SECTION 1742. WIND TURBINES AND WIND ENERGY FACILITIES

1. PURPOSE and INTENT: The purpose of this Section 1742 is to establish standards and procedures by which installment and operation of Wind Turbines and Wind Energy Facilities shall be governed. The intent of this Section 1742 is:

a. To promote safe, effective, and efficient use of Wind Turbines and Wind Energy Facilities installed to encourage the on-site consumption of renewable energy sources.

b. To lessen potential adverse impacts Wind Turbines and Wind Energy Facilities may have on residential areas and land uses through appropriate design, siting, and nuisance controls.

c. To minimize any potential impact on adjacent properties from Wind Turbine failure through appropriate engineering and siting of Wind Turbine structures and Wind Energy Facilities.

2. DEFINITIONS: As used in this Section 1742:

a. “Ambient Sound Level” means the amount of background noise at a given location prior to the installation of a Wind Turbine or Wind Energy Facility which may include, but is not limited to, traffic, machinery, lawnmowers, human activity, and interaction of the wind with the landscape as measured on the dB(A) weighted scale defined by the American National Standards Institute.

b. "Anemometer Tower" means a structure and equipment used to determine the potential for the placement for a Wind Turbine.

c. "Applicant" is the person or entity filing an application under this Section 1742, as well as the applicant's successor(s), assign(s), heir(s) and/or transferee(s) as to any approved Wind Turbine and/or Wind Energy Facility. An applicant shall have the legal authority to represent and bind the landowner and lessee who will construct, own and operate the Wind Turbine and/or Wind Energy Facility. The duties and obligations regarding a zoning approval for any approved Wind Turbine and/or Wind Energy Facility shall be with the landowner.

d. "Facility Owner" means the entity or entities having an equity interest in a Wind Turbine or Wind Energy Facility, including their respective successors and assigns. The Facility Owner shall be legally responsible to the landowner.

e. "Hub Height" means the distance measured from the surface of the tower foundation to the height of the Wind Turbine hub, to which the blade is attached.

f. "Operator" means the entity responsible for the day-to-day operation and maintenance of a Wind Turbine or Wind Energy Facility.

g. "Occupied Building" means a residence, school, hospital, church, public library or other building used for public gathering that is occupied or in use when the permit application is submitted.

h. “Rotor Diameter” means the cross-sectional dimension of the cirle swept by the rotating blades of a Wind Turbine.

i. “Shadow Flicker” means the moving shadow created by the sun shining through the rotating blades of a Wind Turbine.

j. “Tower” means the support structure for the various components of a Wind Turbine including the nacelle, tail, rotor, blades, and may include an anemometer.

k. "Turbine Height" means the distance measured from the surface of the tower foundation to the highest point of the Turbine rotor blade.

l. "Wind Turbine" means a single wind energy conversion system mounted on a tower that converts wind energy into electricity through the use of a Wind Turbine

generator, and includes the nacelle, rotor, tower, tail, foundation, and transformer, if any, may also include an anemometer.

m. "Wind Energy Facility" means an electric generating facility, being the primary use of a property whose main purpose is to supply electricity, consisting of one or more Wind Turbines and other accessory structures and buildings, including substations, meteorological towers, electrical infrastructure, transmission lines and other appurtenant structures and facilities.

n. “Non-participation Landowner” means any landowner except those on which all or a portion of Wind Energy Facility is located pursuant to an agreement with the Facility Owner or Operator.

3. APPLICABILITY FOR PERMITTED WIND TURBINES: No Wind Turbine shall be constructed or located within the City of South Haven unless a permit has been issued by the City of South Haven to the Facility Owner or Operator approving the construction of the facility under this Section 1742. Permits shall be governed by the following:

a. A single Wind Turbine less than 75 feet in Turbine Height shall be considered a permitted accessory structure on a single parcel in the I-1 and I-2 zoning districts, if it meets the standards and requirements of this Section 1742 and receives site plan approval from the Planning Commission pursuant to this Zoning Ordinance. Provided further, that any additional Wind Turbines requested for said single parcel shall only be applied for and approved as a special use, and are subject to the guidelines set forth in this Section 1742.

b. Maintenance and replacement of existing Wind Turbines shall not require a permit modification.

