



City Council Memorandum

To: Mayor Fasbender & City Councilmembers
From: John Hinzman, Community Development Director
Date: April 3, 2023
Item: 1st Reading: City Code Amendment – Chapter 155 – Solar Energy Systems

Council Action Requested:

Consider 1st reading of an amendment to City Code Chapter 155 establishing rules for Solar Energy Systems. Action would allow for 2nd reading and adoption at the April 17, 2023 meeting. A simple majority is necessary for action.

Background:

The City does not currently have regulations pertaining to installation of solar energy systems. Staff has fielded requests for solar farms and believes regulations are necessary.

Financial Impact:

Creation of a solar energy systems ordinance may encourage further installation of systems which may be financially beneficial to home owners and solar farm operators.

Advisory Commission Discussion:

The Planning Commission reviewed the amendment at the March 27, 2023 meeting. The Commission voted 6-0 to recommend approval with minor clarifications.

Council Committee Discussion:

N/A

Attachments:

- Ordinance Amendment – Chapter 155 – Solar Energy Systems
- Planning Commission Staff Report – March 27, 2023

1st Reading Draft – April 3, 2023

ORDINANCE NO. 2023-

**AN ORDINANCE FOR THE CITY OF HASTINGS, MINNESOTA AMENDING
HASTINGS CITY CODE CHAPTER 155 – ZONING ORDINANCE REGARDING
SOLAR ENERGY SYSTEMS**

The City Council of the City of Hastings, Minnesota does hereby ordain as follows:

SECTION 1. AMENDMENT. The Code of the City of Hastings, State of Minnesota, Chapter 155, Section 155.07.J Solar Energy Systems is hereby enacted as follows:

155.07; Subd. J: SOLAR ENERGY SYSTEMS:

1. **Purpose:** Hastings supports the use of solar energy systems in appropriate zoning districts within the City. The development of solar energy systems should be balanced with the protection of the public safety and the existing natural resources in Hastings, with limited adverse impacts on nearby properties. This Section provides for the regulation of the construction and operation of solar energy systems in Hastings, subject to reasonable conditions to protect the environment, public health, safety, and welfare. The provisions of this Section shall apply within all zoning districts. In no case shall the provisions of this Section guarantee rights to solar access.

2. **Definitions:** The following words, terms and phrases when used in this Chapter shall have the meaning ascribed to them in this Section except where the context clearly indicates a different meaning.

- a. **COMMUNITY 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 Minnesota Statutes Section 216B.1641.
- b. **PHOTOVOLTAIC SYSTEM:** An active solar energy system that converts solar energy directly into electricity.
- c. **SOLAR COLLECTOR:** A device, structure, or a part of a device or structure for which the primary purpose is to capture sunlight and transform it into thermal, mechanical, chemical, or electrical energy.

- d. **SOLAR DAYLIGHTING:** A device specifically designed to capture and redirect the visible portion of the solar spectrum, while controlling the infrared portion, for use in illuminating interior building spaces in lieu of artificial lighting.
- e. **SOLAR ENERGY:** Radiant energy received from the sun that can be collected in the form of heat or light by a solar collector.
- f. **SOLAR ENERGY DEVICE:** A system or series of mechanisms designed primarily to provide heating, cooling, electrical power, mechanical power, or solar daylighting or to provide any combination of the foregoing by means of collecting and transferring solar generated energy into such uses either by active or passive means. Such systems may also have the capability of storing such energy for future utilization.
- g. **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.
- h. **SOLAR ENERGY SYSTEM, GRID INTERTIE:** A photovoltaic solar energy system that is connected to an electric circuit served by an electric utility company.
- i. **SOLAR ENERGY SYSTEM, GROUND MOUNTED:** A freestanding solar energy system mounted directly to the ground using a rack or pole rather than being mounted on a building.
- j. **SOLAR ENERGY SYSTEM, OFF GRID:** A photovoltaic solar energy system in which the circuits energized by the solar energy system are not electrically connected in any way to electric circuits that are served by an electric utility company.
- k. **SOLAR ENERGY SYSTEM, ROOF MOUNTED:** A solar energy system mounted onto the roof of a building.
- l. **SOLAR FARM:** A commercial facility that converts sunlight into electricity, whether by photovoltaic (PV), concentrating solar power devices (CSP), or other conversion technology, for the principal purpose of wholesale sales of generated electricity. A solar farm is the primary land use for the parcel on which it is located.
- m. **SOLAR HEAT EXCHANGER:** A component of a solar energy device that is used to transfer heat from one substance to another, either liquid or gas.

