

LE SUEUR COUNTY PLANNING COMMISSION WORK SESSION

AGENDA

MEETING DATE: September 18, 2019

PLACE: Le Sueur County Environmental Services Building
515 South Maple Ave, Le Center, MN

TIME: 2:00 P.M.

***Planning Commission Members if you CANNOT be at the meeting contact Mindy at 357-8538.*

1. Solar Regulations

1.I. Review Summary From March 28, 2019

Documents:

[PLANNING COMMISSION WORK SESSION SUMMARY.PDF](#)

1.II. Definitions

Documents:

[DEFINITIONS.PDF](#)

1.III. Standards

Documents:

[STANDARDS FROM NEIGHBORING COUNTIES.PDF](#)

Planning & Zoning Commission Work Session Procedure: The Planning Commission will not hear public comment during work sessions. A public hearing will be held at a later date.

Topic: SOLAR

1. Definitions-Discussion, come back with definitions.
2. Discussion regarding 'personal use' vs 'commercial use'.
3. Districts to allow commercial as a CUP.
 - a. Agriculture
 - b. Conservancy
 - c. Industrial
 - d. Business
 - e. Floodfringe Flood Plain Overlay District
4. Districts commercial not allowed.
 - a. All Shoreland districts
 - b. Residential Districts
 - c. Floodway Flood Plain Overlay District
5. Allow personal as permitted use in all districts
 - a. Ground-mount not allowed in Recreational Residential 'RR' or Urban/Rural Residential 'R1'.
6. Setbacks for commercial use.
 - a. ROW-100 feet.
 - b. Property lines-100 feet.
 - c. Separation Distance 750 feet (same as WECs).
7. Setbacks for personal use-same as existing setbacks per district.
8. Aesthetics discussion.
 - a. Berm similar to mineral extraction.
 - b. Screening-plantings.
 - c. Fencing: 7 feet with 3 barbs total 8 feet. Possibly require the strips in chain link

Definitions-Scott County

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, under the provisions of Minn. Statutes 216B.1641 or successor statute.

Solar Array – Any number of solar photovoltaic modules or panels connected together to increase voltage and/or power to the level required for a given system.

Solar Collector – A device, or combination of device, structures, or part of a device or structure that transforms solar energy into thermal, chemical, or electrical energy and that contributes significantly to a structures' s energy supply. see Definition in Chapter 1.

Solar Energy System – A complete design or assembly consisting of a solar energy collector, an energy storage facility (where used), and components to the distribution of transformed energy (to the extent they cannot be used jointly with a conventional energy system). To qualify as a solar energy system, the system must be permanently located for not less than ninety (90) days in any calendar year beginning with the first calendar year after completion of construction.

Solar Energy System. Ground Mounted – A solar energy system mounted on a rack or pole that sits on the ground or has its own foundation and is not attached to a building.

Solar Energy System. Roof-top – A solar energy system mounted on the roof of a building and is accessory to the principal land use.

Solar Structure – A structure designed to utilize solar energy as an alternative for, or supplement to, a conventional energy system.

Definitions-Carver County

ARRAY (SOLAR) – Any number of solar photovoltaic modules or panels connected together to provide a single electrical output.

LARGE SOLAR ENERGY SYSTEM – A solar farm, where the primary land use of the parcel is for a solar array. Solar farms are composed of multiple solar panels on multiple mounting systems (poles or racks), and generally have a direct current (DC) rated capacity greater than 100 kilowatts.

MODULE (SOLAR) – A number of individual solar cells connected together in an environmentally protected housing producing a standard output voltage and power. Multiple modules/panels can be assembled into an array for increased power and/or voltage.

PHOTOVOLTAIC ARRAY – A group of solar photovoltaic modules connected together to increase voltage and/or power to the level required for a given system.

PHOTOVOLTAIC DEVICE – A system of components that generates electricity from incident sunlight by means of the photovoltaic effect, whether or not the device is able to store the energy produced for later use.