4. APPLICABILITY FOR SPECIAL USE PERMIT WIND TURBINES AND FACILITES: No Wind Turbine or Wind Energy Facility shall be constructed or located within the City of South Haven unless a permit has been issued by the City of South Haven to the Facility Owner or Operator approving construction of the facility under this Section 1742. Permits shall be governed by the following:

a. A single Wind Turbine 30 feet in Turbine Height and with a Rotor Diameter of 3 feet or less shall be considered an accessory structure requiring a special use permit in residential zoning districts, subject to the standards and requirements of this Section 1742.

b. A single Wind Turbine greater than 30 feet and less than 75 feet in Turbine Height shall be considered an accessory structure requiring a special use permit and may only be granted in the B-4 zoning district, subject to the standards and requirements of this Section 1742.

c. A single Wind Turbine greater than 75 feet in Turbine Height shall be considered an accessory structure requiring a special use permit and may only be granted in the I-1 and I-2 zoning districts, subject to the standards and requirements of this Section 1742.

d. A Wind Energy Facility requires a special use permit and may only be granted within the I-2 zoning district subject to the standards and regulations of this Section 1742.

e. Any physical modification to an existing and permitted Wind Energy Facility that materially alters the size, type and number of Wind Turbines or other equipment shall require a special use permit amendment under this Section 1742.

5. PERMIT APPLICATION FOR WIND ENERGY FACILITIES AND WIND TURBINES: Wind Energy Facilities and Wind Turbines proposed pursuant to Section 1742(3 & 4) shall be subject to the following permit application requirements and the Site Plan provisions of this Zoning Ordinance:

a. The applications shall contain the following:
   1) Name, address and contact information for the Facility Owner, Operator and landowner along with notarized signature of same on application form.
   2) An overview of the project; the project location; the approximate peak generating capacity of the proposal; the approximate number, representative types and heights of Wind Turbines to be constructed, including each units generating capacity, dimensions and respective manufacturers, and a description of ancillary facilities.
   3) An affidavit or similar evidence of agreement between the landowner and the Facility Owner or Operator demonstrating that the Facility Owner or Operator has the permission of the landowner to apply for necessary permits for construction and operation of the Wind Turbine or Wind Energy Facility.
   4) The legal description and tax identification numbers of the properties on which the proposed Wind Turbine or Wind Energy Facility will be located.
   5) A site plan showing the planned location of each Wind Turbine, property lines, setback lines, access road and turnout locations, substation(s), electrical cabling from the Wind Turbine or Wind Energy Facility to the substation(s), ancillary equipment, building, and structures, including permanent meteorological towers, associated transmission lines, and layout of all structures within the geographical boundaries of any applicable setback.
   6) Documents related to decommissioning pursuant to this Section 1742(12).
   7) Other relevant studies, reports, certifications and approvals as may be reasonably requested by the City of South Haven to ensure compliance with this Section 1742 including but not limited to noise analysis, shadow flicker evaluation, and vibration.
   8) Documented annual wind resources sufficient for the operation of the proposed Wind Turbine generator; provided, however, this standard shall not apply to an anemometer tower.

b. No Wind Turbine greater than 75 feet in Turbine Height shall be approved without submission of a wind resource study documenting wind resources on the site over a minimum of two years, or one year where said data is supported by other relevant data provided for the South Haven area. Said study shall indicate the long-term commercial economic viability of the project. Anemometers to be placed shall be calibrated regularly to ensure a measurement of error of 1% or less. All anemometers shall be placed at the expected hub height of the Wind Turbine to be used. Sufficient wind resources, as described by the U.S. Department of Energy, include areas with a wind power class 4 or higher, which shall be shown to be present on site within a ten percent (10%) margin to be one element being utilized by the City in evaluating the merits of a special use permit. The City may retain the services of an independent, recognized expert to review the results of the wind resource study prior to acting on the application for special use permit. This review shall be at the expense of the applicant.

