ARTICLE XIX. SUSTAINABLE ENERGY

Sec. 94-524.

A. PURPOSE AND INTENT. The purpose of this Ordinance is to establish regulations for the locating, installation and operation of Wind Energy Turbines (WETs). The intent of this Ordinance is as follows:

1. To promote the safe, effective and efficient use of WETs in order to produce electricity and reduce the consumption of fossil fuels.

2. To preserve and protect the public health, safety, welfare and quality of life by minimizing the potential adverse impacts of a WET.

3. To establish standards and quantifiable procedures to direct the site location, engineering, installation, maintenance and decommissioning of WETs.

B. DEFINITIONS.

1. Ambient Sound Level: The amount of background noise at a given location prior to the installation of a WET(s) which may include, but is not limited to, traffic, machinery, lawnmowers, general human activity and the interaction of the wind with the landscape. The Ambient Sound Level is measured on the Decibel – dB(A) – weighted scale as defined by the American National Standards Institute (ANSI).

2. Anemometer: A temporary wind speed indicator constructed for the purpose of analyzing the potential for installing a WET at a given location. An Anemometer includes a tower, base plate, anchors, cables and hardware, wind direction vanes, booms to hold equipment, a data logger, instrument wiring and telemetry devices used to monitor or transmit wind speed and wind flow characteristics over a period of time. Telemetry data can include instantaneous wind speeds or characterizations of a wind resource at a given location.

3. Decommissioning: The process of terminating the operation of a WET by completely removing the entire WET and all related buildings, structures, foundations, supports, equipment and access roads.

4. Large Wind Energy Turbine (L-WET): A tower-mounted wind energy system, standing greater than 150 feet tall and up to 400 feet tall, that converts wind energy into electricity through the use of equipment (e.g., base, blade, rotor, foundation, generator, nacelle, tower, transformer, vane, wire, inverter, batteries, etc.) L-WETs have nameplate capacities that indentify maximum kilowatts.

5. Medium Wind Energy Turbine (M-WET): A tower-mounted wind energy system standing between one hundred fifty (150) feet tall and one hundred twenty one (121) feet tall that converts wind energy into electricity through the use of equipment (e.g., base, blade, rotor, foundation, generator, nacelle, tower, transformer, vane, wire, inverter, batteries, etc.) M-WETs have nameplate capacities that do not exceed two hundred and fifty (250) kilowatts.

6. Nacelle: The encasement which houses the interior electricity generating components, gear box, drive tram, brakes and related equipment of a WET.

7. Net Metering: A special metering and billing agreement between utility companies and their customers, which facilitates the connection of sustainable energy generating systems to the power grid.

8. Occupied Building: A residential structure, school, hospital, church, library, commercial or industrial structure or public building that contains residents, customers, workers or visitors.

9. Operator: The entity responsible for the day-to-day operations and maintenance of a WET.

10. Owner/Applicant:: The person, firm, corporation, company, limited liability corporation or other entity which applies for City approval under this Ordinance, as well as the applicant's successor(s), assign(s) and/or transferee(s) as to any approved WET or Anemometer. An owner/applicant must have the legal authority to represent and bind the landowner or lessee who will construct, own, and operate the WET or Anemometer. The duties and obligations regarding a zoning approval for any approved WET or Anemometer shall be with the owner/applicant of the WET or Anemometer, and jointly and severally with the owner and operator or lessee of the WET or Anemometer if different than the owner/applicant.

11. Rotor: A blade of a WET that is connected to the rotor hub and nacelle and acts as an airfoil assembly that exacts kinetic energy directly from the wind.

12. Rotor Diameter: The cross-sectional dimension of the circle swept by the rotating blades of a WET.

13. Shadow Flicker: The moving shadow created by the sun shining through the rotating blades of a WET. The amount of Shadow Flicker created by a WET is calculated by a computer model that measures WET location, elevation, tree cover, location of adjacent structures, wind activity and sunlight angle.

14. Small Tower Mounted Wind Energy Turbine (STM-WET): A tower-mounted wind energy system standing up to one hundred twenty (120) feet tall that converts wind energy into electricity through the use of equipment (e.g., base, blade, rotor, foundation, generator, nacelle, tower, transformer, vane, wire, inverter, batteries, etc.) STM-WETs have nameplate capacities that do not exceed thirty (30) kilowatts.

15. Structure: Anything constructed or erected that requires permanent location on the ground or attachment to something having such a location.