RENEWABLE ENERGY – Energy from sources that are not easily depleted such as moving water (hydro, tidal and wave power), biomass, geothermal energy, solar energy, wind energy, and energy from solid waste treatment plants.

SMALL SOLAR ENERGY SYSTEM – A solar array that is an accessory use.

SOLAR CELL – The basic unit of a photovoltaic solar panel.

SOLAR ENERGY SYSTEM (SES) – A set of devices whose primary purpose is to collect solar energy and convert and store it for useful purposes including heating and cooling buildings or other energy-using processes, or to produce generated power by means of any combination of collecting, transferring, or converting solar-generated energy. (See also: LARGE SOLAR ENERGY SYSTEM and SMALL SOLAR ENERGY SYSTEM).

Definitions-Blue Earth County

Solar Energy System - A set of devices whose primary purpose is to collect solar energy and convert and store it for useful purposes including heating and cooling buildings or other energy-using processes, or to produce generated power by means of any combination of collecting, transferring, or converting solar-generated energy

Large Solar Energy System - A solar array or system with a power capacity equal to or greater than 100 kilowatts

Small Solar Energy System - A solar array that is a minimum of 120 square feet in size with a power capacity of less than 100 kilowatts

Photovoltaic Solar Energy System - A system of components that generates electricity from incident sunlight by means of the photovoltaic effect, whether or not the device is able to store the energy produced for later use

Reflecting Solar Energy System - A solar energy system that includes a device to reflect light onto the collector surface for the purpose of increasing the energy production of the system

Substations - Any electrical facility designed to convert electricity produced to a voltage for interconnection with transmission lines

Solar Array - Any number of solar photovoltaic modules or panels connected together to provide a single electrical output

Definitions-Waseca County

SOLAR FARMS - A solar array composed of multiple solar panels on ground-mounted rack or poles which is the primary land use for the parcel on which it is located and that are connected to the electric grid.

SOLAR ENERGY SYSTEMS ACCESSORY - A solar panel or array mounted on a building, pole or rack that is secondary to the primary use of the parcel on which it is located and which is directly connected to or designed to serve the majority of the energy needs of the primary use

Standards from other counties

- 1) Prohibitions. Ground mounted community solar energy systems are prohibited in the following areas:
 - a) Shoreland and Floodplain Districts as designated by the Minnesota Department of Natural Resources (DNR) and the Scott County Zoning Ordinance.
 - b) Within 600 feet of any property designated or protected from development by Federal, State or County agencies as wildlife habitat and wildlife management areas. Property designated as public parkland or park reserve shall not be subject to this set back requirement.
 - c) Within wetlands to the extent prohibited by the Minnesota Wetlands Conservation Act.
 - d) Within any safety zones identified in an Airport Zoning Ordinance.
 - e) Within the Bluff Overlay District
 - f) Within any recorded easement - such as but not limited to utility, ditch, conservation, or storm water-unless authorized in writing by the easement holder
 - g) Within Orderly Annexation Agreement (OAA) areas and the City of Jordan's anticipated 2030 growth boundary, as amended overtime.
 - h) Within a Metropolitan Urban Service Area (MUSA). This includes Undesignated, Undesignated Reserve, 2030, 2040, and future adopted MUSA boundaries.
 - i) Within two (2) miles of a proposed or permitted Community Solar Energy System site as defined under this Chapter. Separation will be measured from the parcel boundary with the permitted community solar garden to the nearest parcel boundary of the proposed community solar garden.
- 2) Maximum Size and Capacity. No more than one (1) Community Solar Garden System per parcel shall be permitted, and the one (1) System or co-location of Systems shall have a maximum power capacity of one (1) megawatt AC and shall be no greater than ten (10) acres in size.
- 3) Signage. No advertising signage is allowed. Manufacture and equipment information, warning, security or indication of ownership signage on the site shall comply with Chapter 11 of the Scott County Ordinance.
- 4) Power and Communication Lines. All on-site power and communication lines running between banks of solar panels and buildings, and all off-site lines running between the solar energy system to electric substations or interconnections, shall be buried underground. Exemptions may be granted in instances where shallow bedrock, water courses, or other elements of the natural landscape interfere with the ability to bury lines.
- 5) Waste Disposal. Solid and Hazardous wastes, including but not limited to crates, packaging materials, damaged or worn parts, as well as used oils and lubricants, shall be removed from the site promptly and disposed of in accordance with all applicable local, state and federal regulations.