- n. **SOLAR HOT AIR SYSTEM:** An active solar energy system that includes a solar collector to provide direct supplemental space heating by heating and recirculating conditioned building air.
- o. **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, including residential domestic hot water and hot water for commercial processes.
- p. **SOLAR MOUNTING DEVICES:** Racking, frames, or other devices that allow the mounting of a solar collector onto a roof surface or the ground.

3. **General Standards.** Solar energy systems in accordance with the standards in this Section are allowed as a permitted accessory use in all zoning districts.

a. **Applicability.** Solar collectors and solar energy systems with a cumulative area of six (6) square feet or less per lot are permitted in all zoning districts and are exempt from the provisions of this Section. Examples of these systems include outdoor accent lighting systems, power supply for traffic control systems, powering a water pump for water gardens, telecommunication systems, backup power systems during power outages, and similar solar energy systems. Cumulative area is defined as including solar collectors or solar energy systems that are connected to a singular photovoltaic system.

b. **Wall Mounted Solar Energy Systems:** Wall mounted solar energy systems must be flush with the wall, integrated into the building design, and shall be placed to limit visibility from the public right-of-way or to blend into the wall design, provided that minimizing visibility still allows the property owner to reasonably capture solar energy. Wall mounted solar energy systems shall comply with the minimum building setback requirements for the zoning district in which they are located and may not extend into any easements.

c. **Roof-Mounted Solar Energy Systems:**

- 1. Roof mounting devices and roof mounted solar energy systems shall be flush mounted to the roof. They may be mounted at an angle to the roof only when flush mounting prevents the reasonable capture of solar energy.
- 2. Roof-mounted solar energy systems shall not extend beyond the exterior perimeter of the building on which the system is mounted or built or as required by Building Code.
- 3. Roof-mounted solar energy systems shall comply with the maximum height requirements for the zoning district in which they are located.
- 4. Roof-mounted solar energy systems shall be placed to limit visibility from the public right-of-way or to blend into the roof design, provided that

minimizing visibility still allows the property owner to reasonably capture solar energy.

5. Reflection angles from collector surfaces shall be oriented away from neighboring windows. Where necessary, screening may be required to address glare.

d. Ground-Mounted Solar Energy Systems:

1. Ground mounted solar energy systems may only be erected as an accessory use on properties consisting of five (5) or more acres, regardless of the zoning district in which they are located.
2. Ground mounted solar energy systems may only be erected as a primary use when stipulated in the applicable zoning district in which they are located.
3. Ground mounted solar energy systems shall not exceed fifteen feet (15') in height when oriented at maximum tilt as measured from the ground to the highest point of the solar collector or related appurtenance.
4. Ground-mounted solar energy systems shall comply with the accessory structure setback standards for the applicable zoning district in which they are located, except as otherwise required in this Section. Solar energy systems shall not extend into the minimum front, rear, or side yard setbacks when oriented at minimum or maximum design tilt.
5. Ground-mounted solar energy systems erected as an accessory use are prohibited in the front yard of properties. Ground mounted solar energy systems erected as a primary use must comply with the minimum front yard setback as required in the zoning district they are located in or such greater distance as may be required in this Section.

e. Heliostats: Heliostats are prohibited in all zoning districts.

