

TITLE XVIII ZONING

CHAPTER 18.60G: SPECIAL ORDINANCES: NON-UTILITY SCALE/UTILITY SCALE ORDINANCES

Non-Utility Scale Solar Installations

A. **Permitted Accessory Use.** Active solar energy systems shall be allowed as an accessory use in all zoning classifications where structures of any sort are allowed, subject to certain requirements as set forth below.

1. Height. Active solar energy systems must meet the following height requirements:

a. Building- or roof-mounted solar energy systems shall not exceed the maximum allowed height in any zoning district. For purposes for height measurement, solar energy systems other than building-integrated systems shall be given an equivalent exception to height standards as building mounted mechanical devices or equipment.

b. Ground- or pole-mounted solar energy systems shall not exceed 20 feet in height when oriented at maximum tilt.

2. Set Back. Active solar energy systems must meet the accessory structure setback for the zoning district and primary land use associated with the lot on which the system is located.

a. Roof-mounted solar energy systems. In addition to the building setback, the collector surface and mounting devices for roof-mounted solar energy systems shall not extend beyond the exterior perimeter of the building on which the system is mounted or built, unless the collector and mounting system has been explicitly engineered to safely extend beyond the edge, and setback standards are not violated. Exterior piping for solar hot water systems shall be allowed to extend beyond the perimeter of the building on a side yard exposure.

b. Ground-mounted solar energy systems. Ground-mounted solar energy systems may not extend into the side-yard or rear setback when oriented at minimum design tilt.

3. Approved Solar Components. Electric solar energy system components must have a UL listing and solar hot water systems must have an SRCC rating.

4. Approval Required. All solar energy systems shall require a Zoning Permit from the City of Camanche Building Inspector office. Zoning approval does not indicate compliance with Building Code or Electric Code.

5. Compliance with Building Code. All active solar energy systems shall be consistent with the State of Iowa Building Code and solar thermal systems shall comply with HVAC-related requirements of the Electric Code.

6. Compliance with State Electric Code. All photovoltaic systems shall comply with the Iowa State Electric Code.

7. Compliance with State Plumbing Code. Solar thermal systems shall comply with applicable Iowa State Plumbing Code requirements.

8. Utility Notification. All grid connected solar energy systems shall comply with the interconnection requirements of the electric utility. Off-grid systems are exempt from this requirement.

Utility Scale Solar Installations.

The Purpose of this section is to encourage utility scale photovoltaic solar installations. Concentrating solar power (CSP) systems shall be prohibited.

A. **Major site plan and Special Exception Use Permit required:** A site plan shall be submitted and reviewed as part of the approval of a utility scale solar installation. A utility scale solar installation shall require a Special Exception Use Permit.

B. Additional information: In addition to all submittal requirements of a Special Exception Use Permit application, the application for a utility scale solar installation shall include the following information on the site plan or in narrative form, supplied by the utility scale solar installation owner, operator or contractor installing the structure(s):

1. Number, location and spacing of solar panels/arrays.
2. Planned location of underground or overhead electric lines.
3. Project development timeline.
4. Interconnection agreement.
5. Operation and maintenance plan.
6. Decommissioning plan.

C. Site and Structure Requirements

1. **Setback.** Setbacks for all structures (including solar arrays) must adhere to where the project is located; greater setbacks may be required by the Board of Adjustment.
2. **Screening.** A landscape buffer may be required to be installed and maintained during the life of the operation. Determination of screening requirements will be made by the Board of Adjustment as part of the review and approval process and will be based on adjacent or nearby surrounding land uses and topography.
3. **Utility Connections.** Reasonable efforts shall be made to place all utility connections from the solar installation underground, depending on appropriate soil conditions, shape and topography of the site, distance to the connection, or other conditions or requirements.
4. **Grading plan.** A grading plan shall be submitted and shall include all proposed changes to the landscape of the site (e.g., clearing, grading, topographic changes, tree removal, etc.).
5. **Glare minimization.** All solar panels must be constructed to minimize glare or reflection onto adjacent properties and adjacent roadways and must not interfere with traffic, including air traffic, or create a safety hazard.
6. **Compliance with local, state and federal regulations.** Utility scale solar installations shall comply with applicable local, state and federal regulations.
7. **Appurtenant structures.** All appurtenant structures shall be subject to bulk and height regulations of structures in the underlying zoning district.
8. **Floodplain considerations.** Utility scale solar installations are considered to be maximum damage potential structures and facilities for purposes of the floodplain district regulations.
9. **Signage.** No signs other than appropriate warning signs, or standard manufacturer's, operator's or installer's identification signage, shall be displayed.
10. **Fencing/security.** A security fence must be installed along all exterior sides of the utility scale solar installation and be equipped with a minimum of one gate and locking mechanism on the primary access side. Security fences, gates and warning signs must be maintained in good condition until the utility scale solar installation is dismantled and removed from the site.