- 6) Interconnection. The owner, developer or operator of the Community Solar Energy System must submit an executed interconnection agreement with the electric utility in whose service territory the system is located prior to the County issuing any building permits associated with the System. Off-grid systems are exempt from this requirement. The interconnections shall require no more than two (2) utility poles and a ground utility cabinet or three (3) utility poles total.
- 7) Decommissioning Plan. A decommissioning plan shall be required to ensure that facilities are properly removed after their useful life and that the site is properly restored. Decommissioning of solar panels must occur in the event they are not in use for twelve (12) consecutive months. The plan shall include provisions for removal of all structures and foundations, restoration of soil and vegetation and a plan ensuring financial resources will be available to fully decommission the site. Disposal of structures and/or foundations shall meet the provisions of Scott County Solid Waste Ordinance. The County will require the posting of a bond, letter of credit or the establishment of an escrow account to ensure proper decommissioning, equal to 125% of the estimated amount,
- 8) An itemized decommissioning plan with cost estimates for each item shall be required to ensure that facilities are properly removed after their useful life. Decommissioning of Solar Energy Systems must occur within 180 days of either the end of the system's serviceable life, or the system's discontinued use. A system shall be considered a discontinued use after twelve (12) consecutive months without energy production. The Board shall require the posting of a bond, letter of credit or the establishment of an escrow account to ensure proper decommissioning. Decommissioning shall consist of the following:
 - a) The removal of all structures and foundations.
 - b) The removal of all cables/wiring and electrical devices associated with the project
 - c) The removal of all access roads and parking areas
 - d) The disposal of all cable/wiring, electrical devices, structures and/or foundations shall meet the provisions of the Blue Earth County Solid Waste Ordinance; or successor ordinance
 - e) The permanent restoration of the site to its pre-development state including the following:
 - f) Site cleanup followed by general surface grading and, if necessary, restoration of surface drainage swales, ditches, and tile drains (if present).
 - g) Any excavation and/or trenching caused by the removal of building or equipment foundations, rack supports and underground electrical cables will be backfilled with the appropriate material and leveled to match the ground surface.
 - h) The roads and parking areas will be removed completely, filled with suitable sub-grade material and leveled.
 - i) Further restoration of soil and vegetation of the site as necessary to minimize erosion.

