

COMMISSION ACTION FORM

SUBJECT: PUBLIC HEARING - SOLAR ENERGY SYSTEM USES TEXT AMENDMENTS

BACKGROUND:

As result of ten months of staff research, Planning & Zoning Commission input, Historic Preservation Commission input, a City Council workshop and various methods of public input, a draft code amendment document regarding solar energy system uses is attached. The document has not yet been prepared by the City Attorney's Office for official adoption by City Council, but is in a form that shows the sections of code that would be amended. The proposal is to amend **Section 29.201(116)**, regarding the definition of mechanical equipment, amend **Section 29.501(4)-4**, regarding removing "energy production", amend **Section 29.501(4)-7**, regarding adding Solar Energy System uses and add **Section 29.1309**, a new section regulating and defining Solar Energy Systems.

This document is substantially the same as what was presented to the Planning & Zoning Commission on August 5, 2009 and the City Council on August 18, 2009. Some changes include text formatting improvements and increased consistency with existing zoning standards for heights, setbacks, variances and exceptions. All of the text regarding wind energy systems has been removed from this proposal and will be addressed at a later meeting, per guidance from the City Council, at its August 18th workshop. Detailed explanations of specific areas in the proposed text amendments can be found in the staff reports for August 5th and August 18th on the Planning & Housing Department's Renewable Energy web page. A complete history of the revision process is also provided on that web page. To date, 116 members of the public have signed up for the email list service regarding solar and wind energy text amendments. The service has also been used successfully to solicit comments as a supplement to the scheduled public meetings which some have not been able to attend.

Land Use Policy Plan. Goal 3 of "Goals for a New Vision," regarding "Environmental-Friendliness" is supportive of this text amendment, because the proposed amendments facilitate property owners' desire to conserve traditional energy sources by installing solar equipment on their property.

Goal 4 of "Goals for a New Vision," regarding a "greater sense of place and connectivity" and "assuring a more healthy, safe and attractive environment" is supportive of this text amendment, because the proposal seeks to maintain the attractiveness of the built physical environment. These amendments propose to allow solar energy equipment in a way that is balanced with the character of the surrounding built environment.

Goals 1,2 and 5-10 are not directly applicable to the proposed amendments.

Public Notice and Hearing. This discussion will be conducted as a public hearing, which is not required by City of Ames Municipal Code or by Iowa law. However, code amendment public hearings are required by law at the City Council level. This hearing was initiated by the staff and the Commission as a method to bring the considerable amount of work toward a close before forwarding the recommendation to the City Council. Public notice was placed in the newspaper prior to the meeting and the full text of the proposal was made available on the web and at the Department of Planning & Housing front counter. If the proposal is recommended to the City Council, the next available City Council meeting for a first reading of ordinance will be October 13, 2009.

ALTERNATIVES:

1. The Planning and Zoning Commission can recommend that the City Council adopt the zoning code text amendments to Section 29.201(116), Section 29.501(4)-4, Section 29.501(4)-7 and Section 29.1309 as described above and illustrated in the attached draft ordinance dated September 16, 2009.
2. The Planning and Zoning Commission can recommend that the City Council adopt the zoning code text amendments to Section 29.201(116), Section 29.501(4)-4, Section 29.501(4)-7 and Section 29.1309 as described above and illustrated in the attached draft ordinance dated September 16, 2009, but with modifications.
3. The Planning and Zoning Commission can recommend that the City Council not adopt the proposed zoning code text amendments.
4. The Planning and Zoning Commission can refer this issue to staff for further information.

RECOMMENDED ACTION:

The Department of Planning & Housing recommends that the Planning & Zoning Commission act in accordance with Alternative #1, which is to recommend that the City Council adopt the attached zoning code text amendments to Section 29.201(116), Section 29.501(4)-4, Section 29.501(4)-7 and Section 29.1309 as described above and illustrated in the attached draft ordinance document dated September 16, 2009.

**SOLAR ENERGY SYSTEMS
DRAFT ORDINANCE PREPARED FOR:
PLANNING & ZONING COMMISSION PUBLIC HEARING
SEPTEMBER 16, 2009**

The following text is proposed as amendments to Chapter 29, Zoning, of the Ames Municipal Code:

Section One. Section 29.201(116), of the Ames Municipal Code is hereby amended to amend the definition of “Mechanical Unit” to read as follows:

“Section 29.201(116). **DEFINITIONS**

Mechanical Unit means a climate control device and/or a piece of hardware used for the delivery or measurement of utilities, that is located above ground and is clearly visible, not including solar energy systems as defined in Section 29.1309.