4. Additional Requirements:

a. Public Easements: Solar energy systems shall not encroach on public drainage or utility easements.

b. Glare: Solar collectors shall be placed and arranged such that reflected solar radiation or glare shall not be directed onto adjacent buildings, properties, or roadways, and shall not emit unreasonable glare as determined by City Staff.

c. Applications for Solar Energy Systems: All solar energy systems require a building permit and must include the following information:

1. A site plan of existing and proposed site conditions.
2. Description and depiction of the solar energy system.
3. Number of solar collectors to be installed.
4. Location and spacing of solar collectors and mounting devices.
5. Applications for ground mounted solar energy systems shall identify existing vegetation on the installation site (list vegetation type and percent of coverage; i.e., grassland, plowed field, wooded areas, etc.), and provide a maintenance plan for controlling vegetative growth on site upon installation of the solar energy system.
6. A description of the method of connecting the solar collectors to a building or substation and a signed copy of the interconnection agreement with the local electric utility shall be included or a written explanation outlining why an interconnection agreement is not required.
7. Planned location of underground or overhead electric lines connecting the solar energy system to the substation or distribution line.
8. New electrical equipment other than at the existing building or substation that is the connection point for the solar energy system.
9. Manufacturer's specifications and recommended installation methods for all major equipment, including solar collectors, mounting systems and foundations for poles or racks. The City reserves the right to deny a building permit for proposed solar energy systems deemed to have inadequate certification.
10. Existing and proposed (if existing grade will be altered) topography at two-foot (2') contours.
11. Demonstrate that there will be no unreasonable glare generated by the solar energy system and that any glare generated shall not be directed onto adjacent buildings, properties, or roadways or otherwise adversely impact neighboring properties as deemed necessary by City Staff.

d. **Grid Interties:** For all grid intertie solar energy systems, all power lines shall be placed underground within the interior of each parcel and between the solar energy system and its connection to the electric grid. The collection system may be placed overhead near substations or points of interconnection to the electric grid. All grid intertie systems shall have an agreement with the local utility prior to the issuance of a building permit. A visible external disconnect must be provided if required by the utility. Off grid

systems are exempt from this requirement.

e. **Historic Structures:** Solar energy systems on buildings within designated historic districts or on locally designated historic buildings must receive approval by the Hastings Heritage Preservation Commission and shall be consistent with the standards for solar energy systems on historically designated buildings published by the U.S. Department of Interior

5. **Community Solar Gardens and Solar Farms:** Community solar gardens and solar farms are permitted subject to the following requirements:

a. **Ground Mounted Community Solar Gardens and Solar Farms:** Ground mounted community solar gardens and solar farms are only permitted when stipulated in the applicable zoning district in which they are located and must comply with the following requirements:

1. A minimum of five (5) acres of land is required. All ground mounted solar energy systems and solar collection appurtenant equipment must set back a minimum of twenty feet (20') from all property boundary lines.
2. Vegetative screening and buffering of the ground-mounted solar energy systems will be required as part of the conditions of approval. The developer or applicant of a solar energy project shall submit to the city for approval a screening and landscape plan. A buffer and screening plan may use a combination of trees, shrubs, fencing, and/or berms that provides year-round coverage that completely screens the solar installation from the public right-of-way and from adjacent and nearby residences. If existing screening in the form of vegetation that provides year-round coverage or site topography is such that it provides the required screening from adjacent residential properties and right-of-way, the screening requirement may be waived or reduced.
3. The electrical connection systems shall be placed underground within the interior of each parcel and between the solar energy system and the point where the interconnection to the electric grid is made.
4. Site plan required: The owner or operator shall submit to the city a detailed site plan for both existing and proposed conditions. These plans shall show the location of all areas where solar arrays would be placed, the existing and proposed structures, property lines, access points, fencing, landscaping, surface water drainage patterns, floodplains, wetlands, the ordinary high-water mark for all water bodies, any other protected resources, topography, electric equipment and all other characteristics requested by the City.

