ITEM: 22
DATE: 11/22/22

STAFF REPORT

REQUEST TO INITIATE ZONING TEXT AMENDMENT RELATING TO RESIDENTIAL SOLAR REGULATIONS

November 22, 2022

BACKGROUND:

Ryan Jeffrey, of 234 Parkridge Circle, wrote to Mayor Haila and the Council Members regarding changes to the Zoning Ordinance requirements for the installation of solar energy systems (solar panels). The letter states a desire to see the process for reviewing a solar energy system permit simplified and that the easiest way to accomplish this is to "eliminate the zoning restriction on solar" (see Attachment A).

The current regulations for solar energy systems were added to the Zoning Ordinance in 2009 (Ord. 4013) and most recently updated in 2017 (Attachment B). The regulations pertain to solar panels on both residential and non-residential properties. They address roof mounted, free standing and wall mounted installations. Roof mounted is by far the most common type. The complete zoning standards can be found at this link in Section 29.1309.

The current process requires someone to first work with Ames Electric to get approval in the form of an interconnect agreement, then submit design plans to Planning for review and approval for zoning compliance, and finally apply to the Inspections Division for building and electrical permits. There is no fee for the Planning review step. Internal coordination of permitting was updated administratively in 2018 as part of the SolSmart process. It should be noted that due to multiple electric providers within the City, not all permits involve Ames Electric in the approval process.

Solar Energy System Zoning Permit – by Applications Submitted by Year
These number do not include large the utility or municipal arrays, such as the one on Airport Road, owned by the City. Residential is for single- and two-family.

Year	Residential	Multifamily*	Commercial	Total
2018	2	0	1	3
2019	5	0	1	6
2020	6	0	1	7
2021	15	0	1	16
2022 (to date)	19	0	0	19
Total	47	0	4	51

** Three Multi-family prior to 2018.*

To staff's knowledge, no one has been denied solar panels for failure to meet zoning standards, but adjustments are made from time to time to comply with requirements. The

primary requirement reviewed by Planning is for a flush mounted (max 6" projection) installation on sloped roofs and if there is a flat roof there is a maximum height for angled solar panels. **It should be emphasized that there is no restriction on placing roof mounted solar panels on the front of a house. In the past people have incorrectly stated the City restricts solar panels on the roof of a house facing a street.**

Ryan Jeffrey's letter pertains to solar permits on residential properties, specifically homes, and does not mention solar panels on multifamily, commercial, and industrial property.

OPTIONS:

Option 1: Delete the Standards for Roof Mounted Solar Energy Systems for Residential, Commercial, and Industrial Properties

The intent is to modify the code for rooftop solar permits (which is the most common type of residential installation). This option who retain the zoning standards (sizing and location) for wall-mounted and freestanding systems. This option would meet the intent of the request for the most common requirements.

Option 2: Modify the Standards for Solar Energy Systems For Only Residential Properties (Yards, Roofs, and Walls).

The City Council could choose this option to rewrite the regulations for all solar energy systems on residential properties. This option could include reducing regulation for roof top by allowing greater projection or height, wall locations, and ground mounted systems size and location standards; but not necessarily delete all requirements. This option would likely meet the intent of the request by making more types of options approvable, but it would not directly change the process for review.

Option 3: Modify All Standards for Solar Energy Systems for Residential, Commercial, and Industrial Properties.

This option would be a complete rewriting of Sec. 29.1309, including all properties (residential, commercial, and industrial). This would go beyond the scope of the request, but theoretically would reduce regulatory limitations similar to Option 2.

STAFF COMMENTS:

As currently written, the code for solar energy systems is designed to regulate the installation of solar panels on all types of development. The residential regulations address free-standing (located in a yard), wall-mounted, and roof-mounted systems. Roof-mounted is by far the most popular type of residential installation.

The request from Ryan Jeffrey pertains to residential (single- and two-family) properties.

Staff believes that with our experience regarding rooftop single and two-family installations that the requirement for Planning review could be deleted without significantly impacting residential character. Commercial rooftops are commonly flat roofed versus sloped, but compatibility issues are typically minimal as well and the requirement for staff

review could be removed. Deleting the requirements related to all rooftops installations as identified in Option 1 would eliminate one review step.

