

**Chapter 17.00.000**

**'W' WIND ENERGY SYSTEM OVERLAY**

**Sections:**

17.00.001	Purpose
17.00.002	Applicability
17.00.003	Applicable Regulations
17.00.004	WES Development & Performance Standards
17.00.005	Setback Requirements
17.00.006	Noise Limitation Requirements
17.00.007	Ambient Noise Assessment
17.00.008	Environmental Review
17.00.009	Repair, Closure, & Post Closure
17.00.010	Provisions for Extending Closure Period
17.00.011	Post Closure Bond
17.00.012	Liability Insurance & Indemnification
17.00.013	Waiver of Standards by Applicant of Utility-Scale WES
17.00.014	Violation & Penalty

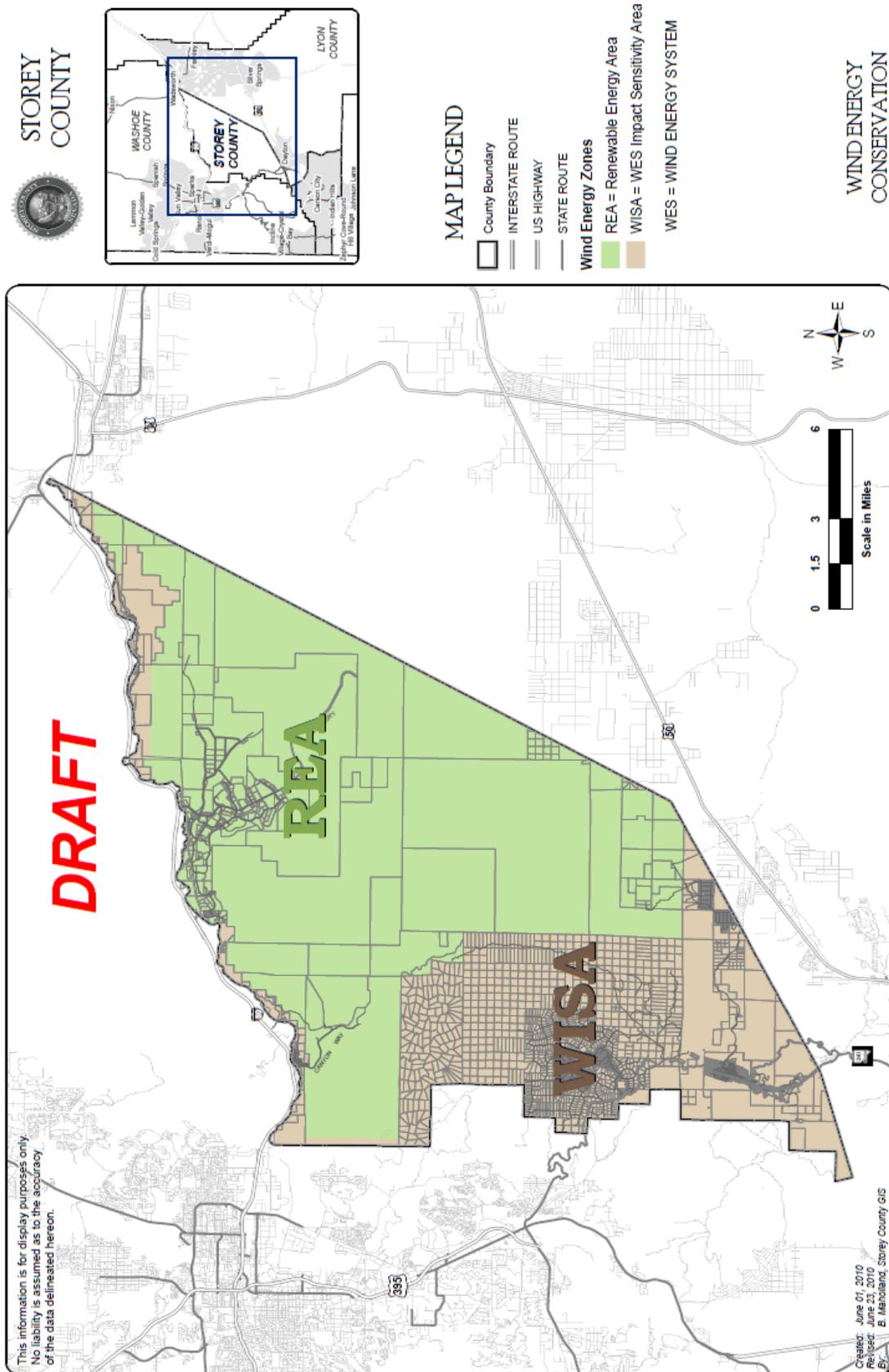
**17.00.001 Purpose.** The purpose of this Chapter is to regulate all Wind Energy Systems (WES) so that such facilities are appropriately placed and constructed, operated, and maintained in a manner which fosters compatibility with surrounding land uses. The Ordinance will allow appropriate development of WES when such developments are deemed to be safe for human and animal populations and living environments, aesthetically desirable for adjacent and surrounding communities, and do not adversely impact the economic sustainability of local businesses, tourism, and the communities in which they are located.

**17.00.002 Applicability.** Unless otherwise indicated, the provisions of this Chapter shall apply to all Residential, Intermediate, and Utility-Scale WES.

(A) Wind Machine. For the purposes of this Chapter, a Wind Machine shall be defined as any rotating mechanism which converts the kinetic energy in wind into mechanical energy which in turn generates electricity. See Chapter 17.10 of this Ordinance for a complete list of terms and definitions related to this Chapter.

(B) Wind Energy System (WES). All components of a wind energy facility including, but not limited to: Wind Machines; supporting towers; foundations and generator housing/nacelles; electrical transmission lines; supporting structures and substations; roads and driveways; outbuildings, dwellings, kiosks, fences, and all other structures and apparatuses related thereto.

- (C) Wind Machine. This type of structure allows energy to be generated through the use of a turbine or other rotating or moving mechanism, usually mounted onto a tower or pole. The machine collects wind energy and converts it to electricity which is then transferred to the electrical user.
- (D) Impact Sensitive Area (ISA). Areas within Storey County where potential impacts caused by Utility-Scale WES are found to be greatest. As indicated on the Wind Energy System Overlay Map (see Figure 2.1), they include the Comstock Historic District and areas zoned “R-1” (Single-Family Residential), “R-2” (Multiple Family Residential), “C-R” (Commercial Residential), “E” (Estate), and “F” (Forestry) zones which are included in the Map.
- (E) Renewable Energy Area (REA). Any place within Storey County, as indicated on the Wind Energy System Overlay Map (see Figure 2.1), which is outside of the ISA (see Subsection D above) as illustrated on the Map.
- (F) Sensitive Receptor. A specific land use located in any regulatory zone which has been determined to be highly sensitive to potential impacts of a Utility-Scale WES. Sensitive receptors include, but are not limited to: public or private schools and institutions; health care facilities; residential and other long-term care facilities; public libraries and parks; and government and office buildings.