5. Stormwater management, erosion and sediment control shall meet the requirements of the City and best management practices.
6. The owner or operator shall contain all unenclosed electrical conductors located above ground within structures that control access or they must be protected from entry by a six-foot-tall fence. All electrical connections to the utility system must meet or exceed the National Electrical Safety Code

b. **Roof Mounted Community Solar Gardens and Solar Farms:** Roof mounted community solar gardens and solar farms are permitted on flat roofs on principal structures in all zoning districts regardless of lot size, and must comply with the following requirements:

1. All feeder lines and grid interties shall be placed underground between the solar energy system and the point where the interconnection to the electric grid is made. The collection system may be placed overhead near substations or points of interconnection to the electric grid.
2. Roof-mounted systems shall comply with all building setbacks in the applicable zoning district and shall not extend beyond the exterior perimeter of the building on which the system is mounted or as required by Building Code.
3. Roof-mounted solar energy systems must abut an existing electric distribution system for purposes of making the interconnection to the electric grid.

c. **Decommissioning:** A decommissioning plan shall be submitted with all applications for community solar gardens or solar farm systems. Owners and/or applicants and must comply with the following requirements:

1. Decommissioning plans shall outline the anticipated means and cost of removing the solar energy system at the end of its serviceable life or upon the discontinuation of its use. The cost estimates shall be made by a competent party, such as professional engineer, a contractor capable of decommissioning the system, or a person with suitable expertise or experience with decommissioning. The plan shall also identify the financial resources that will be available to pay for the decommissioning and removal of the system. Owners of solar energy systems may rely on manufacturer's data to submit estimates.
2. Decommissioning of the system must occur within ninety (90) days from either of the following:
 - i. The end of the system's service life; or

- ii. The system becomes a discontinued use.
 - 3. A system shall be considered a discontinued use after one year without energy production, unless a plan is developed during the year the system is discontinued and submitted to the Community Development Director outlining the steps and schedule for returning the system back into service.
 - 4. The City may, at its discretion, require the owner and/or operator of the solar energy system to provide financial security in the form of a cash escrow, bond, or irrevocable letter of credit in an amount equal to one hundred twenty five percent (125%) of a cost estimate for decommissioning the system.
 - 5. The owner of the property where a community solar garden or solar farm is located must notify the City in writing when feeder lines and/or grid interties are disconnected from the local utility transmission line.
5. **Abandonment:** If a solar energy system remains nonfunctional or inoperative for a continuous period of one year, the system shall be deemed to be abandoned and shall constitute a public nuisance. The owner shall remove the abandoned system at its expense after a demolition permit has been obtained. Removal shall include removal of the entire solar energy systems, including all solar collectors, mounting structures, and related components.

SECTION 2. AMENDMENT. The Code of the City of Hastings, State of Minnesota, Chapter 155, Section 155.02 Definitions shall be amended by adding the following definition:

Interim Use. A temporary use of property until a particular date, until the occurrence of a particular event, or until zoning regulations no longer permit it.

SECTION 3. AMENDMENT. The Code of the City of Hastings, State of Minnesota, Chapter 155, Section 155.21.E – A Agriculture Interim Uses shall be stricken in its entirety and replaced with the following language:

E. Interim Use

- 1. **Purpose.** Interim Uses are allowed upon issuance of an Interim Use Permit and execution of an Interim Use Agreement establishing parameters and conditions for operation. The City Council may grant permission of an Interim Use of the property if:
 - a. The use conforms to the zoning regulations;
 - b. The date or event that will terminate the use can be identified with certainty;

- c. Permission of the use will not impose additional costs on the public if it is necessary for the public to take over the property in the future; and
- d. The user agrees to any conditions that the City deems appropriate for permission of the use.

2. **Uses by Interim Use Permit.**

- a. **Interim Waiver of Site Plan Requirements.** Uses identified as permitted or by special permit may be granted an Interim Use Permit to defer the construction of certain property improvements for a defined period of time. Deferred construction items may include paving and/or curbing of a parking lot, construction of a permanent building, and other similar items. Only properties outside of the Metropolitan Urban Service Area (MUSA) may be eligible for issuance of an Interim Waiver of Site Plan Requirements. Upon termination of the Interim Waiver of Site Plan Requirements the business must comply with any deferred items to continue operation.

