wind storms.

B. Wind Energy Systems which are under single ownership or control and which involve more than one property shall be subject to the requirements of Section

1287.03(1)(A) but the sound pressure level shall be measured at the property line closest to the Wind Energy System at the outside boundary of all property used for the Wind Energy System. In addition, if required by the Planning Commission or Community Development Director, the applicant shall provide documentation through modeling or other evidence that will demonstrate that the Wind Energy System will not exceed the maximum permitted sound pressure.

C. At the applicant's expense, a baseline noise emission study of the proposed site and impact upon all areas within one quarter mile of the proposed Wind Energy System location may be required for a Wind Energy System which requires a Special Land Use permit prior to the placement of a Wind Energy System which, if required, shall be submitted to the City for review. The applicant shall also provide estimated noise levels which the Wind Energy System is likely to produce at the nearest property lines at the time of submitting a request for a Special Land Use permit.

(2) Setbacks for Wind Energy Systems.

A. Tower Mounted Wind Energy System. The minimum setback for a tower mounted Wind Energy System from a property line, public right-of-way, or public overhead utility line shall be a distance which is at least equal to the total height of the Wind Energy System.

B. Building Mounted Wind Energy System. The setback for a building mounted Wind Energy System shall be a minimum of 15 feet from the property line, public right-of-way, or public overhead utility line if mounted directly on a roof or other elevated surface of the building. The setback shall be measured from the furthest outward extension of all moving parts.

The 15 foot minimum setback requirement may be reduced by the Community Development Director under either or both of the following circumstances:

1. If the applicant provides a registered engineer's certification that the Wind Energy System is designed to collapse, curl or bend within a distance less than the required setback of the Wind Energy System.
2. If the Community Development Director determines that a lesser setback will not be detrimental to adjoining properties. In making the determination the Community Development Director shall, at a minimum, take into consideration the type and location of the building containing the Wind Energy System, the type of Wind Energy System proposed, the installation requirements of the Wind Energy System and the location of buildings or uses on the adjacent properties.

(3) Location of Tower and Guy Wires.

A. A tower mounted Wind Energy System shall only be located in the rear yard and must be on the same lot as the principal use.

B. Guy wires and anchors shall not be located within or above the front yard.

(4) Shared Wind Energy System Usage.

A Wind Energy System may provide electrical power to more than one dwelling unit or building, provided the dwelling units or buildings are located on property or properties that are adjacent to the property or properties on which the Wind Energy System is located.

(5) Rotor Clearance.

A. Blade or rotor arcs created by a tower mounted Wind Energy System shall have a minimum of 20 feet of clearance over and from any structure, adjoining property or tree.

B. The blade or rotor arcs created by a building mounted Wind Energy System shall have a minimum clearance of 8 feet above the roof or be designed in the opinion of the Community Development Director so the blade or other moving parts do not present a safety hazard to any person on the roof.

(6) Shadow Flicker.

The Planning Commission or Community Development Director may request that the applicant perform an analysis of potential shadow flicker. The analysis shall identify locations of shadow flicker that may occur, and shall describe measures such as screening that shall be taken to eliminate or minimize the shadow flicker.

(7) Construction Codes and Interconnection Standards.

A Wind Energy System shall comply with the following:

A. All applicable state construction and electrical codes and local building permit requirements.
B. Federal Aviation Administration requirements.
C. The Michigan Airport Zoning Act, being Public Act 23 of 1950, as amended.
D. The Michigan Tall Structures Act, being Public Act 259 of 1959, as amended.
E. The Michigan Public Service Commission and Federal Energy Regulatory Commission requirements if a Wind Energy System is an interconnected system.

(8) Safety Requirements.

A. Each Wind Energy System shall be equipped with both a manual and automatic braking device capable of stopping the Wind Energy System operation in high winds or must be designed so that the rotational speed of the rotor blade does not exceed the design limits of the rotor.