16. Small Structure Mounted Wind Energy Turbine (SSM-WET): A structure-mounted wind energy system that converts wind energy into electricity through the use of

equipment (e.g., base, blade, rotor, foundation, generator, nacelle, tower, transformer, vane, wire, inverter, batteries, etc.) SSM-WETs are attached to a structure's roof, walls or another elevated surface. SSM-WETs have nameplate capacities that do not exceed ten (10) kilowatts. The Total Height of a SSM-WET unit does not exceed fifteen (15) feet as measured from the highest point of the adjacent roof or structure, excluding chimneys, antennae or other similar features.

17. Survival Wind Speed: The maximum wind speed, as designated by the WET manufacturer, at which a WET in an unattended state is designed to survive without damage to any structural equipment or the loss of the ability to function normally.

18. Total Height: The vertical distance as measured from the ground level of the base of a WET tower to the uppermost vertical extension of a rotor blade, or the maximum height reached by any part of a WET.

19. Tower: A free-standing monopole that supports a Wind Energy Turbine (WET).

20. Wind Energy Overlay District: A specific zoning district created to locate Large Wind Energy Turbines (L-WETs).

21. Upwind Turbines: As opposed to a "downwind turbine," an Upwind Turbine has the rotor blades facing into the wind source direction.

22. Wind Energy Turbine (WET): A structure-mounted or tower-mounted small, medium or large wind energy conversion system that converts wind energy into electricity through the use of specialized equipment and structures.

C. APPLICABILITY. This Ordinance applies to all WETs proposed for construction after the effective date of this Ordinance. All WETs constructed prior to the effective date of this Ordinance shall not be required to meet the standards of this Ordinance; however, any physical modification to an existing WET that materially alters the size, type, equipment or location shall require approval per the standards of this Ordinance.

D. TEMPORARY USES. Anemometers are permitted in all City of Walker zoning districts as a temporary use, subject to the provisions of this Section.

1. The construction, installation or modification of an anemometer shall require a building permit.

2. Anemometers shall conform to all applicable local, state and federal safety, construction, environmental, electrical, communications and FAA requirements.

3. Anemometers shall be subject to the requirements of this Section for height, setbacks, separation, location, safety and decommissioning that correspond to the size of the WET(s) proposed on the site.

4. An anemometer shall be permitted on a site for no more than thirteen (13) months for a SSM-WET, STM-WET or M-WET.

5. An anemometer shall be permitted on a site for no more than three (3) years for an L-WET.

E. PERMITTED USES.

Small Structure Mounted Wind Energy Turbines (SSM-WET) and Small Tower Mounted Wind Energy Turbines (STM-WET) shall be considered a permitted use in all zoning districts, subject to the following:

1. SSM-WETs and STM-WETs must receive a building permit prior to construction, installation, relocation or modification. The WET Owner/Applicant or Operator must apply for and receive the building permit.

2. All SSM-WETs and STM-WETs shall be subject to the following minimum requirements:

    a. "Upwind Turbines" shall be required.

    b. Visual Appearance:

        i. SSM-WETs and STM-WETs, including accessory buildings and related structures, shall be a non-reflective, non-obtrusive color, such as white, gray or black.
        ii. The appearance of the WET and all accessory structures shall be maintained throughout the life of the unit.

        iii. Exterior lighting of a tower, rotor blades and nacelle shall only be allowed in order to meet FAA requirements.

        iv. Exterior lighting of accessory buildings or entrance points shall be permitted, provided that such exterior lighting fixtures shall be full cutoff "shoebox" fixtures. These fixtures shall not be mounted on poles or other structures that exceed a total height of twenty (20) feet, as measured from the grade at the base of the fixture.

        v. SSM-WETs and STM-WETs shall not contain commercial signage, banners, flags or advertising logos, except for the identification of the turbine manufacturer and unit specifications for regulatory purposes.

3. Ground Clearance: The lowest extension of any rotor blade or other exposed moving component of an SSM-WET or STM-WET shall be at least fifteen (15) feet above the ground, as measured from the highest point of grade within thirty (30) feet of the base of the WET. In addition, the lowest extension of any rotor blade or other exposed moving component of an SSM-WET or STM-WET shall be at least fifteen (15) feet above any outdoor areas intended for human use that are located below the WET. Examples include balconies, roof gardens, etc.

4. Noise Control:

a. Noise produced by an SSM-WET or STM-WET shall not, *at any time*, exceed the lowest ambient sound level that is otherwise present between the hours of 9:00 PM and 9:00 AM at any adjacent property line of a residential use.

b. Noise produced by an SSM-WET or STM-WET shall not, *at any time*, exceed the lowest ambient sound level plus 5 Decibels dB(A) that is otherwise present between the hours of 9:00 PM and 9:00 AM at any adjacent property line of a commercial, office, civic, public, agricultural or industrial use .

5. Vibration: An SSM-WET or STM-WET shall not produce vibrations that are perceptible to humans beyond any property line upon which a WET is located.