6. SPECIAL USE PERMIT APPLICATION FOR WIND TURBINES AND WIND ENERGY FACILITIES: Wind Turbines proposed pursuant to Section 1742(4) shall be subject to the permit application requirements of this Section 1742 and to the Special Use Permit provisions of this Zoning Ordinance as hereinafter modified:

a. The City of South Haven shall determine whether the application is complete and advise the applicant accordingly within thirty (30) days after receipt of a permit application.
b. The City Planning Commission shall schedule a public hearing within sixty (60) days of an applications completeness determination.
c. The City of South Haven shall make a decision whether to issue or deny the permit application within one hundred and twenty (120) days of an applications completeness determination, or within forty-five (45) days after the close of the Planning Commission's hearing, whichever is later.
d. The time limitations established herein may be extended by mutual consent of the City and applicant.

7. WIND TURBINE DESIGN AND INSTALLATION: All Wind Turbines shall comply with the following:

a. The Building Code currently in effect for the City. Building permits for all Wind Turbines must be issued to a licensed contractor and applications shall be accompanied by standard drawings of the Wind Turbine structure, including the tower, base, and foundation. An engineering analysis of the tower showing structural stability and compliance with the Building Code certified by a licensed professional engineer is required.
b. All Wind Turbines shall be equipped with a redundant braking system. This includes both aerodynamic overspeed controls (including variable pitch, tip, and other similar systems) and mechanical brakes. Mechanical brakes shall be operated in a fail-safe mode. Stall regulation shall not be considered a sufficient braking system for overspeed protection.
c. All electrical components of the Wind Turbine shall conform to relevant and applicable local, state and national codes, and relevant industry standards.
d. Visual Appearance; Power Lines
    1. Wind Turbines shall be supported by a monopole (monolithic tube style construction), painted a non-obtrusive color such as white, off-white or gray.
    2. Wind Turbines shall not be artificially lighted, except to the extent required by the Federal Aviation Administration or other applicable authority that regulates air safety.
    3. Wind Turbines shall not display advertising, except for one (1) sign no greater than two (2) square feet identifying the Turbine manufacturer, and one (1) sign no greater than two (2) square feet providing the owner's name, address and telephone number for emergency calls. Both signs must be located on the lowest 10 feet of the structure.
    4. All on-site transmission and power lines shall be placed underground.
e. Installation Safety
    1. A clearly visible warning sign concerning voltage must be placed at the base of all transformers and substations.
    2. Guy wires for a temporary lattice tower supporting an anemometer shall have brightly colored and visible / reflective markings (i.e. flags, reflectors, or tape) placed on the anchor points of guy wires and along the guy wires up to a height of ten feet from the ground.
    3. Towers shall not be climbable up to fifteen (15) feet above ground surface.
    4. All access doors to Towers and electrical equipment shall be locked to prevent entry by non-authorized persons.
    5. The lowest extension of any blade or other moving component of a Wind Turbine shall be a minimum of fifteen (15) feet above ground surface.

f. Applications for Wind Turbines and/or Wind Energy Facilities shall be accompanied with a survey by a licensed surveyor. Said survey shall show locations and heights of all adjacent buildings, structures and above ground utilities located within 300 feet of the base of the Wind Turbine.

g. A site plan shall also accompany any application for Wind Turbines and/or Wind Energy Facilities. Said site plan shall show existing and proposed setbacks for the Wind Turbine from all structures located on the property where the Wind Turbine will be located. The site plan shall depict the setback of the Wind Turbine from any building and/or structure within 600 feet of the base of the Wind Turbine, regardless of whether or not the building is on the same property as the proposed Wind Turbine.