- 9) Noise. All Community Solar Energy Systems shall comply with Minnesota Rules 7030 governing noise.
- 10) Electrical Codes and Standards. All Community Solar Energy Systems and accessory equipment shall comply with the National Electrical Code and other applicable standards. Photovoltaic solar energy system components must have an Underwriters Laboratory (UL) listing or other third-party certification provided by an American National Standards Institute accredited organization.
- 11) Minnesota State Building Code. All Community Solar Energy System structures shall comply with the International Building Code as adopted by the State of Minnesota Building Code.
- 12) Maximum Height. Ground mounted systems shall not exceed fifteen (15) feet in height at maximum design tilt.
- 13) Glare. All solar energy systems shall minimize glare that affects adjacent or nearby properties. Steps to minimize glare nuisance may include selective placement of the system, selective orientation of the panels, or site screening, berming, or buffering. All proposed projects shall conduct and submit a glare study to identify potential impacts and mitigation strategies. To complete this glare study, the applicant can use the Solar Glare Hazard Analysis Tool (SGHAT). Once installed, if the solar energy system creates glare onto neighboring properties and/or streets and highways and the County determines that such glare constitutes a nuisance, the County shall require a more detailed glare study - prepared by a third-party consultant mutually acceptable to the County, Township and applicant - to identify additional actions and/or screening that may be required to substantially eliminate or block the glare from entering the neighboring property and/or street and highway.
- 14) Setbacks. All equipment and structures shall meet the front, side and rear yard setbacks for principal structures for the zoning district in which the system is located.
- 15) Security Fencing. All boundary line fencing shall be located entirely upon the property of the System. Fences shall consist of open fencing such as chain link or barbed wire. Fences shall not exceed eight (8) feet in height, which includes barbed wire toppings.
- 16) Screening. A berm (2:1 maximum slope with supplemental plant materials including trees, shrubs, and groundcovers) and/or a continuous evergreen vegetative buffer shall be provided and maintained at all times around the perimeter of the fencing that faces (a.) public road right-of-way, b.) an existing residence or farmstead not on the subject parcel, or c.) residentially zoned or platted property. The evergreen vegetative buffer shall be composed of evergreen trees or shrubs of a type which at time of planting shall be a minimum of four (4) feet in height and which shall be maintained at maturity at a height of eight (8) feet in height to screen the fence.

- 17) Shall be in compliance with any applicable local, state and federal regulatory standards, including the State of Minnesota Uniform Building Code, as amended; and the Minnesota State Electric Code, as amended.
- 18) *Utility notification.* No grid-intertie photovoltaic system shall be installed until evidence has been given to the Department that the owner has notified the utility company of the customer's intent to install an interconnected customer-owned generator. Off-grid systems are exempt from this requirement.
- 19) Application. An application to the county for a permit under this section is not complete unless it contains the following:
 - a) Site plan of existing conditions;
 - b) Site plan of proposed conditions;
 - c) Manufacturer's specifications and recommended installation methods for all major equipment, including solar panels, mounting systems and foundations for poles or racks;
 - d) The number of panels to be installed;
 - e) A description of the method of connecting the array to a building or substation;
 - f) A copy of the interconnection agreement with the local electric utility or a written explanation outlining why an interconnection agreement is not necessary; and
 - g) A decommissioning plan to ensure that facilities are properly removed after their useful life. Decommissioning of solar panels must occur in the event they are not in use for 12 consecutive months. The plan shall include provisions for removal of all structures and foundations, restoration of soil and vegetation and a plan ensuring financial resources will be available to fully decommission the site. The Board may require the posting of a bond, letter of credit or the establishment of an escrow account to ensure proper decommissioning.
- 20) Foundations. The manufacturer's engineer or another qualified engineer shall certify that the foundation and design of the solar panels is within accepted professional standards, given local soil and climate conditions.
- 21) Operational areas(s), including fencing and solar array, shall be located a minimum of 50 feet from adjacent property lines and/or public right-of-ways and 500 feet from neighboring residences not on the same parcel of property existing at the time of application for the permit.
- 22) Operational area(s), including fencing and solar array, shall be located a minimum of 1 mile from any other permitted large SES in the county.
- 23) A landscaping/screening plan and associated narrative shall be prepared by a licensed landscape architect for submittal with the application.
- 24) A site plan of existing conditions shall be prepared and submitted to the Planning

Agency which shall contain:

- a) Existing property lines and property lines extending 100 feet from the exterior boundaries, including the names of the adjacent property owners and current use of those properties.
- b) Existing public and private roads, showing widths of roads, right-of-ways, and any associated easements.
- c) Location and size of any in-use wells and sewage treatment systems, and any abandoned wells, sewage treatment systems and dumpsites.
- d) Existing buildings and all impervious surfaces.
- e) Topography at 2 foot intervals and source of contour interval. A contour map of the surrounding properties may also be required.
- f) Existing vegetation (list type and percent of coverage; i.e. grassland, plowed field, wooded areas, etc.).
- g) Waterways, watercourses, lakes and public waters, wetlands.
- h) Approved delineated wetland boundaries.
- i) The 100-year flood elevation and Regulatory Flood Protection Elevation, if available.
- j) Floodway, flood fringe, and/or general floodplain district boundary, if applicable.
- k) The toe and top of any bluffs, as defined by this ordinance, within the project boundaries.
- l) Mapped soils according to the Blue Earth County Soil Survey.
- m) Surface water drainage patterns.
- n) Location of county tile drainage systems.
- o) Location of private tile drainage systems, if known.