6. Wire Supports: Guy wires or similar apparatus shall not be allowed as part of an SSM-WET or STM-WET installation.
7. SSM-WET Height: The height of an SSM-WET shall not exceed fifteen (15) feet, as measured from the highest point of the adjacent roof or structure, excluding chimneys, antennae or other similar features.

8. SSM-WET Setbacks:

   a. An SSM-WET shall be setback a minimum of fifteen (15) feet from any property line, public right-of-way, public easement or overhead utility lines.

   b. If the SSM-WET is affixed by any extension to a structure's walls, roof or other elevated surface then the setback from property lines, public rights-of-way, public easements or overhead utility lines shall be measured from the furthest outward extension of moving WET components.

   c. An SSM-WET shall not be affixed to a wall on the side of a structure that directly faces a public street.

9. SSM-WET Separation Distances: If more than one SSM-WET is installed on a property, then a distance equal to the height of the tallest SSM-WET must be maintained between the base of each SSM-WET.

10. STM-WET Height: The total height of a STM-WET shall not exceed one hundred twenty (120) feet. Total height is defined as the vertical distance as measured from the ground level of the base of a WET tower to the uppermost vertical extension of a rotor blade, or the maximum height reached by any part of a WET.

11. STM-WET Setbacks:

    a. On a property containing occupied buildings, STM-WETs shall only be located in the rear yard.

    b. An STM-WET shall be setback a minimum of twenty (20) feet from all occupied buildings on the subject property. This setback will be measured from the base of the tower.

c. A minimum setback equal to the total height of the STM-WET shall be required to any property line, public right-of-way, public easement or overhead utility lines. This setback will be measured from the base of the tower. This setback may be reduced if the applicant provides a registered engineer's certification that the WET is designed to collapse, fall, curl or bend within a distance less than the total height of the WET.

12. STM-WET Separation Distances: If more than one STM-WET is installed on a property, then a distance equal to the total height of the tallest STM-WET must be maintained between the base of each STM-WET.

13. Site Plan Review Required: SSM-WETs and STM-WETs shall be required to undergo site plan review by the Planning Commission, subject to the following:

a. SSM-WETs and STM-WETs shall be exempt from the site plan review standards found in Article X – Site Plan Review in Chapter 94 of the City of Walker Zoning Ordinance.

b. Owner/applicants of SSM-WETs and STM-WETs proposed for installation shall provide the following to the City of Walker Planning Department:

i. A completed application for site plan review by the Planning Commission plus any applicable fees and/or escrow deposit approved by the City Commission;
ii. A scaled site plan drawing that clearly locates the proposed WET(s) and all accessory structures/equipment in relation to all onsite and adjacent property lines, rights-of-way, public easements and overhead utility lines. Setbacks as required in this Section shall be clearly shown to scale on the site plan drawing.
iii. A scaled site plan drawing that clearly displays property dimensions, existing buildings on the subject property and on adjacent properties, sidewalks, non-motorized pathways and streets.
iv. A scaled site plan that includes existing and proposed onsite grading / topography at two-foot contour intervals.
v. Product-specific technical information from the manufacturer of the SSM-WET or STM-WET. This information shall include the proposed height and type of WET, maximum noise output in Decibels, total rated generating capacity, product dimensions, rotor blade diameter and a detail of accessory structures.
vi. Documented compliance with the noise generation requirements set forth in this Section.
vii. Documented compliance with applicable local, state and federal regulations including, but not limited to, public safety, construction, environmental, electrical, communications and FAA requirements.
viii. Proof of liability insurance.
ix. Documented evidence that the utility company has been informed of, and approved, the owner/applicant's intent to install an interconnected, customer-owned generator. Off-grid systems shall be exempt from this requirement.

x. A narrative that explains the proposed methods that will be used to perform maintenance on the WET(s) in compliance with the manufacturer's recommendations and requirements.

14. Safety Requirements:

a. If the SSM-WET or STM-WET is connected to a public utility system for net-metering purposes, it shall meet the requirements for interconnection and operation as set forth in the public utility's current service regulations that meet federal, state and industry standards applicable to wind power generation facilities. Any such connection shall be inspected and approved by the appropriate utility company.

b. The SSM-WET or STM-WET shall be equipped with an automatic braking, governing or feathering system in order to prevent uncontrolled rotation, over-speeding or excessive pressure on the WET.

c. A clearly visible warning sign regarding voltage shall be placed at the base of the WET.

d. The structural integrity of the WET shall conform to the design standards of the International Electrical Commission; specifically IEC 61400-1 "Wind Turbine Safety and Design," IEC 61400-2 "Small Wind Turbine Safety," IEC 61400-22 "Wind Turbine Certification," and IEC 61400-23 "Blade Structural Testing," as amended or succeeded.