Section Two. Table 29.501(4)-4, of the Ames Municipal Code is hereby amended to remove “energy production” from the Manufacturing and Processing uses, to read as follows:

Table 29.501(4)-4. **INDUSTRIAL USE CATEGORIES**

Manufacturing and Processing

Uses Included

Apparel and textiles manufacturing
Artwork, jewelry and toy production
Chemicals, rubber, leather, clay, bone, plastic, stone, and glass materials manufacturing
Concrete batching and asphalt mixing
~~Energy Production~~
Food and related products manufacturing
Furniture and fixtures manufacturing
Lumber and wood product manufacturing
Metal and metal products manufacturing, including enameling and galvanizing
Machinery and electrical equipment manufacturing
Manufactured homes and prefabricated structures manufacturing
Movie production facilities
Printing and publishing
Rock crushing and screening
Woodworking, including cabinetry

Section Three. Table 29.501(4)-7, of the Ames Municipal Code is hereby amended to include a definition for the accessory use “Solar Energy System” to read as follows:

Table 29.501(4)-7. **MISCELLANEOUS USE CATEGORIES**

Solar Energy Systems

Definition. An accessory use in every zone with a primary purpose of collection, inversion, storage, and distribution of solar energy for electricity generation, space heating, space cooling or water heating; primarily for on-site use, pursuant to Section 29.1309.

Section Four. A new Section 29.1309 of the Ames Municipal Code titled “Solar Energy Systems” is hereby adopted to read as follows:

Section 13.09 Solar Energy Systems

Scope, Purpose, Policy: The Ames City Council recognizes that solar energy is a clean, readily available and renewable energy source. The adoption of regulations facilitating the use of solar energy within individual properties in the city meets Goal #3 of the Land Use Policy Plan, in being an environmentally friendly and energy conscious community.

Solar Energy Systems as defined in the Definitions shall be considered a permitted accessory use in all zoning districts. The purpose of this section is to establish regulations to facilitate the installation and construction of Solar Energy Systems so that systems are safe, effective, and efficient, as well as harmonious with the character of the adjacent area where located. The provisions of this Section apply to, and apply only to, the placement, construction and use of “solar energy systems” as defined in this section. It is the intent of this Ordinance not to have the effect of prohibiting the enjoyment and benefits of solar energy usage. It is also understood that future amendments to this ordinance may be necessary, as directed by City Council, as technologies and market conditions may influence the frequency, density, and impacts of these systems. Any application for authorization to place, construct or modify solar energy systems shall be acted on within a reasonable time frame after the application is filed with the proper city office, taking into account the scope and nature of such request. Any decision of denial shall be in writing and supported by substantial evidence contained in a written record.

The following standards shall apply to the development of Solar Energy Systems:

1. Freestanding Solar Energy Systems Setbacks:

A. Front Setback: Systems shall not be located within any front setback. Additionally, systems shall only be within any front yard subject to approval of a Solar Energy System Special Use Permit by the Zoning Board of Adjustment.

i) Front yard, as used in the section, is defined by the location of the principal building on the lot, not the required setbacks. See definition and graphic in Section 29.406(7)(e).

B. Side and Rear Setbacks: Six (6) feet from all property lines and other structures.

C. Corner, Through, Curvilinear and Double/Multiple Frontage Lots: The definition and requirements for a front yard in Section 29.406(7)(e) shall prevail when the subject lot is not an interior lot.

- i) Exemption: At least one rear yard and rear setback shall be afforded in every case.

D. Easements, Utilities, Rights of Way: No portion of any solar energy system shall extend above, beneath or upon any easement, right of way or public way, regardless of above stated exceptions and regulations for setback and yard requirements.

2. Location: The freestanding system shall be located on the same lot as the building being served. Where there is no principal building, the system is not allowed.

3. Height: Freestanding systems shall not exceed six (6) feet in height in side and rear yards. Freestanding systems in a front yard shall not exceed four (4) feet in height. The height shall be measured from the grade at system base to the highest peak, including the highest position of any adjustable system.

4. Freestanding System Size:

A. Residential Properties: shall not exceed the greater of one-tenth (1/10) the footprint of the principal building served or one hundred (100) square feet, whichever is greater.