**Figure 2.1:** Storey County Wind Energy System Overlay Map.

- (G) Residential Wes. Residential WES shall be defined by any Wind Machine or combination thereof which has a rated output range of 20 kW or less.
- (H) Intermediate WES. An Intermediate WES shall be defined by any Wind Machine or combination thereof which has a rated output range between 20 kW and 100 kW.
- (I) Utility-Scale WES. A Utility-Scale WES shall be defined by any Wind Machine or combination thereof which has a rated output range greater than 100 kW.
- (J) Intermediate WES, as defined by Section 17.00.002(D) shall be permitted within an REA, but no closer than 1,000 feet of a ISA. In addition to all provisions of this Chapter which regulate Intermediate WES, such systems shall also comply with requirements governing the construction and operation of Residential WES, unless otherwise stated.
- (K) Requirements General. All Residential, Intermediate, and Utility-Scale WES shall comply with all applicable Storey County, Nevada State, and federal requirements, and necessary permits as well as laws set forth by Article 384 (Comstock Historic District) of Nevada Revised Statutes (NRS), when applicable.
- (L) Special Use Permit. Utility-Scale WES, as defined in 17.00.002(E) of this Chapter, shall only be allowed with a special use permit approved by the Board of Storey County Commissioners with recommendation by the Planning Commission.
- (M) Transfer of Entitlement. The Utility-Scale WES contractor or permit holder shall not sell, transfer, ground lease, or assign the property or any part of the WES in whole or in part to any person, partnership, joint venture, firm, company, or corporation without a minimum of ninety (90) days notification to Storey County prior to escrow/contract closing.
- (N) Special Use Permit Maintenance. In the event that the use authorized by the special use permit is abandoned for a period of more than twenty-four (24) calendar months from the date of last electricity producing operations, the permit shall become null and void and a new special use permit shall be required. In the event of a Force Majeure such as, but not limited to, a flood, damage, or destruction of the access to the site, earthquake, or other events beyond the control of the County or permit holder, the period of abandonment shall not be deemed to commence until such time as the permit holder may be found to once again have reasonable access to the site. The special use permit shall remain valid as long as the permit

holder, its heirs, assigns, or successors remain in compliance with the terms of the granted permit and County, state and federal regulations. In the event that the permit lapses or the use is discontinued or abandoned, the permit holder, its heirs, assigns or successors shall remain responsible for environmental monitoring and post-closure reclamation.

(O) Minimum Design Requirements. All Residential, Intermediate, and Utility-Scale Wind Machines that are not designed in “accordance with proven good engineering practices”, as determined by the International Electrotechnical Commission (IEC), shall be prohibited. A Variance may be granted by the Board of Storey County Commissioners with recommendation by the Planning Commission for experimental Wind Machines or other Wind Machine(s) that do not meet the criteria of this subsection when it has been determined that the intent and spirit of this Chapter and other County Ordinance will not be violated. Notwithstanding the foregoing, to be deemed “in accordance with proven good engineering practices”, Wind Machine(s) shall have, but not be limited to, the following minimum design characteristics:

1. For Utility-Scale horizontal axis type Wind Machines, an upwind rotor design to which the wind passes through the Wind Machine’s blades before its support tower. Downwind (where the air passes through the blades after passing the tower) Intermediate Wind Machines may be accepted with approval by the Storey County Community Development Department;
2. No less than three (3) blades, and all blades are tapered and twisted. Two (2) bladed Intermediate Wind Machines may be accepted with approval by the Storey County Community Development Department;
3. No furling, where “furling” means that the horizontal or vertical axis type (see Figure 2.2) Wind Machine is designed to limit its power output or speed by changing its plane or rotation to a plane that is not perpendicular to the prevailing wind direction;
4. Automated, electronically controlled, and redundant braking system which includes both aerodynamic over-speed controls (including variable pitch, tip, and other similar systems). Stall regulation shall not be considered sufficient breaking system for over-speed protection;
5. Supported by a “mono-pole” type structure free of any lattice type framework. Lattice type framework (see Figure 2.2) shall be

prohibited.



**Figure 2.2:** The Vertical Axis Wind Machine (top left) is positioned so that its main rotor shaft runs vertically to its supporting tower. The Horizontal Axis Wind Machine (top right) is positioned so that its main rotor shaft runs horizontally to its support tower. Both of the above Wind Machines are supported by a mono-pole (single pole) tower. The Wind Machine illustrated at the bottom right is supported by lattice type framework.



**17.00.003 Application Requirements.** Unless otherwise stated, each restriction and requirement in this Section shall apply only to Utility-Scale WES. It is recognized that the standards herein are neither exclusive, nor exhaustive. In instances where a health or safety concern is identified with regard to any WES, additional or more restrictive conditions may be imposed on the WES. Storey County reserves the right to impose additional standards as circumstances warrant. Storey County may require any of the provisions of this Chapter to be fulfilled by a qualified person (i.e., licensed engineer) at the expense of the WES Applicant. In each case below and prior to acting on the submitted special use permit application, Storey County shall reserve the right to retain the service of an independent, recognized expert, at the expense of the WES Applicant, to review the results of each study. In each case, said study may evaluate the short-term and long-term economic viability and impact of the proposed WES project. Each special use permit application shall be accompanied by the following materials:

(A) Past Information. Name and address of any other current or past WES developed or operated by the Applicant, whether in the State of Nevada or any other state, territory, province, or nation.

(B) Contact Information: The following information shall be provided to Storey County Community Development and Fire Departments:

1. During Construction Phase: Name, address, and phone number(s) of the individual(s) responsible for the day-to-day operations during the project's construction phase, who will be deemed the primary contractor, including all sub-contractors, for the purpose of this Section, and who will be the contact person for the County.

2. During Operation Phase: Name, address, and phone number(s) of the individual(s) responsible for the post-construction operation of the proposed WES, who will be deemed the Operator for purposes of this Section, and who will be the contact person for the County.

(C) Ownership/Permission. Documented evidence that the Applicant is the owner of the underlying real estate necessary for the WES project, or that the Applicant has obtained written permission of the owner(s) of such real estate to make such an application.

(D) Easements, Leases, and Property Rights. Copies of signed letters of intent to grant easements, long-term leases, or other property rights from all involved landowners and any governmental units responsible for right-

of-ways for access, construction, electrical transmission, and distribution lines, etc.

(E) Statement of Understanding. A signed statement that the Applicant is familiar and will remain in compliance with the provisions of this Chapter and any other applicable federal, Nevada State, and Storey County requirements, including the responsibility to pay for all reasonable costs and professional fees associated with the processing, examination, and analysis of the application for a special use permit and such further expenses associated with monitoring the WES and enforcing the terms of the special use permit.