15. Signal Interference: The SSM-WET or STM-WET shall not interfere with communication systems, such as, but not limited to, radio, telephone, television, satellite or emergency services communication systems.

16. Decommissioning:

a. The SSM-WET or STM-WET owner/applicant shall complete decommissioning within twelve (12) months after the end of the WETs useful life. The term "end of useful life" is defined as zero electricity generation for a period of twelve (12) consecutive months from a particular WET.

b. All decommissioning expenses are the responsibility of the owner/applicant.

c. The City of Walker Planning Commission may grant an extension of the decommissioning period based upon a reasonable and explanatory request by the owner/applicant. Such extension period shall not exceed one calendar year.

d. If the SSM-WET or STM-WET owner/applicant fails to complete the act of decommissioning within the period described in this Section, then the Walker City Commission may designate a contractor to complete the decommissioning. All decommissioning expenses shall be charged to the owner/applicant, successors or assigns. All decommissioning expenses shall become a lien against the premises.

e. Decommissioning shall be defined as the complete removal of the WET, structures, buildings, electrical components and any other accessory facilities.

f. For STM-WETs, following removal of all items noted in (e) above, the site shall be graded and stabilized to prevent soil erosion in a manner consistent with the post-WET use of the property.

17. Public Noise Complaints:

a. Should an aggrieved person allege that the SSM-WET or STM-WET is not in compliance with the noise requirements of this Section, the administrative enforcement procedure shall be as follows:

i. The complainant shall notify the City of Walker Zoning Administrator in writing regarding the noise level.
ii. The Zoning Administrator shall coordinate with the Police Department to test the Decibel level for compliance with the standards of this Section.
iii. If the test results are unsatisfactory, the complainant may request a noise level test by a certified acoustic technician. The complainant will be required to submit a cash deposit in an amount sufficient to pay for the noise level test.
iv. If the noise level test indicates that the noise level complies with the standards of this Section, then the City will use the deposit to pay for the test.
v. If the noise level test indicates that the WET is in violation of this Section, then the owner/applicant shall reimburse the City for the noise level test while taking immediate action to bring the WET into compliance with this Section. The City may require the WET to be shut down until compliance can be achieved.
vi. Under circumstances as noted in (v) above, the City shall refund the cash deposit to the complainant.

F. SPECIAL EXCEPTION USES.

Medium Wind Energy Turbines (M-WETs) shall be considered a special exception use within the AA - Agricultural; ORP – Office, Research & Parking; C-1 through C-4 Commercial; ML – Light Industrial, MH – Heavy Industrial and MP – Industrial Park zoning districts.

Large Wind Energy Turbines (L-WETs) shall be considered a special exception use only within the Wind Energy Overlay District.

1. M-WETs and L-WETs must receive a building permit prior to construction, installation, relocation or modification. The WET Owner/Applicant or Operator must apply for and receive the building permit.

2. All M-WETs and L-WETs shall be subject to the following minimum requirements:

    a. "Upwind Turbines" shall be required.

    b. Visual Appearance:

        i. M-WETs and L-WETs shall be mounted on a tubular tower.

        ii. M-WETs and L-WETs, including accessory buildings and related structures, shall be a non-reflective, non-obtrusive color, such as white, gray or black.

        iii. The appearance of the WET and all accessory structures shall be maintained throughout the life of the unit.

        iv. Exterior lighting of a tower, rotor blades and nacelle shall only be allowed in order to meet FAA requirements.

        v. Exterior lighting of accessory buildings or entrance points shall be permitted, provided that such exterior lighting fixtures shall be full cutoff "shoebox" fixtures. These fixtures shall not be mounted on poles or other structures that exceed a total height of twenty (20) feet, as measured from the grade at the base of the fixture.

        vi. M-WETs and L-WETs shall not contain commercial signage, banners, flags or advertising logos, except for the identification of the turbine manufacturer and unit specifications for regulatory purposes.

3. Ground Clearance:

    a. M-WET: The lowest extension of any rotor blade or other exposed moving component of an M-WET shall be at least fifteen (15) feet above the ground, as measured from the highest point of grade within fifty (50) feet of the base of the tower. In addition, the lowest extension of any rotor blade or other exposed moving component of an M-WET shall be at least fifteen (15) feet above any outdoor areas intended for human use that are located below the WET. Examples include balconies, roof gardens, etc.

    b. L-WET: The lowest extension of any rotor blade or other exposed moving component of an L-WET shall be at least fifty (50) feet above the ground, as measured from the highest point of grade within one hundred fifty (150) feet of the base of the tower.