25) A site plan of proposed conditions which shall contain:

- a) Location, size, and spacing of solar arrays on the site.
- b) Location and size of all roadways and accesses
- c) Planned location of underground or overhead electric lines connecting the Solar
- d) Energy System to the building, substation or other electric load.
- e) New electrical equipment other than at the existing building or substation that is the connection point for the solar energy system.
- f) Proposed erosion and sediment control measures as required by Section 24-304 of this ordinance.
- g) Sketch elevation of the premises accurately depicting the proposed Solar Energy System and its relationship to structures on adjacent lots (if any).
- h) Changes in surface water drainage patterns.
- i) A table showing the total amount of impervious surface being added to the site, including but not limited to: inverter pads, access roads, solar panels, etc.
- j) Delineated wetlands
- k) Planned location of underground or overhead electric lines connecting the Solar Energy System to the principle use or building, substation or other electric load.

- 26) The proposed installed capacity, in kilowatts, for the site.
- 27) Proposed type of mounting and racking system, and manufacturer's specifications or engineering designs for the type of mounting and racking, including a description of the type of foundation needed for the proposed system, if applicable.
- 28) A description of the method of connecting the system to a building or substation.
- 29) Stormwater Management shall be in compliance with the MPCA Construction Stormwater Permit requirements.
- 30) Systems shall not be used to display advertising. The manufacturers and equipment information, warning, or indication of ownership shall be allowed on any equipment of the Solar Energy System
- 31) The conversion of existing wooded areas for the placement of systems is prohibited.
- 32) Additional Requirements for Small Solar Energy Systems
 - a) Ground-mounted and pole-mounted systems shall not exceed twenty (20) feet in height at maximum design tilt.
 - b) The total collector surface of ground-mounted or pole-mounted systems shall not exceed fifty (50) percent of the building footprint of the principal structure in the Rural Residence and Rural Townsite Districts.
 - c) Ground-mounted and pole-mounted systems shall have permanent vegetation under and between the collectors and surrounding the system's foundation or mounting device.
 - d) Roof-mounted solar energy systems. No construction permit required except where otherwise noted.
 - e) Roof-mounted systems shall not exceed the maximum allowed height in any zoning district and shall not extend greater than four (4) feet above the existing structure's roof height in the Rural Residence and Rural Townsite Districts.
 - f) In addition to the structure setback, the collector surface and mounting devices for roof-mounted systems shall not extend beyond the exterior perimeter of the structure on which the system is mounted or built, except for when such an extension is designed as an awning. A construction permit is required for awnings 120 square feet or larger.
 - g) The collector and racking for roof-mounted systems that have a greater pitch than the roof surface shall be set back from all roof edges a minimum of two (2) feet.

- h) Exterior piping for roof-mounted solar hot water systems may extend beyond the perimeter of the structure on the side and rear yards.
 - i) Roof-mounted systems, excluding building-integrated systems, shall not cover more than eighty percent (80%) of the south-facing or flat roof upon which the collectors are mounted.
- 33) A vegetation/seeding plan shall be submitted with the application for large solar energy systems.
- 34) Solar arrays shall be constructed within the buildable area of the property and meet all applicable structure setbacks.
- 35) Reflecting Solar Energy Systems.
 - a) Systems shall be designed and operated to limit the misdirection of reflected solar radiation onto adjacent or nearby property, public roads, or other areas open to the public.