If City Council would choose to retain the rooftop requirements, Planning could work with Inspections to do a combined review without a separate Planning application and potentially “simplify” the application process.

Staff does not support eliminating standards for ground mounted or wall installations. Staff believes these should continue to be regulated in a similar manner to that of other accessory structures on a property subject to setbacks, locations in front yards, and sizing.

If changes are to be made, staff would support Option #1 to delete the Zoning standards for Roof Mounted Solar Energy Systems for residential, commercial, and industrial properties.

Attachment A
Request to Council

Sept.2, 2022

To: Mayor Haila and Ames City Council

From: Ames Climate Action Team

While we continue the process of defining the full action list of our CAP, we can and should be tackling opportunities that we already understand will be part of the process. Dramatically increasing residential, integrated solar installations in Ames is one of these things, and we can take some simple steps to get this moving.

One immediately achievable action is to review and simplify our current solar permitting processes. Our four stage permitting system is needlessly complex. With requirements far in excess of any other home improvement project, it is needlessly daunting for citizens.

The simplest and most impactful way to improve this process is to eliminate the zoning restriction on solar. Peer cities such as Iowa City and Cedar Falls have no similar restrictions, and show no issues stemming from that. This zoning code needlessly extends the time it takes to get a permit for solar, restricts installations, and creates worry that a particular installation might not be allowed: all these are barriers to increasing alternative energy generation in our city.

Once the process is simplified, we can get to methods for actively encouraging installations. ACAT has already spoken with the J. Zook, our Ames Energy Service Coordinator, about working to produce a list of local installers, and exploring the option for hosting neighborhood “tupperware party” style informational events where an installer might provide discounts if multiple people in a neighborhood install solar at the same time.

All of this would require minimal staff time and could have a dramatic impact in encouraging solar deployment. In addition, it will leverage community engagement.

We ask that you rescind the zoning restrictions on domestic solar installations. We see no reason to wait.

Attachment B
Zoning Code Requirements for Solar Energy Systems

Sec. 29.1309 SOLAR ENERGY SYSTEMS (SES).

Purpose. Solar energy is a clean, readily available and renewable energy source. This section establishes 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 the placement, construction and use of "solar energy systems" as defined in this chapter.

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

(1) **Allowed Use.** Solar Energy Conversion is an allowed accessory use in all zoning districts pursuant to the standards in this section.

(2) **District Classifications.**
- (a) Residential Properties. As used in this subsection residential properties include those Zoned RL, RM, UCRM, RH, RLP, FS-RL, FS-RM, and also F-VR, F-PRD, and S-SMD.
- (b) Non-residential Properties. As used in this subsection, all properties not zoned in the residential classifications above shall be classified as non-residential property.

(3) **Freestanding Solar Energy Systems**:
- (a) Setbacks
  - (i) Front. Solar Energy Systems shall not be located within any required front setback. They may be located in a front yard (beyond the required front setback line) subject to approval of a Solar Energy System Special Use Permit by the Zoning Board of Adjustment, except as noted in (d), below.
    - (a) Front yard, as used in this section, is the space between the principal building on the lot and the front lot line. See definition and graphic in Section 29.406(7)(e).
  - (ii) Side and Rear. Six (6) feet from all property lines and other structures.
  - (iii) Corner and Through 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.
  - (iv) Easements, Utilities, Rights of Way. No portion of any solar energy system shall extend into any easement, right of way or public way, regardless of above stated exceptions and regulations for setback and yard requirements.
- (b) Location. Systems shall be located on the same lot as the building being served. Where there is no principal building, the system is not allowed.
- (c) Height in Zoning Districts other than General Industrial: Six (6) feet in height maximum in side and rear yards. Four (4) feet in height maximum in front yards. The height shall be measured from the grade at system base to the highest peak, including the highest position of any adjustable system.
- (d) Height in General Industrial zones: Twenty (20) feet in height maximum in front yard provided the front setback of the zoning district is met. Twenty (20) feet in height maximum in side and rear yards provided the required side and rear setbacks (Section 3(a)(ii), above) are met. The height shall be measured from the grade at system base to the highest peak, including the highest position of any adjustable system.
- (e) Height in Non-Residential zones if placed over a parking area: Twenty (20) feet in height provided the required setbacks of the zoning district are met.
- (f) Freestanding System Size:

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

(ii) Non-Residential Properties. Systems shall not exceed the footprint of the principal building served. Within the General Industrial zone: the footprint of systems may exceed the footprint of the principal building subject to meeting all other development standards.