D. Operation and maintenance plan. The applicant shall submit a plan for the operation and maintenance of the solar installation, which shall include measures for maintaining safe access to the installation, stormwater and erosion controls, as well as general procedures for operation and maintenance of the installation.

1. **Soil erosion and sediment control considerations.** The applicant agrees to conduct all roadwork and other site development work in compliance with a National Pollutant Discharge Elimination System (NPDES) permit as required by the Iowa Department of Natural Resources and comply with requirements as detailed by local jurisdictional authorities during the plan submittal. If subject to NPDES requirements, the applicant must submit the permit for review and comment, and an erosion and sediment control plan before beginning construction. The plan must include both general "best management practices" for temporary erosion and sediment control both during and after construction and permanent drainage and erosion control measures to prevent damage to local roads or adjacent areas and to prevent sediment laden runoff into waterways.

2. **Stormwater management considerations.** For the purposes of pollutant removal, stormwater rate and runoff management, flood reduction and associated impacts, the applicant shall provide a detailed analysis of pre- and post-development stormwater runoff rates for review by local jurisdictional authorities.

3. **Ground cover and buffer areas.** Ground around and under solar arrays and in project site buffer areas shall be planted and maintained in perennial vegetated ground cover, and meet the following standards:

a. Top soils shall not be removed during development, unless part of a remediation effort.

b. Soils shall be planted and maintained in perennial vegetation to prevent erosion, manage run off and build soil. Seeds should include a mix of grasses and wildflowers, ideally native to the region of the project site that will result in a short stature prairie with a diversity of forbs or flowering plants that bloom throughout the growing season. Blooming shrubs may be used in buffer areas as appropriate for visual screening.

c. Seed mixes and maintenance practices should be consistent with recommendations made by qualified natural resource professionals such as those from the Department of Natural Resources, County Soil and Water Conservation Service, or Natural Resource Conservation Service.

4. **Cleaning chemicals and solvents.** During operation of the proposed installation, all chemicals or solvents used to clean photovoltaic panels should be low in volatile organic compounds and the operator should use recyclable or biodegradable products to the extent possible. Any onsite storage of chemicals or solvents shall be referenced.

5. **Maintenance, repair or replacement of facility.** Maintenance shall include, but not be limited to, painting, structural repairs, and integrity of security measures. Site access shall be maintained to a level acceptable to emergency response officials. Any retrofit, replacement or refurbishment of equipment shall adhere to all applicable local, state and federal requirements.

E. Decommissioning and site reclamation plan.

1. The application must include a decommissioning plan that describes: the anticipated life of the utility scale solar installation; the anticipated manner in which the project will be decommissioned; the anticipated site restoration actions; the estimated decommissioning costs in current dollars; and the method for ensuring that funds will be available for decommissioning and restoration.

2. The applicant shall provide the basis for estimates of net costs for decommissioning the site (decommissioning costs less salvage value). The cost basis shall include a mechanism for calculating adjusted costs over the life of the project.

3. Restoration or reclamation activities shall include but not be limited to the following:

a. Restoration of the pre-construction surface grade and soil profile after removal of structures, equipment, graveled areas and access roads.

b. Re-vegetation of restored soil areas with crops, native seed mixes, plant species suitable to the area, consistent with the county's weed control plan.

c. For any part of the energy project on leased property, the plan may incorporate agreements with the landowner regarding leaving access roads, fences, gates or repurposed buildings in place or regarding restoration of agricultural crops or forest resource land. Any use of remaining structures must be in conformance with the regulations in effect at that time.

4. Following a continuous 1 year period in which no electricity is generated, or if substantial action on the project is discontinued for a period of 1 year, the permit holder will have 1 year to complete decommissioning of the utility scale solar installation. Decommissioning shall be completed in accordance with the approved decommissioning plan. The land owner or tenant must notify the City when the project is discontinued.