8. WIND TURBINE HEIGHT: Wind Turbine Height shall not exceed 200 feet unless written approval is granted by the Federal Aviation Administration, and such height is specifically granted by the Planning Commission in the Special Use Permit.

9. REQUIRED SETBACKS: The following setbacks are required for all Wind Turbines:

a. Wind Turbines shall be set back from the nearest Occupied Building a distance not less than the normal setback requirements for that zoning classification or equal to the Turbine Height plus ten (10) feet, whichever is greater. The setback distance shall be measured from the center of the Wind Turbine base to the nearest point on the foundation of the Occupied Building. Provided further, that Wind Turbines with a Turbine Height of less than 75 feet, may be located not less than 10 feet from an Occupied Building that is located on the same parcel upon which the Wind Turbine is located. Those Wind Turbines rigidly attached to a building and whose base is on the ground may reduce this required setback by the amount equal to the distance from the point of attachment to the ground.

b. All Wind Turbines shall be set back from the nearest property line a distance of not less than the normal setback requirements for that zoning classification or equal to the Wind Turbine Height plus ten (10) feet, whichever is greater. The setback distance shall be measured to the center of the Wind Turbine base. Those Wind Turbines rigidly attached to a building and whose base is on the ground may reduce this required setback by the amount equal to the distance from the point of attachment to the ground.

c. All Wind Turbine shall be setback from a public right-of-way, or private road / easement utilized by those other than the Operator, a minimum distance equal to two (2) times the Turbine Height plus ten (10) feet.

d. The minimum site area for a Wind Energy Facility or of an anemometer tower erected prior to a Wind Energy Facility shall be five (5) acres and must meet required setbacks and all other standards of this Section 1742.

e. Newly proposed Wind Turbine or anemometer tower requires a "wind access buffer" equal to a minimum of five (5) rotor diameters from any existing off-site Wind Turbine.

10. NUISANCE REMEDIATION: Potential nuisances from Wind Turbines and Wind Energy Facilities shall be regulated as follows:

a. Audible sound from a Wind Turbine or Wind Energy Facility shall not exceed the Ambient Sound Level plus 5dBA as measured at the perimeter property lines on which the Wind Turbine or Wind Energy Facility is proposed. Said sound level limitation shall not be exceeded at the exterior of an Occupied Building on the nearest Nonparticipating Landowner's property. Said Ambient Sound Level shall

be established at time of application and stated within the permit issued for a Wind Turbine or Wind Energy Facility.

b. The applicant for a Wind Turbine or Wind Energy Facility shall provide a shadow analysis of all proposed Wind Turbines and Wind Energy Facilities demonstrating that said shadow does not negatively impact any Occupied Building on a Non-participating Landowner's property.

c. Vibrations shall not be produced that are perceptible at the perimeter property lines on which the Wind Turbine or Wind Energy Facility is proposed.

d. The applicant shall provide analysis demonstrating that there will be no disruption or loss of radio, telephone, television or similar signals, caused by the Wind Turbine or Wind Energy Facility.

11. UTILITY NOTIFICATION: No Wind Turbine shall be installed until evidence has been given that the utility company has agreed in writing to the applicant's intent to install an interconnected generator. Off-grid systems shall be exempt from this requirement.

12. DECOMMISSIONING: In the event that decommissioning is necessary, the following shall apply:

a. The landowner, Facility Owner and Operator (if any) shall remain jointly and severally liable for the cost of the complete decommissioning of a Wind Turbine and/or Wind Energy Facility within twelve (12) months after the end of the useful life of the Facility or individual Wind Turbine. The Wind Energy Facility or individual Wind Turbine will presume to be at the end of its useful life if no electricity is generated for a continuous period of twelve (12) months.

b. Decommissioning shall include removal of Wind Turbines, building, cabling, electrical components, roads, foundations to a depth of 36 inches, and any other associated facilities.

c. Disturbed earth shall be graded and re-seeded.