~~4.~~ Shadow Flicker: The M-WET or L-WET owner/applicant(s) and/or operator(s) shall conduct an analysis of potential shadow flicker onto any occupied building with direct line-of-sight to the M-WET or L-WET. The analysis shall identify the locations of shadow flicker that may be caused by the WET and the expected durations of the flicker at these locations from sun-rise to sun-set over the course of a year. The

analysis shall identify situations where shadow flicker may affect the occupants of the buildings for more than 30 hours per year, and describe measures that shall be taken to eliminate or mitigate the problems. Shadow Flicker on a building shall not exceed thirty (30) hours per year.

5. Noise Control:

    a. Noise produced by an M-WET or L-WET shall not, *at any time*, exceed the lowest ambient sound level that is otherwise present between the hours of 9:00 PM and 9:00 AM at any adjacent property line of a residential use.

    b. Noise produced by an M-WET or L-WET shall not, *at any time*, exceed the lowest ambient sound level plus 5 Decibels dB(A) that is otherwise present between the hours of 9:00 PM and 9:00 AM at any adjacent property line of a commercial, office, civic, public, agricultural or industrial use .

6. Vibration: An M-WET or L-WET shall not produce vibrations that are perceptible to humans beyond any property line upon which a WET is located.

7. Wire Supports: Guy wires or similar apparatus shall not be allowed as part of an M-WET or L-WET installation.

8. Electrical System: All electrical controls, control wiring, grounding wires, power lines, and all other electrical system components of the M-WET or L-WET shall be placed underground within the boundary of each parcel at a depth designed to accommodate the existing land use to the maximum extent practicable. Wires necessary to connect the wind generator to the tower wiring are exempt from this requirement.

9. Quantity of WETs:

    a. No more than one (1) M-WET shall be installed for every two and one-half (2.5) acres of land included in the subject parcel.

    b. The number of L-WETs shall be determined based on WET setbacks and separation distances as required in this Section.

10. Total Height:

    a. The height of an M-WET shall not exceed one hundred fifty (150) feet. Total height is defined as the vertical distance as measured from the ground level of the base of a WET tower to the uppermost vertical extension of a rotor blade, or the maximum height reached by any part of a WET.

    b. The height of an L-WET shall not exceed four hundred (400) feet. Total height is defined as the vertical distance as measured from the ground level of the base of a WET tower to the uppermost vertical extension of a rotor blade, or the maximum height reached by any part of a WET.

11. M-WET Setbacks & Separation:

    a. Occupied Building Setback: An M-WET shall be setback at least twenty (20) feet from all occupied buildings on the subject parcel, as measured from the base of the tower.

    b. Property Line Setbacks: With the exception of the locations of public roads (see below) and parcels with occupied buildings (see above), all internal property line setbacks shall be equal to the Total Height of the M-WET, as measured from the base of the tower. This setback may be reduced by the Planning Commission as part of a special exception use permit if the applicant provides a registered engineer's certification that the WET is designed to collapse, fall, curl, or bend within a distance or zone shorter than the height of the WET.

    c. Public Road Setbacks: Each M-WET shall be set back from the nearest public road a distance equal to the Total Height of the M-WET, as measured from the nearest boundary of the road right-of-way to the base of the tower.

    d. Communication and Electrical Lines: Each M-WET shall be set back from the nearest above-ground public electric power line or telephone line a distance equal to the Total Height of the M-WET, as measured from the base of the tower to from the existing power line or telephone line.

    e. Tower Separation: M-WET separation shall be based on industry standards and the manufacturer's recommendation.

12. L-WET Setbacks & Separation:

    a. Occupied Building Setback: Each L-WET shall be set back from the nearest occupied building that is located on the same parcel as the L-WET a minimum of two (2) times its Total Height, or one thousand (1000) feet, whichever is greater, as measured from the base of the tower,.

    b. Property Line Setbacks: With the exception of the locations of public roads (see below) and parcels with occupied buildings (see above), all internal property line setbacks shall be a minimum of one and one-half (1.5) times the Total Height of the L-WET, as measured from the base of the tower. This setback may be reduced by the Planning Commission as part of a special exception use permit if the applicant provides a registered engineer's certification that the L-WET is designed to collapse, fall curl, or bend within a distance or zone shorter than the height of the WET.

    c. Wind Energy Overlay District Setbacks: There shall be a setback distance equal to two (2) times the Total Height of the L-WET, as measured from the base of the tower, to any border of the Wind Energy Overlay District,.

d. Public Road Setbacks: Each L-WET shall be set back from the nearest public road a minimum distance of four hundred (400) feet or one and one-half (1.5) times the Total Height of the L-WET, whichever is greater, as measured from the nearest boundary of the road right-of-way to the base of the tower.

e. Communication and Electrical Lines: Each L-WET shall be set back from the nearest above-ground public electric power line or telephone line a distance no less than four hundred (400) feet or one and one-half (1.5) times its Total Height, whichever is greater, as measured from the base of the tower to from the existing power line or telephone line.

f. Tower Separation: L-WET tower separation shall be based on industry standards and the manufacturer's recommendation.

