

PLANNING AND DEVELOPMENT SERVICES STAFF REPORT

For Planning Commission Meeting of July 18, 2017

SUBJECT: Amendment to the Zoning Ordinance, Chapter 55 in order to add Section 5:83 (Solar Energy Systems) regarding placement of Solar panels and equipment on residential properties.

PROPOSED CITY PLANNING COMMISSION MOTION

The Ann Arbor City Planning Commission hereby recommends that the Mayor and City Council approve the amendments to Chapter 55, the addition of Section 5:83 (Solar Energy Systems) regarding solar panels and related equipment in residential zoning districts.

STAFF RECOMMENDATION

Staff recommends that the proposed amendment to Chapter 55, the addition of Section 5:83 of the City Code be **approved** because it will further protect the character and integrity of affected residential zoning districts and is consistent with accepted and sound land use planning and development principles.

DESCRIPTION

Section 5:83 Solar Energy Systems

Staff propose an amendment to Chapter 55 (Zoning), adding new code that is designated Section 5:83 (Solar Energy Systems). This new section is required in order to add definitions and requirements for ground based Solar Energy Systems (SES) located in single or two family districts or associated with single family uses in the R3 (Townhouse) or R4 (Multiple-Family) Zoning Districts. At this time, all SES are regulated the same as accessory buildings. This new ordinance will create a dedicated section with code requirements specifically for ground mounted SES and related equipment.

With this code amendment, a SES will be required to be screened in the front yard wherever the sides or rear of the SES are visible from a public ROW. Screening shall consist of fencing, wall, evergreen vegetation, berm or combination thereof with a minimum of 80% opacity. A SES is not permitted within the required front setback area of a parcel.

A Solar Energy System may be permitted in the remaining front yard. The front yard is defined as any remaining area in front of the principal structure, but outside of the required front setback area. The SES and all related equipment shall cover no more

than 35% of the front yard area outside of the required front setback area. Within the front yard, the SES must adhere to side setback requirements for the zoning district.

For homes that are at the minimum front setback of their zoning district, the proposed amendment will have no effect – the required front open space is effectively the same as the front open space. However, the proposed amendment will affect any homes that are set back more than 40 feet from the front lot line.

All SES in the rear and side yards are subject to the standards as Chapter 55 (Zoning), Section 5:59 (Accessory Buildings). These are the same standards under which solar permits are currently processed, there will be no changes to the standards for SES in either the side or rear yard.

STAFF COMMENTS

The preparation of this ordinance was in response to a [temporary moratorium](#) on the permitting and installation of any ground mounted solar arrays. This moratorium was established by City Council on April 17, 2017 and is effective for 180 days. City Council may extend the moratorium for an additional 180 days in order to allow sufficient time to consider appropriate regulations. Council directed staff and Planning Commission to develop regulations for ground mounted solar arrays. Since that time staff has conducted extensive research of local and national codes for solar arrays, a summary chart of select ordinances is attached. Reviewing similar ordinances and working with staff from the City of Ann Arbor's Energy Office, Planning staff developed a Solar Energy Systems (SES) ordinance. The draft ordinance was presented to the Planning Commission's Ordinance Revisions Committee (ORC) on May 23rd, 2017. After that meeting staff made minor revisions and presented the draft ordinance to a joint working session of the Planning Commission and Energy Commission on June 13, 2017. Items discussed at the joint working session included requirements for screening, maximum height and ensuring effectiveness of the ordinance for solar energy while minimizing any adverse impact on adjacent neighbors.

The proposed amendment was discussed and recommended for consideration by the Ordinance Revisions Committee at their meeting on May 23, 2017. The amendment was also discussed at the June 13, 2017 working session held jointly with the City of Ann Arbor's Energy Commission.

Previously, all SES were reviewed under the accessory building code(Section 5:59). All new SES in side and rear yards will be reviewed under the proposed Section 5:83. The standards for placement of SES in the side or rear yard have not changed from Section 5:59, however the proposed amendments will clarify rules for placement with the front yard. The proposed Section 5:83 will help address issues such as screening, height and size.

Impact of the proposed code will be minimal, it is estimated by staff the number of parcels with adequate space for SES in the front yard (but not within the required front setback area) is very small. Staff believes the proposed amendment will clarify requirements for placement of ground mounted SES and address the concerns noted in the City Council Moratorium.

Prepared by Matt Kowalski

Reviewed by Brett Lenart

7/6/17

Attachment: Proposed Ordinance Draft
Community Research Chart

c: City Attorney
Systems Planning
File

JULY 2017
DRAFT

AN ORDINANCE TO AMEND CHAPTER 55 (ZONING ORDINANCE) OF TITLE V OF
THE CODE OF THE CITY OF ANN ARBOR BY ADDING SECTION 5:83 (SOLAR
ENERGY)

The City of Ann Arbor ordains:

Section 1. That Section 5:83 (SOLAR ENERGY SYSTEMS) be added to Chapter 55 of Title V of the Code of the City of Ann Arbor as follows:

Chapter 55, SECTION 5:83 – SOLAR ENERGY SYSTEMS

(1) Intent

The City of Ann Arbor promotes the effective and efficient use of solar energy systems. It is the intent of the City to permit these systems by regulating their siting, design, and installation to protect public health, safety, and welfare, and to ensure their compatibility with adjacent land uses. Ground-mounted solar energy systems, as defined in this Ordinance, shall comply with the provisions of this Section and are only permitted as authorized by this Section.

(2) Definitions

(a) **Ancillary Solar Equipment** shall mean any accessory part or device of a solar energy system that does not require direct access to sunlight, such as batteries, electric meters, converters, or water heater tanks.

