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 313 N MAIN ST

CENTER CITY, MN 55012

**ORDINANCE NO. 2014 1120-1**

**AMENDING THE CHISAGO COUNTY ZONING ORDINANCE BY ADDING STANDARDS AND DEFINITIONS FOR SOLAR ENERGY SYSTEMS, SOLAR ENERGY FARMS AND FOR THEIR INSTALATION AND USE IN CHISAGO COUNTY**

**THE CHISAGO COUNTY BOARD OF COMMISSIONER ORDAINS:**

The following language is hereby added to the Chisago County Zoning Ordinance:

**7.31 SOLAR ENERGY SYSTEMS**

**A. GENERAL PROVISIONS.**

**1. Purpose and Intent**

Chisago County finds that it is in the public interest to encourage the use and development of renewable energy systems that enhance energy conservation efforts, but result in limited adverse impact on nearby properties. As such, the County supports the use of solar energy collection systems and the development of solar energy farms. Chisago County also finds that the development of solar energy farms should be balanced with the protection of the public health, safety and welfare. The County resolves that the following standards shall be adopted to ensure that solar energy systems and solar energy farms can be constructed within Chisago County while also protecting public safety and the natural resources of the County. Consistent with the Chisago County Comprehensive Plan, it is the intent of the County with this Section to create standards for the reasonable capture and use, by households, businesses and property owners, of their solar energy resource, and to encourage the development and use of solar energy.

**2. Severability**

The provisions of this Section shall be severable and the invalidity of any paragraph, subparagraph or subdivision thereof shall not make void any other paragraph, subparagraph or subdivision of this section.

**3. Applicability**

These regulations shall apply to all solar energy systems and solar energy farms on properties and structures under the jurisdiction of the Chisago County Zoning. Those systems shall be defined as solar farms generating less than 50 megawatts of power. Chisago County shall refer any application for a large electric power generating plant (LEPGP)

to the Minnesota Public Utilities Commission (MN PUC) for approval. An LEPGP shall be defined as any solar energy system capable of producing more than 50 megawatts of power.

**B. DEFINITIONS.** The following words, terms and phrases, when used in this Section, shall have the meaning provided herein, except where the context clearly indicates otherwise:

**Building or Other Architecturally-Integrated Solar Energy System:** An active solar energy system that is an integral part of a principal or accessory building, rather than a separate mechanical device, replacing or substituting for an architectural or structural component of the building. Building-integrated systems include, but are not limited to, photovoltaic or thermal solar systems that are contained within roofing materials, windows, skylights and awnings.

**CSES:** Community solar energy system.

**Community Solar Energy System (also called a "Solar Garden"):** A solar-electric (photovoltaic) array that provides retail electric power (or a financial proxy for retail power) to multiple community members or businesses residing or located off-site from the location of the solar energy system.

**Ground Mounted Panels:** Freestanding solar panels mounted to the ground by use of stabilizers or similar apparatus.

**Large Energy Power Generating Plant (LEPGP):** Any Solar Energy System capable of producing 50 megawatts or more of power.

**MN PUC:** The Minnesota Public Utilities Commission.

**Photovoltaic System:** An active solar energy system that converts solar energy directly into electricity.

**Roof or Building Mounted Solar Energy System:** A solar energy system that is mounted to the roof or building using brackets, stands or other apparatus.

**SES:** Solar Energy System

**Solar Access:** A view of the sun, from any point on the collector surface that is not obscured by any vegetation, building, or object located on parcels of land other than the parcel upon which the solar collector is located, between the hours of 9:00 AM and 3:00 PM Standard time on any day of the year.

**Solar Collector:** A device, structure or a part of a device or structure that the principal purpose is to transform solar radiant energy into thermal, mechanical, chemical or electrical energy.

**Solar Energy:** Radiant energy received from the sun that can be collected in the form of heat or light by a solar collector.

**Solar Energy System:** An active solar energy system that collects or stores solar energy and transforms solar energy into another form of energy or transfers heat from a collector to another medium using mechanical, electrical, thermal or chemical means.