B. Non-Residential Properties: The size of systems for non-residential properties shall not exceed one-half (1/2) of the footprint of the principle building served.

C. Lot Coverage: Freestanding system installation shall not cause non-conformance with the maximum lot coverage or minimum landscaped area in the applicable zone.

D. Measurement of the system is of the surface area in the plane parallel to the receiving surface, regardless of the adjustment angle of the surface. There is no size limit on attached systems except as required by a Solar Energy System Special Use Permit.

E. Lot Coverage Exception: Lot coverage shall not be interpreted as to prevent the placement of a forty (40) square foot system in a rear yard.

5. Calculation-Exempt Freestanding systems:

A) A freestanding system, or portion thereof, not visible from abutting street rights of way at any time of the year

B) Calculation-Exempt systems still require all permits, but are not included in square footage limits. See definition.

6. Zoning Permit-Exempt systems:

A) Systems in which the cumulative surface area of the system is 4 square feet or less

B) Systems or building parts integral to the structure, that are passive (Passive Solar Energy Systems) in nature and do not project from the structure

7. Residential Attached Solar Energy Systems are permitted to be located on the roof or attached to a building, subject to all of the following:

A) In the case of wall mounting, no part of the system shall project more than five (5) feet from the building.

- B) In the case of front wall mounting, attached systems are only allowed on the front wall of the principal structure subject to approval of a Solar Energy System Special Use Permit by the Zoning Board of Adjustment. The front wall, as used in this section is defined as any wall coincident with the front yard as defined in Section 29.406(7) (e).
- C) No part of the system shall extend more than 50% percent into any required side or rear setback. No part of the system shall extend into any required front setback.
- D) No portion of any solar energy system shall extend above, beneath or upon any easement, right of way or public way, regardless of above stated exceptions and regulations for setback and yard requirements.
- E) Systems shall not exceed the maximum height in the zone, for the structure to which it is attached.
- F) Plans for system installation are certified by an engineer licensed in Iowa. Shall be required before issuance of a building permit to ensure structural integrity.
- G) The building must have a conforming principal use.
- H) No system shall be attached to a structure that is not in conformance with height and setback standards for the zone, unless the system does not cause an increase in the height or setback nonconformity.
- I) Flush mount requirement. Attached, Roof Mounted on Residential Properties: Roof attached systems may be mounted on principal and accessory building roofs provided they conform to the maximum height standards established in the zone. Additionally, systems shall be mounted parallel to the pitch of the roof and be no higher than 6 inches from the roof surface. A system or a portion of a system not visible from abutting street rights of way is exempt from the flush mount requirement, but no part of the system shall project higher than 5 feet from the roof surface. A Variance will be required to exceed 5 feet of projection.
 - i) Systems not meeting the flush mount requirement are allowed subject to approval of a Solar Energy System Special Use Permit by the Zoning Board of Adjustment but can not exceed more than 5 feet of projection from the roof surface.
- J) Section 29.401(5), pertaining to height exceptions for architectural features and projections shall not apply.
- K) Section 29.402(2), pertaining to exceptions for projections into required setbacks shall not apply.
- L) There is no surface area size limitation on attached systems, unless otherwise required by a Solar Energy System Special Use Permit.

8. Non-Residential Attached Solar Energy Systems are permitted to be located on the roof or attached to a building, subject to all of the following:

- A) For wall mounting, no part of the system shall project more than five (5) feet from the wall.
- B) For roof mounting, no part of the system shall project more than ten (10) feet from the roof.
- C) No part of the system shall extend more than 50% percent into any required side or rear setback. No part of the system shall extend more than 20% into any required front setback.
- D) No part of the system shall cause nonconformance with the maximum height permitted in the zone, for the structure to which it is attached.

- E) Plans for system installation are certified by an engineer licensed in Iowa. Shall be required before issuance of a building permit to ensure structural integrity.
- F) The building must have a conforming principal use.
- G) No system shall be attached to a structure that is not in conformance with height and setback standards for the zone, unless the system does not cause an increase in the height or setback nonconformity.
- H) Section 29.401(5), pertaining to height exceptions for architectural features and projections shall not apply.
- I) Section 29.402(2), pertaining to exceptions for projections into required setbacks shall not apply.