- b. **Ground Mounted Community Solar Gardens and Solar Farms**

3. **Additional Requirements.**

- a. Interim Use Permits shall be issued for a six-month probationary period as determined by City Council. The City Council may consider full issuance of an Interim Use Permit at the end of the probationary period.
- b. The site must be returned to its pre-development condition upon termination of the interim use permit.
- c. If applicable, the business must present an acceptable plan for on-site portable restrooms and trash removal.
- d. All temporary and permanent signage will require a separate sign permit.
- e. As a condition of approval, the City will need to review and approve any temporary or mobile structure.
- f. The construction of or movement of any buildings onto the property requires Site Plan Approval.
- g. Interim Use Permits shall be subject to the requirements of Chapter 30.02 (E) (2) – Special Use Permits.
- h. Hours of operations shall be reviewed.

- i. Any interim use may be terminated by a change in zoning regulations.

SECTION 4. SUMMARY PUBLICATION. Pursuant to Minnesota Statutes 412.191, in the case of a lengthy ordinance, a summary may be published. While a copy of the entire ordinance is available without cost at the office of the City Clerk, the following summary is approved by the City Council and shall be published in lieu of publishing the entire ordinance.

The text amendment adopted by the Hastings City Council on _____ modifies the City Ordinance to regulate solar energy systems operations and uses through the establishment of permits and performance standards.

SECTION 5. EFFECTIVE DATE. This ordinance shall be in full force and effect from and after its passage and publication according to law.

Passed this _____ day of _____, 2023

Mary Fasbender, Mayor

Attest:

Kelly Murtaugh, City Clerk

Published in the Hastings Journal on _____



Planning Commission Memorandum

To: Planning Commissioners

From: John Hinzman, Community Development Director

Date: March 27, 2023

Item: Public Hearing - Amend City Code Chapter 155 – Solar Energy Systems

Planning Commission Action Requested

Hold a public hearing and recommend action to amend City Code Chapter 155 – Zoning Code establishing requirements for solar energy systems.

Purpose

The City does not currently have regulations pertaining to installation of solar energy systems. Staff has fielded requests for solar farms and believes regulations are necessary.

Solar Energy Systems

Solar energy systems collect or store solar energy, transforming it to another form of energy or transfers heat from a collector to another medium. Systems generally include solar panels and related infrastructure necessary for collection and transfer of energy.

Types of Systems



Roof Mounted



Wall Mounted



Ground Mounted



Ground Mounted Solar Farms and Gardens

General Regulations

Solar energy systems would be regulated based on system type as follows:

Type	Allowable Zoning District	Permit Type	Performance Standards
All Systems under 6 s.f.	All Districts	No permit needed	N\A
Wall Mounted	All Districts	Building Permit	Limit visibility to ROW Integrated into building design Comply with minimum setbacks
Roof Mounted – Individual Use	All Districts	Building Permit	Flush to roof Angled only if flush not feasible Must meet height requirements Limit view from public ROW Limit glare to neighbors
Roof Mounted – Community Solar Garden	All Districts on flat roofs	Building Permit	Flush to roof Angled only if flush not feasible Must meet height requirements Limit view from public ROW Limit glare to neighbors Underground electric connection Decommissioning Plan
Ground Mounted – Accessory Use	All Districts if property > 5 acres	Building Permit	Max Height of 15’ Comply with Accessory Setback Prohibited in Front Yard
Ground Mounted - Community Solar Garden	Agriculture District only > 5 acres	Interim Use Permit\Site Plan	Minimum 20’setback Screening and buffering Underground electrical connection Stormwater Management Decommissioning Plan

Interim Use Definition

The following definition of interim would be added to the definitions section of the zoning code:

Interim Use. A temporary use of property until a particular date, until the occurrence of a particular event, or until zoning regulations no longer permit it.

Interim Use – Agriculture Zoning District

The existing interim use permit language within the zoning code includes only one use – interim waiver of site plan requirements. This has been utilized United Heroes League and Extreme Sandbox to provide for a temporary waiver of Site Plan requirements for a limited period of time. The existing language limiting permits to 18 months has been removed leaving the City the opportunity to structure the length of time based on the individual request. The proposed amendment restructures the existing language and adds provisions for ground mounted community solar gardens and farms.

Recommendation

Approval of the proposed ordinance is recommended.

Attachment

- Ordinance Amendment