13. Access Driveway: Each L-WET shall require the construction of an access road to offer an adequate means by which public safety vehicles may readily access the site in the event of an emergency. All access roads shall be constructed to standards as defined by the City Engineer, Police Chief and Fire Chief.

14. Signal Interference: The SSM-WET or STM-WET shall not interfere with communication systems, such as, but not limited to, radio, telephone, television, satellite or emergency services communication systems.

15. Special Exception Use Permit Required: M-WET and L-WET projects shall require a special exception use permit prior to the commencement of any onsite construction. Special exception use permit applications for M-WET(s) and L-WET(s) shall follow the administrative procedures prescribed in Article IX of Chapter 94 in the City of Walker Book of Ordinances.

16. Site Plan Review Required: M-WET and L-WET projects shall be required to undergo site plan review by the Planning Commission, subject to the following:

a. M-WET and L-WET projects shall be exempt from the site plan review standards found in Article X – Site Plan Review in Chapter 94 of the City of Walker Zoning Ordinance.

b. Owner/applicants of proposed M-WET and L-WET projects shall provide the following to the City of Walker Planning Department:

i. A completed and signed application for site plan review by the Planning Commission plus any applicable fees and/or escrow deposit approved by the City Commission;

ii. A scaled site plan drawing, sealed by a professional engineer, that includes the following:

a. Contact information for the Owner(s) and Operator(s) of the M-WET or L-WET as well as contact information for all property owners on which the M-WET or L-WET is located.

b. A site location map with identification and location of the properties on which the proposed M-WET or L-WET will be located.

c. The location and dimensions of all proposed WET(s) and all accessory structures/equipment, including security fencing, exterior lighting and power grid connectivity equipment, whether buried or above ground.

d. The location of all onsite and adjacent property lines, rights-of-way, public easements and overhead utility lines.

e. The location and dimension of all setbacks as required in this Section.

f. All property dimensions, zoning districts, existing buildings on the subject property and on adjacent properties, sidewalks, non-motorized pathways, large trees and streets.

g. Existing and proposed onsite grading / topography at two-foot contour intervals.

h. Soil erosion and stormwater drainage plans per Chapter 34 of the City of Walker Book of Ordinances.

i. Plan view and cross sectional details of all proposed access drives.

iii. Required Supplemental Site Plan Documentation:

a. A narrative that explains the proposed methods that will be used to perform maintenance on the WET(s) in compliance with the manufacturer's recommendations and requirements.

b. A copy of the lease, or recorded document, with the landowner(s) if the applicant does not own the land for the proposed M-WET or L-WET.

c. A statement from the landowner(s) of a leased site that he/she will abide by all applicable terms and conditions of the special exception use permit, if approved.

d. In the case of a Condominium Development, a copy of the Condominium Development's Master Deed and Bylaws addressing the legal arrangement for the M-WET or L-WET.

e. The proposed number, representative types and height of each M-WET or L-WET to be constructed; including their manufacturer and model, product specifications including maximum noise output (measured in Decibels), total rated capacity, rotor diameter, and a description of ancillary facilities.

f. Documentation verifying the developer/manufacturer's confirming specifications for M-WET or L-WET tower separation as proposed on the site plan.

g. Documented compliance with the noise, vibration and shadow flicker requirements set forth in this Section.

h. Engineering data concerning construction of the M-WET or L-WET and its base or foundation, including soil boring information.

i. A certified, registered engineer's certification that certifies the MWET or LWET meets or exceeds the manufacturer's construction and installation standards.

j. The anticipated construction schedule.

k. A description of the routes to be used by construction and delivery vehicles and of any road improvements that will be necessary to accommodate construction vehicles, equipment or other deliveries.

l. An agreement or bond which guarantees the repair of damage to public roads and other areas caused by construction of the LWET.

m. A copy of the WET maintenance and operation plan, including anticipated regular and scheduled maintenance. Additionally, a description of the procedures that will be used for lowering or removing the M-WET or L-WET to conduct maintenance, if applicable.

n. Documented compliance with applicable local, state and national regulations including, but not limited to, all applicable safety, construction, environmental, electrical, and communications standards.

o. Documented compliance with Federal Aviation Administration (FAA) requirements, the Michigan Airport Zoning Act, the