**Solar Farm:** A commercial facility that converts sunlight into electricity, whether by photovoltaics (PV), concentrating solar thermal devices (CST), or other conversion technology, for the principal purpose of wholesale sales of generated electricity

**Solar Garden:** A community solar energy system.

**Solar Hot Water System:** A system that includes a solar collector and a heat exchanger that heats or preheats water for building heating systems or other hot water needs.

**Solar Site Permit:** A land use permit required by the County for the installation of certain solar energy systems regulated by this Ordinance.

**C. TYPES OF SOLAR ENERGY SYSTEMS:** This Ordinance identifies and regulates the following four types of solar energy systems:

1. Rooftop or other Architecturally-Integrated Solar Energy Systems
2. Ground Mount Solar Energy Systems
3. Community Solar Energy Systems (Solar Gardens/CSES)
4. Solar Farms

These systems shall be defined and regulated as follows:

**1. Rooftop or other Architecturally-Integrated Solar Energy Systems:** Systems which are accessory to the principal land use, designed to supply energy for the principal use. Rooftop or other architecturally-integrated systems shall be regulated as follows:

- a) Rooftop or other architecturally-integrated systems are permitted accessory uses in all districts in which buildings and structures are permitted.
- b) No Solar Site permit is required, but the owner or contractor shall obtain a building permit before installing a rooftop or other architecturally-integrated solar energy system.
- d) Commercial rooftop or other architecturally-integrated systems shall be placed on the roof to limit visibility from the public right-of-way or to blend into the roof design, provided that minimizing visibility but which still allows the property owner to reasonably capture solar energy.

**2. Ground-mount solar energy systems:** Systems which are accessory to the principal use and designed to supply energy for the principal use. Ground-mount systems shall be regulated as follows:

- a) Ground-mount systems are permitted accessory uses in all districts in which buildings and structures are permitted.
- b) Ground-mount systems require a Solar Site Permit and a Building Permit.
- c) Ground-mount systems shall be subject to the accessory use standards for the district in which they are located, including dimensional standards, such as yard setbacks.
- c) The height of ground-mounted components shall not exceed 10 feet.
- e) No ground-mounted solar energy system shall cover or encompass more than 10 percent of the total property area or lot size.

**3. Community Solar Energy Systems (Solar Gardens/CSES):** Roof or ground-mount CSES's designed to supply energy for off-site users on the distribution grid (but not for export to the wholesale market or connection to the electric transmission grid) shall be allowed as a principal or accessory permitted use, in all districts unless otherwise regulated or prohibited in this section:

- a) Community Solar Energy Systems shall be located on parcels of land no less than five acres in size.
- b) Ground Mount CSES's which are sited upon a contiguous or aggregate site area footprint larger than 20 acres in size (whether commonly owned/controlled or not-so owned or operated) shall require a Conditional Use Permit, in accordance with Section E. Conditional Use Permit Requirements. The site area footprint size shall be computed by a determination of the Zoning Administrator.
- c) Prohibited Districts: The County prohibits CSES's within the following districts:
  - 1) Shoreland Districts as designated by the Department of Natural Resources (DNR) and the Chisago County Shoreland Management Ordinance;
  - 2) Within Six Hundred (600) feet of areas designated or formally protected from development by Federal, State or County agencies as wildlife habitat, wildlife management areas or designated as National Wild and Scenic land or corridor;
  - 3) Wetlands, to the extent prohibited by the Minnesota Wetland Conservation Act;
  - 4) The Floodplain District.

- d) All CSES's and CSES components must meet the setback, height and coverage limitations for the district in which the system is located.
- e) CSES's shall require a Solar Site Permit and a building permit, and are subject to the accessory use standards for the district in which they are located.
- f) Power and communication lines. All on-site power and communication lines running between banks of solar panels and buildings shall be buried underground on premise. The Zoning Administrator may grant exemptions to this requirement in instances where shallow bedrock, water courses or other elements of the natural landscape interfere with the ability to bury lines.
- g) Decommissioning Plan: The owner/operator shall submit a decommissioning plan for ground-mounted CSES's to ensure that the owner or operator properly removes the equipment and facilities upon the end of project life or after their useful life. The owner or operator shall decommission the solar panels in the event they are not in use for twelve (12) consecutive months. The plan shall include provisions for the removal of all structures and foundations, the removal of all electrical transmission components, the restoration of soil and vegetation and a soundly-based plan ensuring financial resources will be available to fully decommission the site. The disposal of structures and/or foundations shall meet the requirements of the Chisago County Solid Waste Ordinance. The owner/operator shall provide a current-day decommissioning cost estimate, and shall post a bond, letter of credit or establish an escrow account, including an inflationary escalator, in an amount determined by the County Board, to ensure proper decommissioning.