(iii) Lot Coverage. Freestanding systems shall be included in the maximum lot coverage except that up to 40 square feet is allowed regardless of total lot coverage.

(iv) Measurement of the system shall be based upon the area of the solar receiving panel, regardless of the adjustment angle of the panel.

(4) **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 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 into 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 except for projections allowed in (g) below.

(f) The building must have a conforming principal use.

(g) 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 except that systems not meeting the flush mount requirement may be allowed subject to approval of a Solar Energy System Special Use Permit, provided they do not project more than 5 feet 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.

(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.

(j) There is no surface area size limitation on attached systems, unless otherwise required by a Solar Energy System Special Use Permit.

(5) **Non-Residential Attached Solar Energy Systems** are permitted on the roof of, or attached to a non-residential 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 percent into any required front setback.
(d) No part of the system shall exceed the maximum height permitted in the zone, for the structure to which it is attached except for the projections allowed in (b) and (c) above.
(e) The building must have a conforming principal use.
(f) Section 29.401(5), pertaining to height exceptions for architectural features and projections shall not apply.
(g) Section 29.402(2), pertaining to exceptions for projections into required setbacks shall not apply.

(6) **Zoning Permit-Exempt systems.** The following systems are exempt from zoning permit requirements:
(a) Systems in which the cumulative surface area of the system is four (4) square feet or less
(b) Systems or building parts integral to the structure, which are passive (Passive Solar Energy Systems) in nature and do not project from the structure

(7) **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.

(8) **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.

(9) **Historic Districts.** All solar energy systems within a historic overlay district are not permitted unless a Certificate of Appropriateness has been granted by the Historic Preservation Commission pursuant to Chapter 31, Municipal Code. None are exempt.

(10) **Application for Solar Energy System Zoning Permit (SES ZP)**
The Planning & Housing Director shall prescribe the application form and any necessary submittal requirements, as needed, to determine compliance with this section. The Zoning Permit application shall include, but not be limited to:
(a) A plot plan drawn to scale, showing:
(i) Existing structures on the lot
(ii) Proposed system
(iii) Property lines
(iv) Setbacks of existing and proposed structures
(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) Demarcation of dimensions. For systems claiming exemption due to "no-visibility" from abutting street rights of way, the applicant shall place demarcation posts, rods or balloons and schedule an appointment for staff to confirm no visibility.
(f) Certificate of Appropriateness from Historic Preservation Commission, if applicable

(11) **Issuance of Solar Energy System Zoning Permit (SES ZP)**
The Planning & Housing Director shall review the permit application. If the application is compliant, 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. Any decision of denial shall be in writing and supported by

substantial evidence contained in a written record. The Zoning Permit can be revoked if there is evidence that the system does not comply with the permit.

(12) **Solar Energy System Special Use Permit (SES SUP):**

(a) Application. 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 the Director deems not applicable.

(b) Procedure. The procedure shall follow Section 29.1503(a), Special Use Permits. Sections 29.1503(b-d), (Residential Zone Standards, Commercial Zone Standards and Functional Families) shall not apply to the review of SES SUP applications.

(c) Review Criteria. To approve a SES SUP, the Zoning Board of Adjustment must find that the proposal conforms to all of the following five criteria (i-v) and either vi. OR vii.:

(i) 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

(ii) Access to open space (air and light) from the neighboring properties is not significantly reduced

(iii) If in a historic district, a Certificate of Appropriateness has been granted by the Historic Preservation Commission

(iv) The predominate pattern of building placement, height, orientation and scale among the neighboring properties and general area beyond the neighboring properties will not be negatively impacted or altered by the system

(v) The system conforms with all other city, state and federal regulations

AND EITHER

(vi) Unique topography, vegetation or lot conditions exist which help to shield the system from the view of neighboring properties and from the street.