Michigan Tall Structures Act, and any applicable airport overlay zone regulations.

p. Proof of comprehensive liability insurance.

q. A statement indicating what hazardous materials will be used and stored on the site.

r. Evidence that the utility company has been informed of the customer's intent to install an interconnected, customer-owned generator and that such connection has been approved. Off-grid systems shall be exempt from this requirement.

s. A written description of the anticipated life of each M-WET or L-WET; the estimated cost of decommissioning; the method of ensuring that funds will be available for decommissioning and site restoration; and removal and restoration procedures and schedules that will be employed if the M-WET(s) or L-WET(s) become inoperative or non-functional.

t. A decommissioning plan that will be carried out at the end of the M-WET's or L-WET's useful life, which shall be submitted as a ***Participating Landowner Agreement***, regarding equipment removal upon termination of the lease.

i. As part of the Participating Landowner Agreement, an independent and certified professional engineer shall be retained to estimate the total cost of decommissioning ("Decommissioning Costs") with no regard to salvage value of the equipment, and the cost of decommissioning net salvage value of the equipment.

ii. When determining this amount, the City of Walker may also require an annual escalator or increase based on the Federal Consumer Price Index (or equivalent or its successor). Said estimates shall be submitted to the City of Walker after the first year of operation and every fifth year thereafter.

iii. M-WET and L-WET Owner(s) or Operator(s) shall post and maintain Decommissioning Funds in an amount equal to one hundred percent (100%) of Decommissioning Costs. The Decommissioning Funds shall be posted and maintained with a bonding company or Federal or state chartered lending institution chosen by the Owner(s) or Operator(s) and participating landowner(s) posting the financial security. The bonding

company or lending institution shall be authorized to conduct such business as approved by City of Walker.

iv. Decommissioning Funds shall be in the form of a performance bond made out to the City of Walker.

v. A condition of the bond shall be notification by the bond company to the City of Walker when the bond is about to expire or be terminated.

vi. Failure to keep the bond in effect while an M-WET or L-WET is in place will be a violation of the special exception use permit. If a lapse in the bond occurs, the City of Walker may take action, up to and including requiring the cessation of operations of the WET until the bond is reposted.

u. A study assessing any potential impacts on the natural environment (including, but not limited to, assessing the potential impact on endangered species, eagles, birds and/or other wildlife, wetlands and fragile ecosystems. The study shall conform to state and federal wildlife agency recommendations based on local conditions.

v. Other relevant information as may be requested by the City of Walker to ensure compliance with the requirements of this Section.

17. Safety Requirements:

a. If the M-WET or L-WET is connected to a public utility system for net-metering purposes, it shall meet the requirements for interconnection and operation as set forth in the public utility's current service regulations that meet federal, state and industry standards applicable to wind power generation facilities. Any such connection shall be inspected and approved by the appropriate utility company.

b. The M-WET or L-WET shall be equipped with an automatic braking, governing or feathering system in order to prevent uncontrolled rotation, over-speeding or excessive pressure on the WET.

c. Security measures shall be in place to prevent unauthorized trespass and access. Each M-WET or L-WET shall not be climbable up to fifteen (15) feet above ground surfaces. All access doors to M-WETs or L-WETs and accessory electrical equipment shall be locked and/or fenced as appropriate.

d. All spent lubricants, cooling fluids, and any other hazardous materials shall be properly and safely removed in a timely manner.

e. Each M-WET or L-WET shall have one sign, not to exceed two (2) square feet in area, posted at the base of the tower and on the security fence if applicable. The sign shall contain at least the following:
    1. A warning of high voltage
    2. Names of Manufacturer and owner/operator(s)
    3. Emergency contact numbers (list more than one number).

f. The structural integrity of the WET shall conform to the design standards of the International Electrical Commission; specifically IEC 61400-1 “Wind Turbine Safety and Design,” IEC 61400-2 “Small Wind Turbine Safety,” IEC 61400-22 “Wind Turbine Certification,” and IEC 61400-23 “Blade Structural Testing,” as amended or succeeded.