B. To prevent unauthorized access, each tower mounted Wind Energy System must comply with at least one of the following provisions, and more than one if required by the Planning Commission or the Community Development Director:

1. Tower climbing apparatus shall not be located within 12 feet of the ground.
2. A locked anti-climb devise shall be installed and maintained.

3. A tower capable of being climbed shall be enclosed by a locked, protective fence at least 10 feet high with barbed wire fencing.

C. All Wind Energy Systems shall have lightning protection.

D. If a tower is supported by guy wires, the wires shall be clearly visible to a height of at least 8 feet above the guy wire anchors.

(9) Signs.

A. Each tower mounted Wind Energy System shall have one sign not to exceed two square feet posted at the base of the tower, or, if the structure is fenced, on the fence. The sign shall include a warning about high voltage and emergency phone numbers.

B. A Wind Energy System shall not include any advertising of any kind, except the nacelle may have lettering that exhibits the manufacturer's and/or owner's identification.

(10) Electromagnetic Interference.

A Wind Energy System shall be designed, constructed and operated so as not to cause radio and television interference.

(11) Maintenance.

All Wind Energy Systems must be kept and maintained in good repair and condition at all times and shall not pose a potential safety hazard.

(12) Inspection.

The City shall have the right upon approving any Wind Energy System to inspect the premises on which the Wind Energy System is located at all reasonable times with permission of the property owner. The City may hire a consultant to assist with any such inspections at the applicant's cost.

(13) Insurance.

The Wind Energy System operator shall maintain a current liability insurance policy for the Wind Energy System. The amount of the policy shall be a condition of approval.

(14) Other.

A. The Wind Energy System, except for building mounted Wind Energy Systems, may be located on a lawful parcel or parcels which do not have frontage on a public or private road.

B. All distribution lines from a Wind Energy System shall be located and maintained underground, both on the property the Wind Energy System is located and off-site. The Planning Commission may waive the requirement that distribution lines for the Wind Energy System which are located off-site (i.e. are not located on or above the property where the Wind Energy System is located) be located and maintained

underground if the Planning Commission determines that to install, place or maintain such distribution lines underground would be impractical or unreasonably expensive.

C. A Wind Energy System shall be painted a non-obtrusive (i.e. – beige or gray) non-reflective color. No striping of color or advertisement shall be visible on the blades or tower.

1287.04 REQUIREMENTS FOR WIND ENERGY SYSTEMS – 35 FEET OR LESS IN HEIGHT.

Any tower mounted or building mounted Wind Energy System which is 35 feet or less in total height shall be a by-right use in all zoning districts, subject to the requirements of Section 1287.03 and the following:

(1) Permit Required.

A zoning permit shall be obtained from the City to construct and operate any tower mounted or building mounted Wind Energy System which is 35 feet or less in total height. The total height of a Wind Energy System shall be as defined in Section 1284.02(8). Any Wind Energy System which is greater than 35 feet in total height shall be required to obtain a Special Land Use Permit as set forth in Section 1287.05 herein.

(2) Permit Contents.

The following information is required upon submitting an application for a zoning permit for a Wind Energy System:

- Name of the property owner(s) and address.
- An accurate drawing showing the proposed location of the Wind Energy System, property lines, existing building(s), proposed Wind Energy System setback, right-of-way lines, public easements and overhead utility lines and the distance from the Wind Energy System to principal buildings on adjacent lots.
- The proposed type and height of the Wind Energy System to be constructed, including the manufacturer and model, product specifications including maximum noise output (measured in decibels), total rated generated capacity, dimensions, rotor diameter, and a description of ancillary functions.
- If the applicant intends to install an interconnected Wind Energy System, the applicant must provide documentation that the applicable utility company has or will approve the proposed interconnection.
- Other relevant information as may be reasonably requested by the Community Development Director.

(3) Final Approval.

Final approval shall be issued after and inspection of the Wind Energy System by the City or an authorized agent of the City, and where the inspection finds that the Wind Energy System complies

with the requirements of Sections 1287.03 and 1287.04, all applicable state construction and electrical codes, local building permit requirements, and all manufacturers' installation instructions.

