

BY-LAW NO. 08.10

A BYLAW OF THE TOWN OF SUNDRE IN THE PROVINCE OF ALBERTA TO AMEND LAND USE BY-LAW NO. 705.

WHEREAS, the Municipal Government Act, R.S.A. 2000, and subsequent amendments thereto, authorizes a Municipal Council to amend Land Use By-Laws;

AND WHEREAS, the purpose of the amendment is to add regulations to control the impacts of the installation and use of alternative energy systems within the Town of Sundre;

NOW THEREFORE, the Council of the Town of Sundre duly assembled enacts as follows:

1. To amend section 1.3 by adding the following definitions:

“Alternative Energy System” means any system that harnesses natural elements such as wind, solar, water (including rainwater) or geothermal sources to generate electrical, thermal or mechanical energy and does not utilize any form of non-renewable resources. The use of rainwater for irrigation and watering of plants is not included in this definition.

“Geothermal Energy” means a renewable source of energy that employs the use of a heat pump to warm or cool air by utilizing the constant temperatures of the earth.

“Solar Panel” means a device used to convert energy contained within the sun’s rays into electrical (photovoltaic) or heat energy and may be a single unit or an array of units into a single panel.

“Wind Tower” means the vertical component of a wind energy system that elevates the wind turbine generator or any mechanical transmission system and the attached blades above the ground. A wind tower may be a single pole, a three or four-sided self-supporting tower or a freestanding tower structure supported by guy wires.

2. To amend Schedule “B” of Land Use Bylaw No. 705 by adding the following section:

10. Alternative Energy Systems

10(1) Alternative Energy Systems shall require a Development Permit application which shall include the following information where applicable:

- (a) the manufacturers specifications indicating;
 - (i) the SWES rated output in kilowatts,
 - (ii) safety features and sound characteristics,

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- (iii) type of material used in tower, blade, and/or rotor construction,
 - (iv) CSA or ULC approval, if applicable.
 - (b) potential for electromagnetic interference,
 - (c) nature and function of over-speed controls which are provided,
 - (d) specifications on the foundation and/or anchor design, including location and anchoring of any guy wires,
 - (e) information demonstrating that the system will be used primarily to reduce on-site consumption of electricity, natural gas or propane,
 - (f) location of existing buildings, improvements, roads, lanes and public utilities both on the applicant's property and all adjacent properties.
- 10(2)** Any Wind Tower (including all attachments and equipment) to be installed, shall not exceed the manufacturers recommended weight and wind load capacities.
- 10(3)** Wind Towers must either be certified to meet ULC standards or be certified by the manufacturer or a qualified Professional Engineer registered under the "*Engineering, Geological, or Geophysical Professions Act*" of the Province of Alberta that it is capable of withstanding the weight and wind load for the area it is installed.
- 10(4)** Ground mounted Wind Towers, prior to installation of the wind turbine, shall not be less than 8.3 metres (27 feet) nor greater than 20.1 metres (66 feet) in height. If roof mounted, the tower shall not be less than 9.84 metres (10 feet) and no more than 4.6 metres (15 feet) above the highest point on the roof.
- 10(5)** No wind tower mounted portion of a wind energy system shall extend within 6.1 metres (20 feet) of the ground. Blades may not extend over parking areas, public right-of-ways, driveways or sidewalks. Blades and tail vane shall be a minimum of 3.0 metres (10 feet) from utility lines in all wind directions.
- 10(6)** No part of a Wind Tower structure, including guy wires, blades or tail vane may be placed closer than 3 metres (10 feet) to the side or rear property boundaries. In addition, towers shall be setback a minimum of the distance equal to the height of the structure from roads, lanes and utility lines.