18. Decommissioning:

a. The M-WET or L-WET owner/applicant shall complete decommissioning within twelve (12) months after the end of the WETs useful life. The term “end of useful life” is defined as zero electricity generation for a period of twelve (12) consecutive months from a particular WET.

b. Decommissioning shall include the removal and disposal of each M-WET or L-WET, accessory buildings and structures, electrical components, and all foundations to a minimum depth of sixty (60) inches.

c. All access drives to the M-WET or L-WET shall be removed, cleared, and graded by the Owner/Applicant(s), unless the property owner(s) requests, in writing, a desire to maintain the access drives. The City of Walker will not be assumed to take ownership of any access drive.

d. The WET site and any disturbed earth shall be stabilized, graded, and cleared of any debris by the owner(s) of the M-WET or L-WET or its assigns. If the site is not to be used for agricultural practices following removal, the site shall be seeded to prevent soil erosion.

e. All decommissioning expenses are the responsibility of the owner/applicant.

f. The City of Walker Planning Commission may grant an extension of the decommissioning period based upon a reasonable and explanatory request by the owner/applicant. Such extension period shall not exceed one calendar year.

g. The performance bond agent shall release the Decommissioning Funds noted in Subsection 16 (t) of this Ordinance when the Owner(s) has demonstrated

in writing, and the City of Walker concurs in writing, that decommissioning has been satisfactorily completed.

h. If the M-WET or L-WET Owner / Applicant fails to complete the act of decommissioning within the period described in this Section, then the following shall occur:

i. The City of Walker shall contact the performance bond holding agent and request a release of the Decommissioning Funds.

ii. The Walker City Commission shall designate a contractor to complete the decommissioning.

iii. All decommissioning expenses shall be charged to performance bond of the owner/applicant, successors or assigns.

iv. All outstanding decommissioning expenses shall become a lien against the premises.

v. The entry into, and submission of, a Participating Landowner Agreement to the City of Walker shall constitute agreement and consent of the parties to the agreement, their respective heirs, successors and assigns that the City of Walker may take such action as necessary to implement the decommissioning plan.

19. Certification & Compliance:

a. The City of Walker shall be notified of a change in ownership of an M-WET or L-WET or a change in ownership of the property on which the M-WET or L-WET is located within sixty (60) days of such a transaction.

b. The City of Walker reserves the right to inspect any M-WET or L-WET, in order to ensure compliance with the Ordinance. Any cost associated with the inspections shall be paid by the owner/operator of the WET.

c. A sound pressure level analysis shall be conducted from a reasonable number of sampled locations at the perimeter and in the interior of the property containing any M-WETs or L-WETs to demonstrate compliance with the requirements of this Ordinance. Proof of compliance with the noise standards is required within ninety (90) days of the date the M-WET or L-WET becomes operational. Sound shall be measured by a third-party, qualified professional, with the associated fees being paid by the Owner/Applicant.

d. The M-WET or L-WET Owner(s) or Operator(s) shall provide the City of Walker with a copy of the yearly WET maintenance inspection.

20. Public Noise & Shadow Flicker Complaints:

    a. Noise: Should an aggrieved person allege that the M-WET or L-WET is not in compliance with the noise requirements of this Section, the administrative enforcement procedure shall be as follows:

        i. The complainant shall notify the City of Walker Zoning Administrator in writing regarding the noise level.
        ii. The Zoning Administrator shall coordinate with the Police Department to test the Decibel level for compliance with the standards of this Section.
        iii. If the test results are unsatisfactory, the complainant may request a noise level test by a certified acoustic technician. The complainant will be required to submit a cash deposit in an amount sufficient to pay for the noise level test.
        iv. If the noise level test indicates that the noise level complies with the standards of this Section, then the City will use the deposit to pay for the test.
        v. If the noise level test indicates that the WET is in violation of this Section, then the owner/applicant shall reimburse the City for the noise level test while taking immediate action to bring the WET into compliance with this Section. The City may require the WET to be shut down until compliance can be achieved.
        vi. Under circumstances as noted in (v) above, the City shall refund the cash deposit to the complainant.

    b. Shadow Flicker: Should an aggrieved person allege that the M-WET or L-WET is not in compliance with the shadow flicker requirements of this Section, the administrative enforcement procedure shall be as follows:

        i. The complainant shall notify the City of Walker Zoning Administrator in writing regarding the shadow flicker level.
        ii. The Zoning Administrator shall examine the shadow flicker complaint on the site.
        iii. If the Zoning Administrator finds justifiable cause, a shadow flicker level test by a certified acoustic technician may be authorized by the City of Walker. The complainant will be required to submit a cash deposit in an amount sufficient to pay for the shadow flicker level test.
        iv. If the shadow flicker level test indicates that the shadow flicker level complies with the standards of this Section, then the City will use the deposit to pay for the test.
        v. If the shadow flicker level test indicates that the WET is in violation of this Section, then the owner/applicant shall reimburse the City for the shadow flicker level test while taking immediate action to bring the WET into compliance with this Section. The City may require the WET to be shut down until compliance can be achieved.
        vi. Under circumstances as noted in (v) above, the City shall refund the cash deposit to the complainant.

SECTION _____: SEVERABILITY

SECTION _____: REPEAL OF CONFLICTING ORDINANCES

SECTION ____: EFFECTIVE DATE