(F) Detailed Site Plan. A site plan which meets all the requirements of this Section and applicable provisions of the County Zoning Ordinance, as well as any additional site specific requirements of the County in accordance with the technical requirements within this Ordinance. Each special use permit and building permit application shall be accompanied by a site plan showing the location of the proposed Residential, Intermediate, and Utility-Scale Wind Machine(s) and all existing features within the proposed WES boundaries, including:

1. Total acreage occupied by the entire WES;
2. Parcel boundaries and WES boundaries;
3. Specific, or approximate locations if specific locations are not available during application process, of existing and proposed Wind Machine(s); MET towers; buildings and structures; fences; equipment yards; maintenance and storage areas; electrical transmission lines, supporting towers, and substations; access and maintenance roads and public right-of-ways, when applicable;
4. Location and distance of each proposed Wind Machine from the above stated features and all active and inactive tunnels, wells, mine shafts and adit portals, sink holes, and public outdoor recreation facilities;
5. For Utility-Scale WES, the map shall illustrate the above features within one-half mile of the WES boundaries; for Residential and Intermediate WES, the map shall illustrate such features within the parcel in which it is located and all abutting parcels, including adjacent parcels across the right-of-way.

(G) Specifications and Safety. Applications for all Utility-Scale, Intermediate, and Residential WES shall disclose the nature, type, make, and model of the proposed Wind Machine(s) and shall include detailed product literature, specifications, photographs, detailed drawings, and maintenance safety guidance for the proposed Wind Machine(s). The design shall conform to applicable best industry standards, including those of the American National Standards Institute (ANSI). A structural safety certificate from a licensed engineer stating that the structure is of new construction and not refurbished or rebuilt, is safe, and has been designed to operate within climatic conditions of the area in which each Wind Machine is to be located shall be included. During the initial phases in which the exact model of a Utility-Scale Wind Machine has not been determined, the Applicant shall submit the above material for at least three (3) prospective models which are proposed to be used.

(H) Simulation ISA: This Subsection shall apply to all Utility-Scale WES, or portions thereof, located within one (1) mile of a ISA. Utility-Scale WES located beyond the scope of this Subsection shall comply with the regulations set forth by 17.00.003(I). In the case where applicable, a detailed three-dimensional scale computer simulation overlaid on the existing environment showing the proposed WES project area and the area fully developed with all proposed Wind Machine units and related facilities shall be included with the application. The simulation shall project all impacts on the landscape from ground-level view within three miles from the WES parcel boundary at a scale no smaller than 1"=100 feet. The base map used shall be a published topographic map showing improvement features, such as roads and buildings. In addition, the application shall include photographs or video of the existing environment before construction and installation of the WES. The location of each photo/video shall be determined by Storey County. Storey County shall reserve the right to make further requirements of the visual model and required photographic/video representations, as needed.

(I) Simulation REA: This Subsection shall apply to all Utility-Scale WES located further than one (1) mile from a ISA or a Sensitive Receptor. Portions of the WES located beyond the scope of this Subsection shall comply with the regulations set forth by 17.00.003(H). In the case where applicable, the Applicant shall consult with Storey County in determining appropriate locations where potential visual impacts of the WES may be present and where visual representations of associated impacts may be necessary. In the case where visual modeling is necessary, the submitted visual(s) shall consist of photographic representation of the existing environment before construction and after installation of the WES, including roads, towers, fences, buildings, and other improvements related thereto. Storey County shall reserve the right to make further requirements of the visual model, as needed.

(J) Timeline: A proposed timeline showing the expected lifespan of the WES as well all aspects of construction and Post-Closure reclamation with starting and final completion dates thereof. Material shall include factory specifications indicating lifespan of the make and model of Wind Machine proposed to be utilized.

(K) Wind Study: Results of a study documenting the minimum, maximum, and average hourly wind speeds and prevailing wind directions over a period of time determined to be acceptable (usually 30 to 90 days) by Storey County. Anemometers shall be calibrated to ensure a measurement of error of one (1) percent or less. Evidence of sufficient wind resources, as described by the U.S. Department of Energy, shall be provided to Storey County.

(L) Critical Communications. Critical communication study prepared by a registered professional engineer showing that the proposed WES will not interfere with emergency (fire, police/sheriff, ambulance) radio, two-way communications (base stations, mobile, and hand-held radios, including digital), paging, television, telephone (including cellular and digital), microwave, satellite (dish), navigation, internet or radio reception communications to and from neighboring areas. A signed affidavit stating that the Applicant shall be responsible for the full cost of any removal of WES and any other remediation necessary to provide correction any problems; including relocation or removal of the WES and any and all related electric transmission lines, transformers, and other components related thereto shall be submitted by the Applicant. Equivalent communications shall be maintained throughout the life of the WES, even as future technologies may change.

(M) Ambient Noise Study. A completed ambient noise study, completed in accordance with the provisions set forth by 17.00.007 of this Chapter, shall be submitted to Storey County Community Development Department as part of the Utility-Scale WES special use permit application. The ambient level at each representative residence or other noise sensitive receptor is defined as the lowest hourly A-weighted  $L_{90}$  level measured during a 24-hour period and during the quietest season of the year.

(N) Shadow Flicker and Blade Glint. A shadow flicker and blade glint model for each proposed Wind Machine located within 4,000' or the equivalent distance of ten rotor diameters of the Wind Machine to a ISA boundary or a Sensitive Receptor, or within 2,000 feet of a public or private driveway or right-of-way, or any other place deemed by Storey County to be potentially sensitive to shadow flicker or blade glint, may be required.

(O) Ice-Throw and Blade-Throw. The basis of the calculations and assumptions of ice and blade throw for each type of Wind Machine applicable to the proposed WES shall be disclosed with Storey County.

(P) Travel Route. A detailed map showing all vehicular travel routes to, from, and within the proposed WES shall be required. A pre-construction inventory of road conditions performed by a licensed engineer shall be provided. The Applicant shall abide by all Storey County, State of Nevada, and federal regulations that may affect travel and/or ingress/egress related to the WES.

(Q) Connection. A detailed map showing all tentative proposed transmission lines (above and below ground) connecting Wind Machine(s) to the local utility's electric distribution lines and/or any residential, commercial, industrial structure, or other "behind-the-meter" connection shall be provided to Storey County for all Residential, Intermediate, and Utility-Scale WES. The map shall also show all above and below ground communications lines and fiber optic lines. In accordance with 17.00.003(F), actual routing, alignment, and connections thereof shall be submitted to Storey County for approval prior to commencing installation of the WES.

(R) Environmental Review. A technical report shall be submitted showing that construction and operation of the WES including, but not limited to, the development, operation, and reclamation of the WES and associated facilities (e.g., roads, access corridors, foundation pads, equipment storage and staging areas, etc.) and all related facilities will conform the requirements set forth by Section 17.00.008 of this Chapter.