OR

(vii) Placement of the principal building allows the system to be located and operated in a way that helps to shield the system from the view of neighboring properties and from the street.

(d) Review and Approval. The Zoning Board of Adjustment 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 evidence that the system does not comply with the provisions of the Special Use Permit. The Board may impose conditions as it deems necessary for the general welfare of the public and for ensuring that the intent and objectives of this Ordinance will be observed. The application shall include the same information required for a SES ZP and shall also include statements addressing how the application meets the criteria of subsection C above. When a Solar Energy System Special Use Permit is approved, it shall constitute the equivalent of the Solar Energy System Zoning Permit.

(13) **Site Development Plan Exemption.** A Freestanding Solar Energy System is exempt from Site Development Plan requirements if the surface area of the system is less than 150 square feet as measured in this Section.

(14) **Exception Provisions Not Applicable.** An Exception for a Minor Area Modification, as defined in Section 29.1506 shall not be allowed or applicable to Solar Energy Systems.

(15) **Interconnection:** Interconnected Solar Energy Systems are allowed subject to the standards in this section. The applicant is encouraged to work with the applicable utility before purchasing equipment.

(16) **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.

(17) **Signage:** Any signs on the system shall be limited to one square foot.

(18) **Commercial systems:** A Commercial Solar Energy System is not allowed in the City of Ames.

(19) **Appearance.** 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. 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.

(20) **Underground Wire Requirement.** Wires shall be underground or otherwise concealed, to the greatest extent possible, where crossing open areas.

(21) **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.

Attachment C
Solar Energy System Zoning Permit (Current)

Effective Date: November 30, 2021

Solar Energy System Zoning Permit (SESZP)

Application Information

This application information pertains to the staff review and approval of photovoltaic or thermal solar energy systems within the corporate limits of Ames. Please submit this application **BEFORE** purchasing any equipment. A system not meeting the criteria for this staff-reviewed application, may meet the criteria for a Solar Energy System Special Use Permit, reviewed by the Zoning Board of Adjustment. This application does not replace a building permit application. Please contact the Inspection Division for information regarding any trade permits, such as building, electrical, plumbing or mechanical.

1. Application. ***Be sure to complete and submit the materials that are specified on the Solar Energy System Zoning Permit Form.***

2. **What must be submitted?**

- One (1) copy of the completed and signed Application Form, including:
  - Property location;
  - Legal description of the subject lot, tract or parcel;
  - Written responses to questions about the proposal's compliance with city zoning code;
  - Names and signatures of the owner(s) of the subject property;
  - Name and signature of the applicant;
  - Name, signature and contact information for the contact person;
  - Responses to code questions;
  - Completion of the checklist portion of the application form.

- Two (2) copies of the plans (see pages 6 & 7 for further details), to include:
  - A plot plan, a minimum of 8-1/2" x 11" in size, but no larger than 11" x 17" (must be clearly legible), drawn to scale.
  - Elevation views and dimensions, a minimum of 8-1/2" x 11" in size, but no larger than 11" x 17" (must be clearly legible), drawn to scale.
  - Manufacturer's information:
    - Specifications sheet, including industry certifications and wattage capacity.
    - Manufacturer photographs or renderings.

- A check or cash for the application filing fee as established by the City Council. ***No fee has been established as of November 17, 2009.***

3. **What about "grid-tied" (interconnected) systems?**

- Interconnection Information

  - Some portions within the Ames Corporate limits are not within the Ames Electric Services territory. Please look at your utility bill to find out which electric utility serves your area. All public electric utilities are familiar with the terms "interconnection" or "grid-tied" solar energy systems, but the individual requirements of each utility may vary. For example, some may require a liability insurance policy and some may not. Also, the reimbursement (credit) rates for net metering may vary among utilities. The city recommends working with the applicable utility **BEFORE** purchasing any equipment. The Iowa Public Utilities Board outlines the net metering requirements of rate-regulated utilities.