9. Code Compliance: Solar Energy Systems shall comply with all applicable building codes and are not exempt from any such inspections and permits. The applicant or designee is encouraged to meet with the regulatory and utility agencies before purchasing equipment to understand feasibility and code requirements prior to applying for a zoning permit.

10. Solar Access: A property owner who has installed or intends to install a solar energy system shall be responsible for negotiating with other property owners in the vicinity for any necessary solar easement. The granting of a zoning permit or Special Use Permit by the City does not constitute solar access rights.

11. Historic Districts: All solar energy systems within a historic overlay district shall apply for a certificate of appropriateness subject to approval by the Historic Preservation Commission and standards within Chapter 31, Municipal Code. None are exempt. A denial of a certificate of appropriateness by the HPC shall disallow applications for zoning and building permits for same.

12. Review Procedure: The Planning & Housing Director shall prescribe the application form and any necessary submittal requirements, as needed, to determine compliance with this section. When review is completed, an approval shall constitute a Solar Energy System Zoning Permit (SES ZP) and the applicant shall then be authorized to seek any other necessary building permits and approvals before installation. The Zoning Permit can be revoked if there is documented evidence which documents non-compliance with the permit. The Zoning Permit application shall include, but not limited to:

- A) A plot plan showing:
 - i) structures on the lot
 - ii) proposed system
 - iii) property lines
 - iv) setback dimensions
 - v) rights of way
 - vi) utility diagram applicable to proposed system
- B) elevation views and dimensions
- C) manufacturer's photographs
- D) manufacturer's spec sheet including capacity
- E) a statement certifying that there are no applicable restrictive covenants
- F) Demarcation of dimensions. For systems claiming exemption due to "no-visibility" from abutting street rights of way, the applicant shall place demarcation posts, guides or balloons and schedule an appointment for staff to confirm no visibility.
- G) Written statement of support from Historic Preservation Commission, if applicable

13. Solar Energy System Special Use Permits (SES SUP):

The Planning & Housing Director shall prescribe the application form and any necessary submittal requirements, as required in this section and Section 29.1503. The Director can waive any of the submittal requirements of a SES SUP upon request of the applicant, which he or she deems not applicable. The procedure shall follow Section 29.1503, Special Use Permits. Section 29.1503(b-d), Residential Zone Standards, Commercial Zone Standards and Functional Families shall not apply to the review of SES SUP applications. Additionally, the Zoning Board of Adjustment shall also find that the application has met all of the criteria in 13(A-E) of this section in addition to either 13(F) in this section or 13(G) in this section.

When a Solar Energy System Special Use Permit is required, it shall constitute the equivalent of the Solar Energy System Zoning Permit.

The ZBA can request additional information if insufficient information is presented to determine conformance with the criteria. If approved, the SES SUP can be revoked after a public hearing, if there is documented evidence which documents non-compliance with the SES SUP. The Board may impose such additional conditions as it deems necessary for the general welfare, for the protection of property rights, and for ensuring that the intent and objectives of this Ordinance will be observed. The application shall require, at a minimum, the same information as required for a SES ZP, and in addition, shall require statements addressing how the application meets all of the criteria required to grant the SES SUP.

All of A, B, C, D and E:

- A) The system will be harmonious with the character of the neighboring properties as they exist on the date of approval, which is defined as properties within 200 feet of the system property
- B) Access to open space (air and light) from the neighboring properties is not significantly reduced
- C) If in a historic district, the HPC shall provide a written recommendation of support to the Zoning Board of Adjustment
- D) The predominate pattern of building placement, height, orientation and scale among the neighboring properties and general area beyond the neighboring properties will significantly mitigate any impacts of the system on those properties
- E) Whether the system conforms with all other city, state and federal regulations

AND EITHER

- F) If a unique (as compared with neighboring properties) topography, vegetation or lot condition exists which can allow the system to be located and operated to not have significant impact on neighboring properties as listed in A, B and D above

OR

- G) If unique placement of the principal building (as compared with neighboring properties) on the lot exists which can allow the system to be located and operated in a way that does not have significant impact on neighboring properties as listed in A, B and D above

14. Site Development Plan Requirement: A Freestanding Solar Energy System shall be included within the allowable exception from a Site Development Plan requirement, if the surface area is less than 150 square feet of area, as measured in 4. D., above. Any freestanding system with a surface area of 150 square feet or greater within a use or zoning district that requires a Site Development Plan, shall require a Site Development Plan approval as the Zoning Permit. The submittal requirements in 12., above, shall be additionally included with any Site Development Plan application that proposes a Solar Energy System. Submittal requirement exception: The Director can waive any of the site plan submittal requirements in 29.1502(2)(d) upon request of the applicant, which he or she deems not applicable to the Solar Energy System.