(S) Water Usage. The submitted plan shall indicate the amount and place of origin of all water that will be used in connection with construction, management, and maintenance of the WES, including resources used for washing Wind Machine(s) and their components, developing concrete for foundation pads and other structures within the WES, and managing dust.

(T) Lighting Plan. The Applicant shall provide a tentative plan showing proposed lighting in connection with the WES. The plan shall indicate that lighting does not exceed the Federal Aviation Administration (FAA) minimum standards and that only red "blinking" rather than white "strobe" lights are used, if permitted by the FAA. Lighting shall be shielded from ground view to FAA minimum standards.

(U) Historical Resources. Economic development, the stabilization and

improvement of the Virginia City and Gold Hill economy and job market cannot be divorced from preservation of cultural and historical landscapes. In order to protect the Comstock Historic District's economic vitality and sustainability from tourism, the Applicant must provide a comprehensive plan which indicates measures which will be taken to mitigate all potential visual impacts of the proposed WES on any historical resources, including the integrity of location, setting, feeling, and association of significant historical appropriateness for visitors of historic Virginia City and Gold Hill town sites and the Virginia & Truckee (V&T) Railroad corridor.

(V) Closure, Removal, and Post Closure. The required Post Closure Plan shall identify the specific properties in which it applies; indicate the timeline and process to be used for reclamation of the WES site; and reflect the standards set forth in this Chapter. The Post-Closure Plan shall include removal of all materials above and below ground including, but not limited to, Wind Machines, rotors, blades, supporting towers, foundations (each foundation shall be removed or made to be no less than thirty six inches (36") from the grade level within 100' of its surrounding grade), MET towers, Utility-Scale and communications lines, accessory structures, fencing, roads, parking and staging areas, and all vehicles and equipment. The plan shall also address re-grading and re-vegetation necessary to return the subject property to the condition existing prior to construction and establishment of the WES. The plan shall reflect the site-specific character including topography, vegetation, drainage, and any unique environmental features at the site. The plan shall also detail payment for all impacts, directly and indirectly, to Storey County and Nevada State highways and roads. The plan shall include a certified estimate of the total cost (by element) of implementing the removal and restoration plan. The cost estimate shall be developed by a qualified engineer and reviewed and approved by an independent consultant selected by the Board of County Commissioners, at the Applicant's expense, prior to review and approval of the Application.

**17.00.004 WES Development & Performance Standard.** Unless otherwise stated in this Section, each restriction and requirement shall apply to Utility-Scale WES. It is recognized that the standards herein are neither exclusive, nor exhaustive. In instances where a health or safety concern is identified with regard to any WES, additional or more restrictive conditions may be imposed. Storey County reserves the right to impose additional standards as circumstances warrant. Storey County may require any of the provisions of this Chapter to be fulfilled by a qualified person (i.e., licensed engineer) at the expense of the WES Applicant. In each case below and prior to acting on the submitted application, Storey County shall reserve the right to retain the service of an independent, recognized expert, at the expense of the Applicant, to review the work being completed in association with the project. WES development and performance standards and requirements shall apply as follows:

(A) Building Permit. In addition to the requirements set forth by this Chapter, the Applicant shall be required to obtain a Storey County Building Permit prior to construction of any Residential, Intermediate, or Utility-Scale WES. The issuance of a special use permit shall not in any way be construed as an approval to commence construction or operation of any WES; inversely, the issuance of a Building Permit shall not be construed as an approval for a special use permit.

(B) Tower and Support Limitations. All Residential, Intermediate, and Utility-Scale WES shall be supported by a single tower/pole and not by any ladder or lattice type framework. All Wind Machines shall be self-supporting without the use of guy-wires when located on one acre or less, unless a Variance is granted by the Board of Storey County Commissioners with recommendation by the Planning Commission. Utility-Scale towers/poles shall only be used to support an energy generator, its housing (nacelle), blades, and other devices and instruments directly related to the operation and/or safety of the Wind Machine. The Utility-Scale tower/pole and all other related support structures shall not be used to support items such as flags, signs, advertisements, antennas, satellite dishes, or any other device unless such is necessary for operation and/or safety of the WES. The tower/pole of a Residential or Intermediate WES may include up to two (2) whip/mono-pole type antennas. The only advertising allowed on any Wind Machine shall be a logo on the generator nacelle indicating the brand name of the generator and/or WES company name. There shall be no other advertising on or off-site of the WES.

(C) Organization. To provide visual order to Residential, Intermediate, and Utility-Scale WES with more than one Wind Machine, all individual Wind Machines shall be similar in shape, design, form, and dimensions (i.e., rotor type Wind Machines shall all have the same number and rotation of blades). To promote visual uniformity, all Wind Machines at a similar

ground elevation shall have the same height from grade-level to blade tip. To avoid cluttering the skyline, inverters and pendant power cables shall be located inside the Utility-Scale Wind Machine(s) tower and nacelle. Except during construction, re-construction, or removal, outdoor storage of any materials shall comply with all requirements specified in the approved special use permit.

(D) Signage. All on-site and off-site signage indicating direction to the WES project, temporary or permanent, within the Comstock Historic District or any ISA shall conform to all applicable Nevada State Statutes and Storey County Codes. Storey County shall reserve the right to further restrict the number, location, size, and design of the signs, as needed.

(E) Controls and Brakes. All Residential, Intermediate, and Utility-Scale Wind Machines shall be equipped with a redundant braking system. This includes both aerodynamic over-speed controls (including variable pitch, tip, and other similar systems) and mechanically or electrically operated brakes. Furling shall not be a permitted braking system. Brakes shall be operated in a fail-safe mode. Stall regulation shall not be considered a sufficient braking system for over-speed protection.

(F) Exterior Materials. All parts of each Residential, Intermediate, and Utility-Scale WES, including all applicable components outlined below in Subsections 1 through 4, shall be non-reflective and coated with unobtrusive colors that facilitate blending with natural surroundings as permitted by FAA regulations: tower and other support structures; blades, hub, and nacelle; electrical substations, outbuildings, and other structures; dwellings, kiosks, and other security devices (e.g., fences, gates, and walls).

(G) Electrical Distribution and Controls. The location, routing, and alignment of electrical controls, control wiring, and power lines located outside of towers, nacelles, and other structure shall be approved by Storey County. Except where the WES collector wiring is brought together for connection to the transmission or distribution network, all wiring and distribution lines shall be located below ground, when feasible.