4. **What is the process?**

Solar Energy System Zoning Permit applications will be processed according to the table below:

SOLAR ENERGY SYSTEM APPLICATION PROCESSING SCHEDULE					
Submittal Date	**Notice of Completeness**	**Begin Review Process**	**Staff Comments to Applicant**	**Revisions Submitted**	**Final Decision**
Determined by applicant	Within 3 working days of submittal	Upon determination of a complete app	Within seven (7) working days of complete app	Determined by applicant	Between seven (7) and 14 days from complete app
Applicant may request a pre-application meeting before this.	If application is incomplete, process begins anew on submittal date of new information.	Staff may find during the review process that additional information is needed to determine compliance.	If there are no comments, the SESZP will be approved. Otherwise, the comments will identify any shortfalls of the proposal.	Staff response to revisions within 7 working days of submittal. Applicant may revise again or request staff decision.	If a grid-tied system, the interconnection agreement must be submitted prior to approval An approval allows the applicant to continue to the next step, and apply to the Inspection Division for any building, electrical, plumbing or mechanical permits.

- Review of the Application. The Planning and Housing Department will review the application for completeness within three days of submittal. Once complete, the application is assigned to a staff planner. The staff planner will provide comments to the contact person within seven (7) working days of the complete application. The applicant then has the option of resubmitting additional or revised information, or to request a decision be rendered by staff.

- Completion of Approval Process. Once a SESZP is approved, the applicant is then required to seek any trade permits before commencing any field or site work. A copy of the approved permit packet will be forwarded to the Inspection Division. Applicants are encouraged to speak with Inspection staff **BEFORE** purchasing any equipment, to determine if any building code requirements may be prohibitive to the project.

5. **What is the *Municipal Code* related to this application?**

   - *Section 29.1309 of the Ames Municipal Code identifies the requirements for obtaining a Solar Energy System Zoning Permit.*

6. **Does the City offer assistance prior to the application being submitted?**

   - Yes, the Planning & Housing Department encourages "pre-application meetings" for solar energy projects. If you would like to have questions answered before submitting a formal application, the city planning staff is available. Please contact us to schedule the meeting. This packet does not need to be completed prior to a pre-application meeting. Complete as much as possible for an effective pre-application meeting. City staff can also meet the applicant on site to facilitate the submittal, application, and review process.

7. **Where should submittals be made?**

   - Submit the completed *SESZP Application* to:

     Department of Planning and Housing
     Room 214, City Hall
     515 Clark Avenue
     P.O. Box 811
     Ames, Iowa 50010

IF YOU HAVE ANY QUESTIONS WHILE COMPLETING THIS APPLICATION, PLEASE CONTACT THE DEPARTMENT OF PLANNING AND HOUSING.

Phone: 515-239-5400
FAX: 515-239-5404
E-mail: planning@cityofames.org

Effective Date: November 30, 2021

Solar Energy System (SESZP)

Application Form

This application information pertains to the staff review and approval of photovoltaic or thermal solar energy systems within the corporate limits of Ames. Please submit this application **BEFORE** purchasing any equipment. A system not meeting the criteria for this staff-reviewed application, may meet the criteria for a Solar Energy System Special Use Permit, reviewed by the Zoning Board of Adjustment. This application does not replace a building permit application. Please contact the Inspection Division for information regarding any required trade permits or to find out about applicable building, plumbing or mechanical codes.

1. ***Property Location (Address):***

   _____

2. ***Legal Description of the lot, tract or parcel where the system will be located:***

   _____

   _____

   _____

3. ***Tax Parcel Number of the lot, tract or parcel where the system will be located:***

   _____

4. ***Brief Description of Proposed Project (Attach if lengthy):***

   _____

   _____

   _____

5. ***Property Owner (Add a person's name if owner is a corporation or other type of group):***

   Name: _____

   Business: _____

   Address: _____
   (Street) (City) (State) (Zip)

   Telephone: _____
   (Home) (Business) (Fax)

6. ***Contact Person***

Name: _____

Business: _____

Address: _____
(Street) (City) (State) (Zip)

Telephone: _____
(Home) (Business) (Fax)

E-mail address: _____

7. **Applicant Name (enter "Same" if same as contact person):** _____

Business: _____

Address: _____
(Street) (City) (State) (Zip)

Telephone: _____
(Home) (Business) (Fax)

E-mail address: _____

The questions below highlight the major portions of the Solar Energy System Code, but do not cover every portion of the code.