4) **Solar farms:** Ground-mount solar energy arrays which are the principal use on the property, that are designed for providing energy to off-site users or export to the wholesale market shall be a permitted use in the Agricultural district, except as otherwise regulated or prohibited in this section. Solar Farms shall be subject to the following:

- a) Solar Farms which have a generating capacity of 50 megawatts of power or more shall fall under the jurisdiction of the Minnesota Public Utilities Commission.
- b) Solar Farms shall be located on parcels of land no less than five acres in size.
- c) Solar Farms which are sited upon a contiguous or aggregate site area footprint larger than 20 acres in size (commonly owned/controlled or not so) shall require a Conditional Use Permit, in accordance with Section E. Conditional Use Permit Requirements. The site area footprint size shall be computed by a determination of the Zoning Administrator.
- d) Prohibitions: The County prohibits community solar farms within:
  - 1) Shoreland Districts as designated by the Department of Natural Resources (DNR) and the Chisago County Shoreland Management Ordinance
  - 2) Six Hundred (600) feet of areas formally designated or protected from development by Federal, State or County agencies as wildlife habitat, wildlife management areas or designated as National Wild and Scenic land or corridor
  - 3) Wetlands to the extent prohibited by the Minnesota Wetland Conservation Act,
  - 4) The Floodplain District.
- e) All Solar Farm components must meet the setback, height and coverage limitations for the district in which the system is located.
- f) Power and communication lines. All on-site power and communication lines running between banks of solar panels and buildings shall be buried underground on premise. The Zoning

Administrator may grant exemptions to this requirement in instances where shallow bedrock, water courses or other elements of the natural landscape interfere with the ability to bury lines.

g) **Decommissioning Plan:** The owner/operator shall submit a decommissioning plan for ground-mounted CSES's to ensure that the owner or operator properly removes the equipment and facilities upon the end of project life or after their useful life. The owner or operator shall decommission the solar panels in the event they are not in use for twelve (12) consecutive months. The plan shall include provisions for the removal of all structures and foundations, the removal of all electrical transmission components, the restoration of soil and vegetation and a soundly-based plan ensuring financial resources will be available to fully decommission the site. The disposal of structures and/or foundations shall meet the requirements of the Chisago County Solid Waste Ordinance. The owner/operator shall provide a current-day decommissioning cost estimate, and shall post a bond, letter of credit or establish an escrow account, including an inflationary escalator, in an amount determined by the County Board, to ensure proper decommissioning.

**D. ADDITIONAL STANDARDS:** In addition to the standards required above, the following standards shall apply to all Solar Energy Systems.

- 1. Compliance with Building Code.** All SES's shall require a building permit, shall be subject to the approval of the County Building Official, and shall be consistent with the State of Minnesota Building Code.
- 2. Compliance with State Electric Code.** All photovoltaic systems shall comply with the Minnesota State Electric Code.
- 3. Compliance with State Plumbing Code.** Solar thermal systems shall comply with applicable Minnesota State Plumbing Code requirements.
- 4. Compliance with MN Energy Code.** All SES's shall comply with HVAC-related requirements of the Energy Code.
- 5. Utility Notification.** No grid-intertied photovoltaic system shall be installed until the owner has submitted notification to the utility company of the customer's intent to install an interconnected customer-owned generator. Off-grid systems are exempt from this requirement.
- 6. Security and equipment buildings.** Security and equipment buildings on the site of solar farms shall be permitted uses accessory to the solar farm.
- 7. Controlled Access.** The owner or operator shall contain all unenclosed electrical conductors located above ground within structures that control access .