TITLE XVIII ZONING

CHAPTER 18.12: OFFICIAL ZONING MAP, DISTRICTS, BOUNDARIES AND ANNEXATIONS

18.12.010 DISTRICTS DESIGNATED

M-RE RENEWABLE ENERGY OVERLAY DISTRICT

TITLE XVIII ZONING

CHAPTER 18.57 M-RE RENEWABLE ENERGY OVERLAY DISTRICT

Renewable Energy Overlay District

- A. Purpose.** The M-RE Renewable Energy Overlay District is intended to allow for the orderly development of utility scale solar and wind farm energy projects. This section establishes an overlay district that serves the following purposes:
1. To encourage and support the development and use of alternative and renewable energy resources.
 2. To encourage development that conforms to the goals, objectives and City of Camanche Strategic Plan and future land use map that pertains to the area in which the development is proposed.
 3. To encourage sustainable and energy efficient development which aims to strengthen the global response to the threat of climate change.
- B. Geographic Location.** The renewable energy overlay district shall be geographically located in the areas currently zoned AG-1 (Agricultural Rural District), M-1 (Light Industrial District), or M-2 (General Manufacturing District).
- C. Permitted Uses.** Uses allowed in the renewable energy overlay district shall include utility scale solar installations.
- D. Rezoning Application.** A utility scale solar installation requires an application to rezone the area to be used to renewable energy overlay district pursuant to Title XVIII Chapter 18.060G of the ordinance.
- E. Additional Requirements.** Additional requirements within this chapter and other city ordinances shall apply to the development in the renewable energy overlay district, including but not limited to, the supplementary conditions listed in chapter 18.60 of this ordinance.
- F. Additional information:** The following information shall be submitted on the site plan or in narrative form, supplied by the utility scale solar installation owner, operator or contractor installing the structure(s), and reviewed as part of the approval of a utility scale solar installation:
1. Number, location and spacing of solar panels/arrays.
 2. Planned location of underground or overhead electric lines.
 3. Project development timeline.
 4. Operation and maintenance plan.

5. Decommissioning plan.

G. Avoidance and Mitigation of Damages to Public Infrastructure.

1. **Roads.** Applicants shall identify all roads to be used for the purpose of transporting Solar panels, substation parts, Construction Material, and/or equipment for construction, operation or maintenance of the Utility scale solar installation and obtain applicable weight and size permits from the impacted Road Authority(ies) prior to construction.
2. **Existing Road Conditions.** Applicant shall conduct a pre-construction survey, in coordination with the impacted local Road Authority(ies) to determine existing road conditions. The survey shall include photographs and a written agreement to document the condition of the public facility. The applicant is responsible for on-going road maintenance and dust control measures identified by the City of Camanche during all phases of construction. Applicant shall enter into a Road Use and Repair Agreement with the Road Authority prior to construction.
3. **Drainage System.** The Applicant shall be responsible for reasonably prompt repair of damage to public drainage systems stemming from construction, operation or maintenance of the Utility Scale Solar Installation.
4. **Required Financial Security.** The applicant shall be responsible for restoring or paying damages as agreed to by the applicable Road Authority(ies) sufficient to restore the road(s) and bridges to preconstruction conditions. Financial security in a manner approved by the City of Camanche shall be submitted covering up to 100% of estimated cost for repairs as agreed to by the applicant and such Road Authority(ies). This requirement may be waived by the Camanche City Council by recommendation from the Camanche City Administrator.

Definitions

Active Solar Energy System. A solar energy system whose primary purpose is to harvest energy by transforming solar energy into another form of energy or transferring heat from a collector to another medium using mechanical, electrical, or chemical means.

Concentrating solar power system (CSP). Systems that use lenses/mirrors and tracking systems to focus or reflect a large area of sunlight onto a small area. The concentrated energy is absorbed by a thermal medium, such as water, salt, or a permanently gaseous fluid, and used as a heat source for a conventional power plant, such as a steam power plant, or for a power conversion unit, such as a sterling engine. Although several concentrating solar technologies exist, the most common types are the solar trough, parabolic dish and solar power tower. Energy storage technologies used by concentrating solar thermal devices (e.g. molten salt storage) are also included within this definition.

Ground-mount. A solar energy system mounted on a rack or pole that rests or is attached to the ground. Ground-mount systems can be either accessory or principal uses.

Non-Utility Scale Solar Installation (accessory use). A solar panel or array mounted on a building, pole or rack that is accessory to the primary use of the parcel on which it is located and which is directly connected to or designed to serve the energy needs of the primary use.

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Photovoltaic. The technology that uses a semiconductor to convert light directly into electricity.

Power purchase agreement. A power purchase agreement refers to a contract entered into by an independent power producer and an electric utility. The power purchase agreement specifies the terms and conditions under which electric power will be generated and purchased. Power purchase agreements require the independent power producer to supply power at a specified price for the life of the agreement.

Roof-mount. A solar energy system mounted on a rack that is fastened to or ballasted on a building roof. Roof-mount systems are accessory to the principal use.

Solar array. A group of solar panels connected together.

Solar collector. A device or structural feature of a building that collects solar energy and that is part of a system for the collection, storage and distribution of solar energy.

Solar Farm. A commercial facility that converts sunlight into electricity, whether by photovoltaics (PV), or other conversion technology, for the primary purpose of wholesale sales of generated electricity.

Solar glare. The effect produced by light reflecting from a solar panel with intensity sufficient to cause annoyance, discomfort or loss in visual performance and visibility.

Solar Mounting Devices. Racking, frames, or other devices that allow the mounting of a solar collector onto a roof surface or the ground.

Solar panel. A device composed of groups of individual solar cells used to convert solar energy into electrical current.