1287.05 REQUIREMENTS FOR WIND ENERGY SYSTEMS – OVER 35 FEET

Any tower mounted or building mounted Wind Energy System which is over 35 feet in total height may be allowed as a special land use in all zoning districts subject to the following regulations and requirements of this Section and also the general special land use review procedures and standards contained in Chapter 1274.

(1) Application Requirements.

In addition to the special land use application form, an applicant for a Wind Energy System over 35 feet in total height shall provide the following information as part of the application.

A. The proposed type and height of the Wind Energy System as constructed, including the manufacturer and model, product, specifications including maximum noise output (measured in decibels), total rated generating capacity, dimensions, rotor diameter, and a description of ancillary facilities.

B. If the applicant intends to install an interconnected Wind Energy System the applicant must provide documentation that the applicable company has or will approve the proposed interconnection.

(2) Site Plan Requirements.

A site plan for a Wind Energy System for which a Special Land Use Permit is required shall include the following items with or on the site plan.

A. All requirements for site plan contained in Chapter 1276 herein.

B. Dimensions of the area purchased or leased where the Wind Energy System is to be located.

C. Location and height of all existing and proposed buildings, structures, electrical lines, towers, guy wires, guy wire anchors, security fencing, and any other above-ground structures proposed or existing for the parcel or parcels containing the Wind Energy System.

D. Specific distances from the Wind Energy System structures to all other buildings, structures, and above ground utilities which are on the parcel or parcels upon which the Wind Energy System is proposed to be located and on abutting parcels.

E. Land uses within 300 feet of the parcel.

F. Access drives or the Wind Energy System including dimensions and composition, with a narrative describing proposed maintenance of the drives.

G. All lighting proposed for the site, including diagrams of lighting fixtures proposed if requested by the Planning Commission.

H. Security measures proposed to prevent unauthorized trespass and access.

I. Standard drawings of the structural components of the Wind Energy System, including structures, towers, bases and footings. A registered engineer shall certify

drawings and any necessary calculations that show that the system complies with all applicable local, state and federal building, structural and electrical codes.

J. Additional information as may be required by the Planning Commission.

K. The Planning Commission may waive or modify the above requirements at the request of the applicant if it is determined that those items would not be needed to properly review the project.

(3) Lighting.

A Wind Energy System shall provide lighting as may be required by the Federal Aviation Administration.

(4) Maintenance Program Required.

The applicant shall provide a written description of the maintenance program to be used to maintain the Wind Energy System, including a maintenance schedule of types of maintenance tasks to be performed.

(5) Site Standards and Visual Impact.

A. A Wind Energy System shall be designed and placed in such a manner to minimize adverse visual and noise impacts on neighboring areas.

B. A Wind Energy System project with more than one Wind Energy System structure or tower shall utilize similar design, size, color, operation and appearance throughout the project as is practicable.

(6) Performance Guarantee.

If a Special Land Use Permit is granted pursuant to this Section, the Planning Commission may require a security in the form of a cash deposit, surety bond, or irrevocable letter of credit in a form, amount, and duration with a financial institution deemed acceptable to the City, which shall be furnished by the applicant to the City in order to ensure full compliance with this Section and any conditions of approval.

(7) Final Approval.

Final approval shall be issued after and inspection of the Wind Energy System by the City or an authorized agent of the City, and where the inspection finds that the Wind Energy System complies with the requirements of Sections 1287.03 and 1287.05, all applicable state construction and electrical codes, local building permit requirements, and all manufacturers' installation instructions.

CITY OF IONIA

DATED: _____ BY: _____

Lynn E. Lafler, City Clerk

Introduction and First Reading:	April 13, 2010
Notice of Public Hearing:	April 18, 2010
Public Hearing, Second Reading and Adoption:	May 4, 2010
Date of Publication of Notice of Adoption:	May 9, 2010
Effective:	May 17, 2010