(H) Lighting. Motion detector lighting installed and managed in accordance with Chapter 8.02 of the Storey County Code shall be permitted at the ground entrance of each Wind Machine tower and on any other structure within the WES. There shall be no other lighting permitted on the premises, including on Wind Machine towers, MET tower, fencing, buildings, equipment yards, light poles, etc., other than that as required by the FAA or other applicable federal or Nevada State authority, or as otherwise agreed in connection with the issuance of the approved special

use permit. Notwithstanding the foregoing, this restriction shall not apply to infrared heating devices used to protect the monitoring equipment. The tower shall be connected to an uninterruptible back-up power source to ensure continuous compliance with FAA regulations. To the extent consistent with FAA regulations, shrouding for the lights shall direct reflection of light up. Aircraft safety and protection shall also be accomplished by establishing sufficient setbacks between all Wind Machines and adjoining properties in order to allow for safe emergency, fire, and medical aircraft landings on all adjoining properties.

(l) Communications & Electromagnetic Interference. All Residential, Intermediate, and Utility-Scale WES shall be sited and operated so that they do not interfere with emergency (fire, police/sheriff, ambulance) radio two-way communications (base stations, mobile, and hand-held radios, including digital) and/or paging, television, telephone (including cellular and digital), microwave, satellite (dish), navigational, internet or radio reception to neighboring areas. The Applicant/Permit Holder of the WES shall be responsible for the full cost of any remediation necessary to provide equivalent alternate service or correct any problems; including relocation or removal of the WES caused or exacerbated by the operation of such equipment and any and all related transmission lines, transformers, and other components related thereto. The Applicant shall maintain equivalent communications throughout the life of the WES even as future technologies may change. The owner/operator shall fulfill the following requirements when needed throughout the life of the WES:

1. Respond within five (5) business days to any request for communications interference investigation by a property owner within the project boundary and a three-mile radius beyond the WES boundary. Testing will commence within ten working days of the request. The Applicant/Permit Holder is responsible for mitigating within ten (10) working days from the determination of interference cause attributed to the operation of the WES. Testing shall be completed at Applicant/Owner's expense.
2. Respond within one (1) business day to any request for communications interference investigation by any emergency agency (fire, police/sheriff, ambulance). Testing shall commence within two (2) working days of the request. The owner/operator is responsible for mitigating at his/her expense within two business days from the determination of interference cause attributed to the operation of the WES.

(J) Best Management Practices. Construction and operation of the WES including, but not limited to, the development, operation, and reclamation of all roads, access corridors, foundation pads, equipment storage and staging areas, and all related facilities shall conform to all Storey County grading and slope stability requirements and all Nevada Department of Environmental Protection (NDEP) Best Management Practices (BMPs).

(K) Shadow Flicker or Blade Glint. All Residential, Intermediate, and Utility-Scale WES shall be designed such that shadow flicker or blade glint will not fall outside the parcel in which the WES is located or on any existing Sensitive Receptor. Shadow flicker or blade glint expected to fall on a private or public driveway, right-of-way, or a commercial or industrial parcel may be acceptable under the following circumstances with the approval of Storey County Community Development Department:

1. The flicker or glint will not exceed 10 hours per calendar year;
2. The Utility-Scale Wind Machine causing flicker or glint is located more than 4,000 horizontal feet or the distance of 10 rotor diameters (of applicable Wind Machine(s)) from a ISA or the Comstock Historic District;
3. The Residential and Intermediate Wind Machine flicker or glint is confined to the parcel in which it is located;
4. The traffic volumes on impacted roadway and right-of-way are less than 500 vehicles per day;
5. The flicker or glint does not fall within the intersection of a roadway or right-of-way;
6. If shadow flicker or blade glint exceeds any of the conditions listed in this section, the source Wind Machine(s) shall be removed or relocated in accordance with the regulations set forth by this Chapter, or made to stop rotating until the flicker or glint problem has been remedied or no longer persists (e.g., during times of sunrise and/or sunset).

(L) Fire and Emergency. After approval of the special use permit by the Board of Storey County Commissioners and prior to commencement of the WES project, the Applicant of a Utility-Scale WES shall prepare a plan in consultation with the Storey County Fire Department. The developed plan shall address all activities which will take place at the WES from the

start of construction through the end of power generation and the final removal and restoration of the site. The submitted plan shall also result in a response plan address all identified potential fire, rescue, and hazardous materials scenarios, when applicable.

(M) Roads and Right-of-Ways. Prior to commencement of construction of the WES, the Applicant shall consult with Storey County for load paths and restrictions on all prospective roads, bridges, and right-of-ways. The regulations hereto shall apply as follows:

1. The Applicant shall provide a pre-construction evaluation and identification of road surface materials which states the type and amount of surface cover which includes photographic or video documentation of predetermined designated traffic routes. The evaluation and identification report shall be performed by a Nevada State certified professional engineer mutually agreed upon by Applicant and Storey County;
2. The Applicant shall contract with licensed contractors, approved by Storey County, or the Nevada Department of Transportation (NDOT) when applicable, to repair any damage to roads, bridges, and other public right-of-ways due to transportation of equipment and WES components;
3. In the event a hazardous road condition exists that is not immediately corrected by the Applicant's contractor, Storey County may order emergency road repairs to be performed immediately by a qualified contractor and the Applicant shall promptly reimburse the County for reasonable emergency road repair costs;
4. The Road Repair Obligation shall be consistently maintained in a manner and within a timeframe satisfactory to Storey County and the NDOT, whichever is applicable.

(N) Historic and Prehistoric Discovery. Should any historic or prehistoric remains/artifacts be discovered during development or excavation of any Residential, Intermediate, or Utility-Scale WES, work shall temporarily be halted at the specific site and the Storey County Community Development Department shall be notified in order to evaluate the site and, if deemed necessary, to record and photograph the site in question. The period of temporary delay shall be limited to a minimum of two working days from the date of notification, unless it is a significant find and it is deemed necessary to provide more time to evaluate and protect historical remains or artifacts.

(O) Preservation of Historic Resources. Economic development, the stabilization and improvement of the Virginia City and Gold Hill economy and job market cannot be divorced from preservation of cultural and historical landscapes. In order to protect the Comstock Historic District's economic vitality and sustainability from tourism, there shall be no visual impacts of the WES on any historic resources, including the integrity of location, setting, feeling, and association of significant historical appropriateness for visitors of historic Virginia City and Gold Hill town sites and the Virginia & Truckee (V&T) Railroad corridor.

(P) Liability Insurance & Indemnification. The Applicant of a Utility-Scale WES as well as its assigns, heirs or successors, shall submit to Storey County proof of liability insurance in the amount of \$5,000,000 (five million dollars) with Storey County named as the "Additional Insured" prior to licensing and permitting. For all Utility-Scale, Intermediate, and Residential WES, a letter of indemnification shall be submitted to Storey County which states that the owner/operator agrees to the extent not prohibited by law, to indemnify, defend, and hold harmless Storey County from any costs, damages, claims, causes for action, penalties, fines, liabilities, and judgments of any kind or nature to the extent such liability arises from or in connection with the owner/operator's negligent use, operation, management, or maintenance of the WES.