See Section 29.1309 of the Ames Municipal Code.

8. **What is the zoning classification of the subject property?**

_____

This determines whether "Non-Residential" or "Residential" regulations apply to the proposal. Regulations differ regarding height projection from the roof and also maximum square footage.

9. **Is the proposed system Freestanding, Attached, or both?** *Circle One.*

10. **If a proposed attached system is classified as a "Residential" property, is the system proposed as:**

A) Mounted flush B) Not Visible from streets C) Not Applicable

11. **If the system is an attached system, how far from the roof or wall does it project?**

In Feet/Inches: _____

This will need to be documented by an attached elevation drawing.

12. **If the system is freestanding (on a self-supporting structure), what is the overall height at maximum angle? _____ What is the total area of the receiving surface? _____**

13. **What are the setback distances from the property lines to the system?**

    Front: _____ Side: _____ Rear: _____

    This will need to be documented by an attached plot plan.

14. **Does the operation of the system depend on solar access through adjacent properties? ____**
    Solar access is the responsibility of the system owner, not the City of Ames.

15. **Is the subject property in a historic overlay district? _____** *If yes, a Certificate of Appropriateness is required first.*

16. **Is the system photovoltaic or thermal?** *Circle one.* **If photovoltaic, is the system off-grid or interconnected?** *Circle one.*

    If the system is interconnected, evidence of signed Interconnection Agreement between the owner and the utility will be needed prior to installation.

17. **Do you claim that the system, or any portion of the system is not visible from abutting street rights of way, for any exemption purposes? _____** *If yes, you will need to set up a site-visit appointment with Planning staff to confirm no visibility. This is called the "Demarcation of Dimensions." You will need to simulate the dimensions of the system by placing posts, rods, balloons, or similar representation for the field visit.*

18. **Do any of the responses to these questions exceed the base criteria? _____** *If yes, a Solar Energy System Special Use Permit may be an option for exceeding some of the criteria. Contact staff for more information.*

19. **Submittal Checklist:**

    The following items are included with this submittal for a *Solar Energy System Zoning Permit:*
    Check those that are included, and write "N.A." next to those that are not applicable.

    ❑ One (1) completed and signed *Application Form*.

    ❑ Two (2) paper copies of a plot plan, a minimum of 8-1/2" x 14" in size, but no larger than 11" x 17" (must be clearly legible), drawn to scale, showing at least the following information:

    - ❑ Existing structures on the lot
    - ❑ Proposed system(s)
    - ❑ Property lines
    - ❑ Setbacks of existing and proposed structures
    - ❑ Rights of way
    - ❑ Easements
    - ❑ Utility diagram applicable to the proposed system
    - ❑ Property address, date, scale, north arrow and preparer's name
    - ❑ May be able to reproduce from original site plan, with applicable amendments

- ❑ Two (2) paper copies of an elevation drawing, a minimum of 8-1/2" x 14" in size, but no larger than 11" x 17" (must be clearly legible), drawn to scale, showing at least the following information:
  - ❑ Elevation drawings and dimensions shall be in a form sufficient for staff to determine compliance with dimensional standards
  - ❑ Recommend submitting drawing views from at least two sides (can be on same sheet)
  - ❑ More than one scale of drawing may be needed, if, for example, the system is attached to an existing structure
  - ❑ These drawings do not replace any drawings which may be required of a building permit
  - ❑ Can be hand drawn if clearly legible, or can be reproduced from manufacturer's specifications
  - ❑ Property address, date, scale, view direction and preparer's name
  - ❑ May be able to reproduce from original building drawings, with applicable amendments
- ❑ Manufacturer's information:
  - ❑ Specifications sheet, including industry certifications and wattage capacity
  - ❑ Manufacturer photographs or renderings
- ❑ Application fee:
  - ❑ No fee for the zoning permit has been established at this time. But, building permit fees may apply after the zoning permit is issued by the Planning & Housing Department. Contact the Inspections Division at 515-239-5153 for more information.