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- 10(7)** No aboveground portion of any component of any alternative energy system shall be located in a front or side yard.
- 10(8)** For lots 929 m² (10,000 ft²) or less, the maximum diameter of the wind turbine blades shall be 3 metres (9.84 ft). For lots greater than 929 m² (10,000 ft²), the maximum rotor blade diameter shall be 3.7 metres (12.1 feet).
- 10(9)** One wind turbine at a size specified in paragraph 10(7) shall be installed on a tower and used to provide electricity for the primary residence. A second, smaller wind turbine, not to exceed a rotor diameter of 1.5 metres (5 feet), may also be installed on the same lot and used to provide electricity for a garage, workshop or utility shed and may be roof installed.
- 10(10)** All wind energy systems shall be equipped with manual and automatic over-speed controls to limit the blade rotation speed to within the design limits of the wind energy system or to control the rotors in the case of a system failure or when wind speeds are beyond the capacity of the system to control.
- 10(11)** All wind energy systems shall have lightning arresters installed and properly grounded.
- 10(12)** Sounds from residential wind energy systems shall not exceed 60 dBA at average wind speeds for the area, measured at the closest neighboring inhabited dwelling. This level, however, may be exceeded when wind speeds are above average.
- 10(13)** No residential or commercial wind energy system shall be installed until evidence is provided that the electric power distribution utility and the sales utility have been informed of the customer's intent to install an interconnected customer owned generator. Off-grid systems are exempt from this requirement.
- 10(14)** Electrical wires, including grounding wires, from a wind tower to the building being serviced shall be underground. A wind energy system, including all wiring shall meet all applicable provincial electrical code requirements including permit requirements and be inspected by an electrical inspector having jurisdiction within the corporate limits of the Town of Sundre.
- 10(15)** Any alternative energy system shall be operated and shielded so as to prevent any electro-magnetic interference. Any system found in violation of this policy shall be required to cease operation until such time as the problem is resolved.

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- 10(16)** Small wind turbines with a rotor diameter of less than one metre that use direct current solely for decorative or yard lighting or used strictly for ornamental purposes are exempt from permit requirements and restrictions listed in this section.
- 10(17)** Brand names or advertising associated with any alternative energy system or the system's installation shall not be visible from any public area, including lanes, streets and highways.
- 10(18)** Any alternative energy system shall be located and screened, to the extent possible, by land forms, natural vegetation or other means to minimize its visual impact on adjacent residences, public roads, trails or other public areas. Towers and other supporting structure shall be painted a single, neutral, non-reflective, non-glossy color (earth tones, grey, black) that, to the extent possible, visually blends the system with the surrounding natural and built environments.
- 10(19)** Upon abandonment or termination of any alternative energy system's use, the entire facility and all components associated with the system, including towers or support structures, shall be removed and the site restored to its pre-construction condition.
- 10(20)** Solar panels may be installed on the roof of any building or may be ground mounted in a rear or side yard.
- 10(21)** If a roof mounted solar panel requires raising of the top of the panel for solar alignment, the top of the panel shall not project above the highest roofline by more than 0.3 metres (1 foot).
- 10(22)** All plumbing, reservoirs, pumps and other equipment associated with solar or geo-thermal heating or cooling systems shall require plumbing, electrical and building permits as required and must meet all applicable provincial plumbing, electrical and building code and any other municipal requirements.
- 10(23)** Geothermal installations must be stamped by a qualified Professional Engineer registered under the "*Engineering, Geological, or Geophysical Professions Act*" of the Province of Alberta or have the system and installer certified by the Canadian GeoExchange Coalition (CGC) or other future governing body having jurisdiction within the Province of Alberta.
- 10(24)** Geothermal installations must comply with CSA-C448 and subsequent amendments. Exceptions may be allowed, at the discretion of the Development Authority, provided that documented proof be provided that shows that the exception meets or exceeds the CSA-C448 standard.

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10(25) All Geothermal systems installed within the Town of Sundre shall be a Closed Loop system. Open Loop systems are not allowed.

10(26) Heat-transfer fluids used within a geothermal system shall be of the most environmentally friendly type available at the time of installation such as propylene glycol. In no case may an ethylene glycol based fluid be used nor shall any flammable or combustible agent such as methanol, ethanol, natural gas or propane be used.

3. To amend Schedule "C" of Land Use Bylaw No. 705 by adding the category of Alternative Energy Systems as Discretionary Uses in the following districts:

- Low density Residential (R-1),
- General Residential (R-2),
- Mobile Home (R-3),
- Estate Residential (R-4),
- Serviced Estate Residential (R-4A),
- Central Commercial (C-1),
- Highway Commercial (C-2),
- Gateway Commercial (C-3),
- Light Industrial (I-1),
- Flood Plain Industrial (I-2),
- Public Use (PU) and
- Urban Reserve (UR).

Read a first time in Council this 28th day of June, 2010.



Mayor



Chief Administrative Officer

Read a second and third time in Council and finally passed this 19th day of July, 2010.



Mayor



Chief Administrative Officer