**17.00.005 Setback Requirements.** A minimum setback for each Wind Machine shall be in accordance with the minimum standards as measured from the base of the Wind Machine's supporting tower to its highest point; for rotor type Wind Machines the highest point shall be the uppermost extension of any blade facing upward. Setback distances set forth by this section shall be the minimum standard and may be extended in order to assure that maximum noise parameters set forth by the applicable provisions of this Chapter remain are not exceeded. It is recognized that the standards herein are neither exclusive, nor exhaustive. In instances where a health or safety concern is identified with regard to any WES, additional or more restrictive conditions may be imposed on the WES. Storey County reserves the right to impose additional standards as circumstances warrant. Storey County may require any of the provisions of this Chapter to be fulfilled by a qualified person (i.e., licensed engineer) at the expense of the WES Applicant. In each case below and prior to acting on the submitted application, Storey County shall reserve the right to retain the service of an independent, recognized expert, at the expense of the Applicant, to review the work being completed in association with the project. Wind Machine setback standards and requirements shall apply as follows:

(A) Setbacks for Residential and Intermediate Wind Machines. Residential and Intermediate Wind Machine towers shall be limited to a maximum height of forty-five (45) feet. The Wind Machine shall be located no closer than its total height (including tower and uppermost blade facing upward) plus ten (10) percent of its total height to the parcel boundary in which is located. A Variance for added height or reduced setbacks for Residential and Intermediate WES may be granted by the Board of County Commissioners with recommendation by the Planning Commission when a Residential WES is located on a parcel no less than one (1) acre in size and an Intermediate WES is located on a parcel no less than forty (40) acres in size and when the Board determines that the Variance will in no way create a safety hazard, adversely impact any adjacent parcel, land use, or the environment, or otherwise violate the intent and spirit of this Chapter.

(B) Setbacks for Utility-Scale Wind Machines. Utility-Scale Wind Machines shall be located no closer than four (4) times its total height from the parcel in which it is located; six (6) times its total height from any industrial or commercial building or facility (e.g., permanent warehouse, factory, outdoor storage areas, and other work areas) and Sensitive Receptors; and three (3) times its total height from public right-of-ways, sinkholes, mine shafts and adit portals, wetlands, and bodies of water. Setback distances for experimental Wind Machines and other Wind Machines not in accordance with the minimum design standards set forth by 17.00.002(K) (if approved by the Board of Commissioners) may be greater than those specified herein.

**17.00.006 Noise Limitation Requirements.** The regulations set forth in this Section shall apply to all Utility-Scale Wind Machines which are located within one (1.5) miles of a ISA or a Sensitive Receptor which is in place at time of WES special use permit application. It is recognized that the standards herein are neither exclusive, nor exhaustive. In instances where a health or safety concern is identified with regard to any WES, additional or more restrictive conditions may be imposed thereon by the Board of Storey County Commissioners. The following noise limits and requirements must be met. Each section applies to every limit, to all operating conditions as well as all wind speeds when the WES operates and directions.

(A) Audible Noise Limitations. For the purposes of these regulations, audible sound is used to mean sound which can be easily perceived by the human ear. A reasonably standard definition of “audible sound” is that it is a pressure wave with frequencies between 20 Hz and 20,000 Hz and with intensity above the standard threshold of hearing. The limitations for audible sounds generated from a Utility-Scale Wind Machine, or combination thereof, shall be as follows:

1. Audible noise due to Wind Machine operation shall not be created, which causes the noise level from the Wind Machine and all auxiliary equipment during all operating conditions to exceed the following limitations within 100 feet of a ISA boundary or a Sensitive Receptor: forty-five (45) dB(A) for no more than five (5) minutes out of any one (1) hour time period or fifty (50) dB(A) during any one (1) hour period.

2. In the event audible noise due to Wind Machine operations contains a steady pure tone, such as a whine, screech or hum, the limits for audible noise set forth above in paragraph one (1) of this Section shall be reduced by five (5) dB(A). A pure tone is defined to exist if the one-third 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 octave bands by five (5) dB(A) or for center frequencies of two hundred fifty (250) Hz and above, by eight (8) dB(A) for center frequencies between one hundred (100) Hz and two hundred (200) Hz, or by twelve (12) dB(A) for center frequencies between twenty (20) Hz and eighty (80) Hz. The limits for noise set forth in paragraph 17.00.006(A) shall be reduced by five (5) dB.

3. In the event that audible noise due to Wind Machine operations contains repetitive impulsive or buzzing sounds, the standards for audible noise set forth in paragraph (2) of this Section shall be reduced by five (5) dB(A).

4. In the event the audible noise due to Wind Machine operations contains both pure tone and repetitive impulsive sounds, the standards for audible noise set forth in paragraph (2) of this Section shall be reduced by a total of ten (10) dB (A).

5. In the event the ambient noise level (exclusive of the development in question) exceeds one (1) of the standards given above, the applicable limits may be adjusted so as to equal the ambient noise level at the sole discretion of Storey County. However, neither limit shall be increased more than 10 dB regardless of the ambient.

(P) Low Frequency Sound. For the purposes of these regulations, low-frequency sound and infrasonic sound shall be defined as sounds which have pressure waves with frequencies from 20 Hz – 200 Hz and below 20 Hz, respectively. Low frequency and infrasonic sounds due to Wind Machine and all auxiliary equipment during all operating conditions shall not be created, which causes the noise level to exceed the limitations set forth below within 100 feet of a ISA boundary or a Sensitive Receptor. These limitations shall apply at all times during the calendar year and the twenty-four (24) hour period.

One-third Octave Band Center Frequencies (Hz)	Sound Pressure Level (dB)
10	70 each band
12.5	70
16	68
20	68
25	67
31.5	65
40	62
50	60
63	57
80	55
100	52
125	50
160	48

(C) Measurement Requirements. All measurement shall be made according to the criteria listed below. The qualified sound engineer shall submit with the special use permit application measurement protocols for the ambient noise measurements and the final verification measurements that will verify the noise limitations have been met.

1. All instruments must meet ANSI Type 1 performance specifications, and meet requirements of ANSI S1.4, S1.11, S1.42, and S1.43.

2. Procedures must meet ANSI S12.9 and other applicable ANSI standards.

3. Verification measurements must be made when winds speeds are 10 mph or less and at an elevation of 10 feet above the ground.

4. IEC 61400 procedures are not suitable for enforcement of these requirements. ANSI standards shall be followed for testing procedures.

5. The definition of, duration of, and descriptors for ambient sound levels are as defined in 17.00.003 (M), and its measurement in 17.00.006 (H).