15. Variances and Exceptions: A Variance, as defined in Section 29.1504, shall only be required if a SES SUP is not an allowable method for exceeding a particular standard. An Exception, as defined in Section 29.1506 shall not be allowed or applicable to Solar Energy Systems.

16. Interconnection: Interconnected Solar Energy Systems are allowed subject to the standards in this section. Evidence of a signed interconnection agreement with the applicable electric utility shall be submitted to the Department of Planning & Housing prior to approval of any interconnected solar energy system. The applicant is encouraged to work with the applicable utility before purchasing equipment. The maximum allowable rated capacity of an Interconnected Solar Energy System is 10 kW, or 10,000 Watts unless evidence from the applicable utility has demonstrated that safe interconnection can be achieved and the need is for on-site usage for the principal use of the property. Any system over 100 kW is not allowed.

17. Abandonment: System use shall be determined abandoned under the provisions of Section 29.307, which requires notice by the Zoning Enforcement Officer to the property owner. The system shall be removed within 90 days of the termination date, at the cost of the property owner.

18. Covenants: Before a Solar Energy System Zoning Permit is issued, the applicant shall certify that there are no covenants or restrictions on the property preventing the system or use.

19. Signage: All signs, other than the manufacturer's or installer's identification, appropriate warning signs, or owner identification on a system, building, or other structure associated with a solar energy system visible from any street right of way shall be prohibited.

20. Commercial systems: A Commercial Solar Energy System is not allowed in the City of Ames.

21. Finish and Appearance: The supporting structures and attachment devices shall be non-reflective and subtle in paint color and finish material, such as gray, black or white, as applicable to the surroundings. The property owner of any solar energy system shall maintain such system in a safe and attractive manner, including replacement of defective parts, painting, cleaning, and other acts that may be required for the maintenance and upkeep of the function and appearance of such a system. Wires shall be underground or otherwise concealed, to the greatest extent possible, where crossing open areas. The owner shall also maintain the ground upon which the system is located in an orderly manner, such that is free of debris, tall grass and weeds, and any associated structures remain quality in appearance.

22. Industry standard: Before any Solar Energy System zoning permit is issued for a Solar Energy System, evidence shall be shown that the system and parts meet industry standards, such as Underwriters Laboratories (UL), or another standard applicable to the technology and materials of the system.

Definitions:

Solar Energy System – All exterior and above ground parts of a panel or other solar energy device including legs/braces and/or supporting devices, the primary purpose of which is to provide for the collection, inversion, storage, and distribution of solar energy for electricity generation, space heating, space cooling or water heating; primarily for on-site use.

Freestanding Solar Energy System – A Solar Energy System which is completely self-supported. A freestanding system is not an accessory structure, as defined in Section 29.402, and is therefore regulated by the setback and height requirements within this section.

Attached Solar Energy System – A Solar Energy System which requires support by another structure, whether roof or otherwise, and does not connect directly to the ground. An attached system is not a minor projection, as defined in Section 29.402.

Interconnected Solar Energy System – A Solar Energy System which produces electricity and is capable of distributing surplus electricity to the public or other properties outside the control of the system's owner, even if the system is temporarily or automatically disconnected by a switch or other mechanical device.

Passive Solar Energy System – A Solar Energy System that does not produce electricity and does not use active mechanical systems for energy transfer.

Calculation-Exempt Solar Energy System – A Freestanding Solar Energy System that is not included in square footage maximums set forth in this section. Not exempt from all other codes, regulations, permits, and approvals. A zoning permit is still required.

Zoning Permit-Exempt Solar Energy System – A Solar Energy System that does not require a zoning permit for installation. Not exempt from all other codes, regulations, permits and approvals.

Commercial Solar Energy System – A Solar Energy System which is intended to produce electricity for sale to a rate regulated or non-regulated utility or for use off site.

Residential Property – As used in this section, properties zoned residential which include RL, RM, UCRM, RH, RLP, FS-RL, FS-RM, and also F-VR, F-PRD, and S-SMD.

Non-Residential Property – All properties within zoning districts not included in the definition of residential property, as used in this section.”