I (We) certify that the above information is true, to the best of my knowledge and understanding, and that (we) am (are) familiar with applicable state and local codes and ordinances, the procedural requirements of the City of Ames, and have submitted the required information.

Signed by:_____**Date:**_____
Property Owner(s)

_____
Print Name

(Note: No other signature may be substituted for the Property Owner's Signature, unless accompanied by an affidavit of agent authority.)

Attachment D
Regulations for Solar Panels in Selected Cities

Cedar Rapids

Sec. 32.03.03 Use Categories and Use Specific Standards
D.1.a. Solar Array

A free-standing, ground-mounted solar collection system consisting of a linked series of photovoltaic modules, 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 on-site; however, the energy output may be delivered to a power grid to offset the cost of energy on-site. Roof-mounted solar collection systems are not included in this definition. A Solar Array shall be considered a primary use when it is the principal use on a parcel, or when the total area of a solar array is 50% or more of the land area on a parcel. A ground-mounted solar collection system that is not considered a primary use shall be considered an Accessory Solar Collection System. A Solar Array is subject to the Use-Specific Standards found in Section 32.04.04.B

Sec. 32.04.05 Alternative Energy Systems
B. Solar Array*

All solar arrays shall comply with the following requirements. If there is any conflict between the provisions of this section and any other requirements of the zoning or subdivision ordinances, the provisions of this section shall take precedence.

1. A solar array shall not be located in the front yard or a street side yard between the principal structure and the public right-of-way except in public or industrial districts.
2. A solar array shall be located a minimum of six feet from all property lines and other structures.
3. An accessory solar array in any residential district shall not exceed one-half the footprint of the principal structure or 600 square feet, whichever is greater. The size of accessory arrays in mixed-use and non-residential districts shall not exceed one-half of the footprint of the principal structure.
4. There shall be no size limits on solar arrays as a primary use on a site in any industrial district. However, the maximum lot coverage of any solar array shall not exceed 80 percent.
5. A solar array shall not exceed 20 feet in height.

*Note: Solar Arrays as a principal use are not permitted in all Cedar Rapids zoning districts.

C. Solar Collection Systems**

All small solar collection systems shall comply with the following requirements. If there is any conflict between the provisions of this section and any other requirements of the zoning or subdivision ordinances, the provisions of this section shall take precedence.

1. A solar collection system shall not exceed by more than three feet the maximum height permitted in the zoning district in which it is located or shall not extend more

than 12 inches above the roofline of the structure upon which it is mounted, whichever is less.

2. A solar collection system may be located on an accessory structure.
3. A development proposed to have a solar collection system located on the roof or attached to a structure, or an application to establish a system on an existing structure, shall provide a structural certification as part of the building permit application.