6. In the event the noise levels resulting from the WES exceed the criteria listed above, a waiver to said levels may be granted by the Board of County Commissioners provided that the following has been accomplished:

(1) Written consent from the affected property owners has been obtained stating that they are aware of the WES and the noise limitations imposed by this Ordinance, and that consent is granted to allow noise levels to exceed the maximum limits otherwise allowed;

(2) If the Applicant wishes the waiver to apply to succeeding owners of the property, a permanent noise impact easement has been recorded in the Office of the County Register of Deeds which describes the benefited and burdened properties and which advises all subsequent owners of the burdened property that noise levels in excess of those permitted by this Ordinance may exist on or at the burdened property.

(I) Verification Measurements. Within 30 days of operation, verification measurements shall be made to verify that all noise limits and requirements have been met for each WES located within two (2) miles of a ISA Zone or Sensitive Receptor.

(D) Noise Requirements For Final Submittal. The final submittal for review and acceptance by Storey County shall at a minimum include the following information relating to noise:

1. Identification of all significant sources and sub-sources of noise. Significant sources of infra-sound or tones shall be identified separately.
2. The octave-band sound power levels of each source and significant sub-sources.
3. Predicted levels as A-weighted and applicable 1/3 octave bands at representative residences and other noise sensitive locations.
4. The modeling software used, including a summary of how predicted levels are computed.
5. A list of assumptions and/or standards used in modeling, including those relating to ground effects and atmospheric conditions.
6. A description of the effect of likely atmospheric conditions, including wind shear, will have on predicted levels.
7. Details of how each source and significant sub-source is modeled in sufficient detail that Storey County and/or its noise consultant can understand and evaluate the model.
8. Estimates of the impact of noise on representative residents and other noise sensitive locations.
9. A list of all noise controls needed to meet the required noise limits.

10. A list of additional noise controls that could be applied if additional noise reductions were to be needed. This should include commercially available lower noise WES and auxiliary equipment.
11. The expected effect of predicted noise levels on animals, including birds in area of the WES. This intended to be based on available information in the literature.
12. Protocol for final verification measurements to verify that all noise limits have been met.

**17.00.007 Ambient Noise Assessment.** A pre-construction noise survey within one (1) mile radius of each proposed Utility-Scale Wind Machine located within one (1) mile of a ISA or a Sensitive Receptor at time of application shall be required in order to predict the likely impact resulting from the proposed project. Ambient noise (as defined in 17.00.003 (M)) data and report shall be part of the special use permit application. The survey shall measure ambient background noise levels over a period of time determined to be acceptable by Storey County. The Applicant shall not install any measuring devices, MET towers, or facilities prior to obtaining an approved Storey County Mining Exploration Registration Permit.

The detailed noise assessment shall be done by a qualified noise control engineer who has a degree in engineering or physics, is USA INCE Board Certified or has five (5) years experience in noise control engineering, and has at least two (2) years in responsible charge of noise modeling, measurements, and assessment. To assure compliance thereto, prior to commencement of the noise assessment, the Applicant shall submit to Storey County Community Development the following: (1) name and qualifications of the person/firm in charge of the measurement; (2) name of person(s) who will be conducting the measurements; (3) specific qualifications of all who will be involved in the measurements; (4) exact instruments to be used; (5) how microphones will be protected from wind noise; (6) data from wind exceeding the maximum wind speed at which the WES will operate efficiently; (7) how data will be collected, stored, and processed; and (8) a suggested identification of residences and other noise sensitive locations at which ambient measurements are to be made. These shall be part of the ambient noise measurement protocol that must be submitted for review and approval. At least 50 percent of the time charged for noise control engineering on the project must be put in by the primary responsible noise control engineer. Storey County shall reserve the right to inspect billing records to verify compliance with this requirement. This is intended to prevent using a less qualified noise control engineer for much or most of the work. During design and construction, the responsible noise control engineer cannot be changed without written approval by the Community Development Department. It is

suggested that the following guidelines set forth in paragraphs (A) through (I) of this Section are to be used in developing the measurement protocol for the ambient noise study; however, it shall be recognized that Storey County and the Applicant may collaborate in the development of ambient noise study requirements, to the satisfaction of Storey County, whether more or less restrictive than the following, that may be appropriate for the proposed WES project. Said guidelines are as follows:

- (A) As recommended by the applicant and approved by Storey County, at locations reasonably representative of typical land uses (e.g., residential and commercial) within the adjacent ISA and all Sensitive Receptors within one (1) mile of the nearest proposed Wind Machine(s). This may include locations that both do and do not have a direct line-of-site to the nearest Wind Machine. All measurement points shall be located in consultation with Storey County and to the extent feasible that no significant obstructions (e.g., buildings, trees, etc.) blocks sound from the site.
- (B) Duration of each measurement shall be a minimum of sixty (60) continuous minutes (see Item C below) at each location. However, unusual noises not common to the environment (e.g., construction and aircraft noise) should be excluded to the extent feasible. Twenty-four hour measurements at each measurement location are preferred.
- (C) One test must be performed during each season of the year:
  - 1. Spring (March 15 – May 15)
  - 2. Summer (June 1 – September 1)
  - 3. Fall (September 15 – November 15)
  - 4. Winter (December 1 – March 1)
- (D) One set of measurements shall be taken during each of the following four periods:
  - 1. Morning (6 – 9 a.m.)
  - 2. Midday (12 noon – 3 p.m.)
  - 3. Evening (6 – 9 p.m.)
  - 4. Night (midnight – 4 a.m.)
- (E) Ambient sound level measurements must be made on a weekday of a non-holiday week.

(F) Measurements must be taken at six (6) feet above the ground and at least fifteen (15) feet from any reflective surface.

(G) For each measurement point, the following measurement data must be provided:

1. Un-weighted octave-band levels (16, 31.5, 63, 125, 250, 500, 1K, 2K, 4K, and 8K Hz)
  - i.  $L_{eq}$ ,  $L_{10}$ ,  $L_{50}$ , and  $L_{90}$ , in dB(A)
  - ii.  $L_{eq}$ ,  $L_{10}$ ,  $L_{50}$ , and  $L_{90}$ , in linear (flat  $\pm 1$  dB from 10 to 10,000 Hz)

(H) A narrative description of any intermittent sounds registered during each measurement must be provided indicating:

1. Wind speed and direction at time of measurement;
2. Temperature and humidity at time of measurement;
3. Description of the weather conditions during the measurement;
4. Description of audible sound sources during the measurements.

(I) A map shall be provided indicating:

1. The layout of the project area, including topography, the project boundary and parcel boundaries;
2. The location of each measurement point;
3. The minimum and maximum distance between any measuring point and the nearest Wind Machine(s);
4. The location of significant local sound and vibration sources;
5. The location of all ISA boundaries and Sensitive Receptors.