#### **E. SOLAR SITE PLAN REQUIREMENTS**

1. A Solar Site Plan application shall be filed for all Ground Mount Solar Energy Systems sited on parcels 20 acres or less in size, contiguous or aggregate. The site area footprint size shall be computed by a determination of the Zoning Administrator.
2. Solar Site Plans shall require approval by the Zoning Administrator. Such approval shall be issued following an Administrative determination that the design requirements of this Ordinance have been met.

#### **F. CONDITIONAL USE PERMIT (CUP) REQUIREMENTS**

1. A Conditional Use Permit (CUP) shall be required for a Community Solar Energy System or a Solar Farm which is situated, (or which is staged to be eventually situated) on a contiguous or aggregate site area footprint larger than 20 acres in size, whether commonly owned/controlled or otherwise. Solar Farms and CSES's located on a site area 20 acres or less (contiguous or aggregate) in size shall be permitted uses. The site area footprint size shall be computed by a determination of the Zoning Administrator.

2. A CSES or Solar Farm which has the capacity to generate 50 megawatts or more shall fall under the jurisdiction of the Minnesota Public Utilities Commission and shall not be subject to County review.

3. Landscaping:

Buffer Screening from routine view of the public right-of-way and immediately adjacent residences shall be required in an attempt to minimize the visual impact of above grade site improvements and any extensive or imposing perimeter security fencing that is proposed. Low lying screening, shrubbery, or other native vegetation shall be required around site perimeters or perimeter security fencing.

4. Corridor Preservation:

Natural wildlife, wetland, woodland or other lineal corridors shall remain open to travel by native fauna, reptilia and avialae. Perimeter fencing and security measures must accommodate unimpeded wildlife migration through large solar array development sites and areas. Plan approval may require corridor replacement, relocation, removal, and/or protection as determined by the Zoning Administrator.

5. Conditional Use Permit (CUP) Submittal Requirements.

CUP applications for solar energy systems shall be accompanied by horizontal and vertical elevation drawings, drawn to scale. The drawings shall show the location of the system components on the property, as well as other elements, including but not limited to the following:

- Existing features
- Proposed features
- Property boundaries
- Property zoning designation(s) including district property line and roadway setbacks
- Solar arrays, connecting lines, and all affiliated installations and structures
- Access points, drive aisles, security features, and fencing
- Topography & surface water drainage patterns and treatment systems
- Wetlands, Woodlands, Grasslands, Prairielands
- Existing and proposed/preserved/protected wildlife corridors (wetland/woodland/topography connectivity)
- Landscape Plan, including required screening of site perimeter and/or perimeter security fencing
- Floodplains
- Soils
- Historical features
- Archeological features
- Wildlife and ecological habitat
- Environmental mitigation measures
- Description of Project Staging (if applicable)

**G. ZONING ORDINANCE AMENDMENTS.**

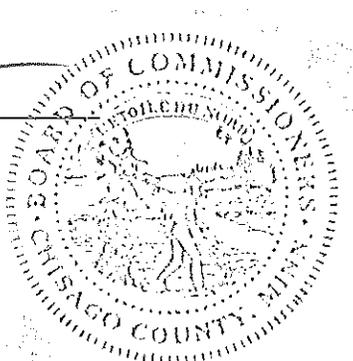
The Chisago County Zoning Ordinance (08-3) shall be amended to reflect the above language upon its adoption, in all its relevant sections.

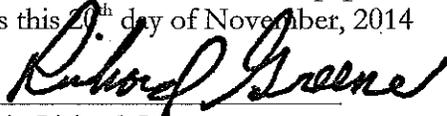
**EFFECTIVE DATE**

This Ordinance shall become effective following its publication in the official newspaper of the County.

Adopted by the Chisago County Board of Commissioners this 20<sup>th</sup> day of November, 2014

  
Clerk, Chase Burnham



  
Chair, Richard Greene

This Instrument was drafted by  
Chisago County Environmental Services  
313 N. Main St., Rm. 243  
Center City, MN 55012