**Note: Solar Collection Systems as accessory uses are allowed in all Cedar Rapids zoning districts.

Iowa City

Sec. 14-4B-4.D

18. Utility-Scale Ground-Mounted Solar Energy Systems:

a. Any utility-scale ground-mounted solar energy systems may not be located closer than two hundred feet (200') from any residential zone, as measured from the property line of the residential zone.
b. Utility-scale ground-mounted solar energy systems must be screened from public view and from view of any adjacent residential zones to at least the S3 standard. A utility-scale ground-mounted solar energy system may be exempt from S3 screening requirements if the system is located in a public zone and is used in part for educational purposes.
c. Utility-scale ground-mounted solar energy systems may not be closer than twenty feet (20') from all property lines, or according to the minimum setback requirements in the underlying base zone, whichever is greater.
d. Utility-scale ground-mounted solar energy systems shall be enclosed by security fencing. Fencing must be between six feet and eight feet (6' and 8') in height. Up to three (3) individual horizontal strands of barbed wire may be placed atop the fence. Barbed wire strands will not be included in the overall fence height measurement.
e. The maximum height of utility-scale ground-mounted solar energy systems shall be no greater than fifteen (15').
f. Any on-site lighting provided for the operational phase of the utility-scale ground-mounted solar energy system shall be equipped with full cutoff fixtures, shielded away from adjacent properties, and positioned downward to minimize light spillage onto adjacent properties.
g. Exterior surfaces of utility-scale ground-mounted solar energy system panels shall have a nonreflective finish to minimize glare and solar arrays shall be designed and installed to minimize glare towards vehicular traffic and any adjacent building.
h. Any utility-scale ground-mounted solar energy system that intends to locate in a commercial (CO-1, CN-1, CH-1, CI-1, CC-2, CB-2, CB-5, CB-10), research (RDP), office park (ORP), or interim development zone (ID-C, ID-RP,) must also satisfy the approval criteria for a special exception for a basic utility set forth in Section 14-4B-4D-1b-(2).

Sec. 14-9A-1: Definitions

SOLAR ENERGY SYSTEM: A device, array of devices, or structural design feature, the purpose of which is to provide for generation of electricity, the collection, storage and distribution of solar energy.

UTILITY-SCALE GROUND-MOUNTED SOLAR ENERGY SYSTEM: A solar energy system that is structurally mounted on the ground and is not roof mounted, and the system's footprint is at least 1 acre in size. Utility-scale ground-mounted solar energy systems may be used for both on-site and off-site consumption of energy.

Iowa City currently regulates solar panels on single-family homes as mechanical structures. Iowa City is in the midst of revising its regulations; the item was presented at their Planning and Zoning Commission on November 2.

Des Moines

Sec. 135-2.22.4 – Accessory Utility Structures

E. Solar - Building-Mounted. A solar energy system that is affixed to or an integral part of a principal or accessory building, including but not limited to photo-voltaic or hot water solar energy systems which are contained within roofing materials, windows, skylights, and awnings.

1. Quantity. The total square footage may not exceed the total area of roof surface of the structure to which the system is attached.
2. Flush Mounted System. The bottom of the system should be four inches or less from the roof surface whenever possible.
3. Height
   a. Systems shall not extend beyond three feet parallel to the roof surface of a pitched roof.
   b. Systems shall not extend beyond six feet parallel to the roof surface of a flat roof.
   c. Systems shall not extend more than five feet above the highest peak of a pitched roof.
4. Location on Structure. Allowed on the following:
   a. Any roof face.
   b. Side and rear building facades.
   c. Roof of any parking canopy.
5. Projection. The system may project off a roof edge or building facade as follows:
   a. laterally from a building facade or roof edge a maximum of seven feet.
   b. into an interior side or interior rear setback but shall be no closer than five feet to the interior side or interior rear property line.
6. Signs. Signage or writing of any kind is not permitted on any portion of system, other than required manufacturer plates, installer plate, and safety labeling.

F. Solar - Freestanding. A solar energy system with a supporting framework that is placed on, or anchored in, the ground and that is independent of any building or other structure.

1. Output. The system shall produce less than one megawatt of electricity.
2. Size. A system in any MX, N, or NX district shall not exceed either the area of 50% of the principal building footprint or 600 square feet, whichever is greater.

3. Maximum Height. The system shall be as close to the ground as practicable, and not taller than 20 feet on lots of at least five acres or 10 feet on lots of less than five acres, all measured from the grade at the base of the pole to the highest edge of the system.
4. Clearance. Minimum clearance between the lowest point of the system and the surface on which the system is mounted is three feet.
5. Location. Allowed in the interior side yard and rear yard only. Other locations may be approved through a Type 1 design alternative.
6. For any property designated as historic or located within a historic district, such system shall be located in the rear yard.
7. Setbacks. All parts of the freestanding system shall be set back a minimum of five feet from the interior side and interior rear property lines and shall not be located in a public utility easement.
8. Materials. Such system shall not include any unfinished lumber.