**17.00.008 Environmental Review Requirements.** An Environmental Assessment (EA) similar in scope and format to and meeting the requirements for an EA under the National Environmental Policy Act of 1969 (NEPA) and Nevada Utility Environmental Protection Act (UEPA) requirements under the Nevada Public Utilities Commission (PUC) shall be completed prior to commencement of the Utility-Scale WES project (with exception of MET towers and access roads thereto) after special use permit approval. The study shall include all potential impacts to the Comstock Historic District as described in 17.00.004(O) of this Chapter. Utility-Scale WES projects located within one (1) mile of a ISA Zone shall undergo an Environmental Impact Statement (EIS) similar and scope and format to and meeting the requirements of NEPA unless a Finding of no Significant Impact (FONSI), as described by NEPA, inclusive of 17.00.004(O), is determined by the EA. An EIS prepared for a federal or state agency that analyzes the entire project area, including all non-federal ownerships, may be accepted as meeting this requirement.

**17.00.009 Repair, Closure, & Post Closure.** Unless otherwise stated, each restriction and requirement shall apply to Utility-Scale, Intermediate, and Residential WES. It is recognized that the standards herein are neither exclusive, nor exhaustive. In instances where a health or safety concern is identified with regard to any WES, additional or more restrictive conditions may be imposed thereon. Storey County reserves the right to impose additional standards as circumstances warrant. All requirements stated forth herein shall be completed by qualified persons at the expense of the Applicant. In each case below and prior to acting on the submitted application, Storey County shall reserve the right to retain the service of an independent, recognized expert, at the expense of the Applicant, to review the work being completed in association with the project. The requirements for repair, closure, and post-closure shall apply as follows:

(A) Inspection, Repair, and Maintenance. The Applicant of any WES shall have all Wind Machines inspected and maintained as recommended by the manufacturer. Any Wind Machine that Storey County finds to be unsafe or improperly maintained shall be shut down immediately until all necessary repairs, maintenance, and required inspections are completed by a qualified person indicating that each Wind Machine meets Federal, Nevada State, Storey County, and the manufacturer's standards and requirements. Within ten (10) days of Closure by the County, the WES Permit Holder shall have twenty-four (24) calendar months to complete corrective action. All inspections, maintenance, and repairs shall be completed at the Permit Holder's expense.

(B) WES Closure. Any Wind Machine(s) out of operation for longer than twenty four (24) calendar months shall be deemed Closed. The process of removal of the applicable Wind Machine and/or removal and reclamation of the Utility-Scale WES, when applicable, shall begin immediately after

Closure and comply with the Post Closure Plan as submitted pursuant to 17.00.003(V). Residential and Intermediate WES shall be completely removed within 180 days of Closure.

(C) Closure Certificate. Within sixty (60) days completion of Closure activities for Utility-Scale-Scale WES, a documented certification, signed by an independent licensed professional engineer, shall be submitted to Storey County and all appropriate Nevada State and federal agencies. This certification shall verify that final closure has been completed in accordance with the Post Closure Plan. This certification shall include all applicable documentation necessary for certification of Closure. Once approved, this certification will be placed in the WES operating record. Storey County shall reserve the right to retain the service of an independent, recognized expert, at the expense of the Permit Holder, to verify that final closure has been completed in accordance with the Post Closure Plan.

**17.00.010 Provisions for Extending Closure Period.** The timetable for Closure activities shall be completed as required by the applicable provisions of this Chapter. In the event of a Force Majeure such as and not limited to flood, damage, or destruction of the access to the site, earthquake, or other events beyond the control of the County or Permit Holder, the period of Closure shall not be deemed to commence until such time as the Permit Holder may be found to once again have reasonable access to the site. In this connection, the special use permit shall remain valid as long as the Permit Holder, its heirs, assigns, or successors remain in compliance with the terms of the Permit and County, Nevada State, and federal regulations. In such as case as described herein, the Permit Holder shall be required to submit for approval to the Board of Storey County Commissioners a request for a reasonable extension of the completion of Closure activities. The submitted request shall include all applicable documentation necessary to demonstrate that final Closure will take longer than indicated in the submitted Post Closure Plan for Utility-Scale WES and 180 days for Residential and Intermediate WES, and that all steps have been taken and will continue to be taken to prevent threats to human health.

**17.00.011 Post Closure Bond.** Proof that a cash deposit, certified check, irrevocable bank letter of credit, or surety Bond has been deposited to ensure completion of reclamation work that is consistent with the Post Closure Plan, including estimated costs associated with removal of each Wind Machine and all associated equipment and accessory structures and restoration of the site to a natural state, shall be submitted to Storey County prior to construction and operation of a Utility-Scale WES. The cost estimate shall be developed by a licensed engineer and Storey County shall reserve the right to have estimate reviewed and approved by an independent consultant selected by the Board of Storey County Commissioners, at the Permit Holder's expense. Potential salvage

values of turbines and towers will be considered. The Bond shall be released after Storey County has received documented certification, signed by an independent licensed professional engineer, verifying that final Closure has been completed in accordance with the Post Closure Plan. The required certification shall include all applicable documentation necessary for certification of Closure. Before the Bond is released, Storey County shall reserve the right to retain the service of an independent, recognized expert, at the expense of the Permit Holder, to verify that final Closure has been completed in accordance with the Post Closure Plan.

**17.00.012 Liability Insurance & Indemnification.** The Applicant of a Utility-Scale WES as well as its assigns, heirs or successors, shall submit to Storey County proof of liability insurance in the amount of \$5,000,000 (five million dollars) with Storey County named as the “Additional Insured” prior to licensing and permitting. For all Utility-Scale, Intermediate, and Residential WES, a letter of indemnification shall be submitted to Storey County which states that the owner/operator agrees to the extent not prohibited by law, to indemnify, defend, and hold harmless Storey County from any costs, damages, claims, causes for action, penalties, fines, liabilities, and judgments of any kind or nature to the extent such liability arises from or in connection with the owner/operator’s negligent use, operation, management, or maintenance of the WES.

**17.00.013 Waiver of Standards by Applicant of Utility-Scale WES.**

If requested by an Applicant, Storey County, subject to the approval of the Board of Storey County Commissioners, may waive or reduce the burden on the Applicant of one or more of the standards and requirements of this Ordinance, if it concludes that the purpose of this Ordinance will be met, that any requested waiver(s) by an Applicant are justified based on credible evidence or information submitted to the Board by the Applicant with the application, and that the requested waiver(s) will not adversely affect public health and safety. The installation and continued operation of a Utility-Scale WES is otherwise contingent on compliance with all standards of this Chapter and all conditions established by the Board of County Commissioners relative to the approval or conditional approval of a special use permit.

**17.00.014 Violation and Penalty.**

Any person who violates any provision of this chapter shall be deemed guilty of a misdemeanor and upon conviction thereof shall be fined not exceeding five hundred dollars, or by imprisonment for not more than six months in the county jail, or by both said fines and imprisonment.