(b) A **Solar Collector Surface** shall refer to any part of a solar energy system that absorbs solar energy for use in the system's transformation process. The collector surface does not include frames, supports, and mounting hardware.

(c) **Solar Energy** shall mean radiant energy received from the sun that can be collected in the form of heat or light by a solar energy system.

(d) A **Solar Energy System (SES)** shall mean a system (including solar collectors and ancillary equipment) either affixed to a permanent principal or accessory building or functioning as a freestanding structure, that collects, stores, and distributes solar energy for heating or cooling, generating electricity, or heating water. Solar Energy Systems include, but are not limited to, photovoltaic (PV) power systems and solar thermal systems.

(e) A **Personal-Scale SES** shall mean a solar energy system that is accessory to the principal residential use on the parcel. The sale and distribution of excess available energy to an authorized public utility for distribution, if permitted, shall be incidental to this type of system, and not its primary purpose.

(f) A **Ground-Mounted SES** shall mean a freestanding solar energy system that is not attached to and is separate from any building on the same parcel of land on which the solar energy system is located.

(3) Standards for SES -

In Zoning Districts other than R1 or R2, or on single-family use parcels in the R3 and R4 Districts, a SES is permitted subject to the standards of Accessory Buildings, Section 5:59.

In R1 and R2 Zoning Districts, and single-family uses in the R3 and R4 Zoning Districts, Personal-Scale SES shall be permitted subject to the following standards:

(a) Application for Zoning Compliance Permit of Personal-Scale SES

A Personal-Scale SES requires a Zoning Compliance Permit, additional permits may be required as stated in Section 5:83 (3)(2)(e) below. An application for a Zoning Compliance Permit shall include the following:

1. Renderings and/or specifications of the proposed solar energy system.
2. Plot plan or survey to indicate where the solar energy system is to be installed on the property, including property setbacks and the total Solar Collector Surface area, and total footprint of SES.
3. Elevations showing the height of the SES.
4. Description of the screening to be provided for ground-mounted solar energy equipment.

(b) Ground-Mounted SES

Ground-mounted, personal-scale SES shall be subject to the following additional standards:

1. **Setbacks:** In all Zoning Districts, ground-mounted solar energy systems can be located in the rear or side yard and shall be located at least three (3) feet from the property line.

A Solar Energy System may be permitted in the front yard, but not the Required Front Setback Area. The SES and all related equipment shall cover no more than 35% of the front yard area outside of the Required Front Setback Area. Within the front yard, the SES must adhere to side setback requirements for the zoning district.

2. **Height:** Ground-mounted SES shall not exceed six (6) feet in height in the front yard and shall not exceed 21 feet in height in the rear or side yard, measured from the ground at the base of such equipment to the highest point of the system.
3. **Screening:** Ground-mounted SES shall be screened when located in the front yard. Screening shall be installed on all sides or rear of a SES visible from a public Right of Way (ROW). Screening shall consist of fencing, wall, evergreen vegetation, berm or combination thereof with a minimum of 80% opacity.
4. **Installation and Maintenance:** SES shall be installed, maintained and used only in accordance with the manufacturer's specifications.
5. **Compliance with Additional Codes:** SES, and the installation and use thereof, shall comply with the State construction code, the electrical code and any other applicable State codes. Installation of a SES shall not commence until all necessary permits have been issued.
6. **Lot coverage:** Solar energy systems shall not occupy greater than 35% of the required rear setback area.

(c) **Building Mounted SES**

1. **Setbacks:** In all Zoning Districts, building-mounted SES shall comply with Area, Height, and Placement requirements for Principal Building or Accessory Building Standards, as applicable to placement of SES.
2. **Installation and Maintenance:** SES shall be installed, maintained and used only in accordance with the manufacturer's specifications.
3. **Compliance with Additional Codes:** SES, and the installation and use thereof, shall comply with the State construction code, the electrical code and any other applicable State codes. Installation of a SES shall

not commence until all necessary permits have been issued.

4. (d) **Ancillary Solar Equipment:** Ancillary solar equipment shall be located inside of a building or screened from public view. Screening shall consist of fencing, wall, evergreen vegetation, berm or combination thereof with a minimum of 80% opacity. All ancillary solar equipment such as, but not limited to, water tanks, supports, batteries, and plumbing shall be screened to the maximum extent possible without compromising the effectiveness of the solar collectors. When solar storage batteries are included as part of the solar collector system, they must be placed in a secure container or enclosure meeting the requirements of the State Building Code and when no longer in use shall be disposed of in accordance with applicable laws and regulations.

Municipality	Front Yard	Maximum Lot Area coverage	Height Maximum	Setbacks	Screening Required
Ann Arbor DRAFT	Yes, Not in Required Front Setback Area	Yes, Maximum 35% of required front or rear open space	6 feet in front yard, 21 feet side or rear yard	3 feet in the side or rear yard, required side setback for front yard	Yes
Evanston, IL	No	Yes, 25% of primary building	10 feet	Same as Accessory Structures	No
Madison, WI	Yes	Yes	Height of principal building or 15 feet, whichever is less	Same as Accessory Structures	No
Manchester Township, MI	No	No	16 feet	10 feet from side or rear property line	No, but equipment shall not have adverse visual impact
Seattle, WA	Yes, same setbacks as principal structure	N/A	Same as principal structure	3 feet side, 15 feet rear	No
Chapel Hill, NC	No	No	N/A	8-17 feet (depending on district) from all property lines, possibly zero with special review	No

Municipality	Front Yard	Maximum Lot Area Coverage	Height Maximum	Setbacks	Screening Requirements
Troy	Yes, subject to site plan review	N/A	40 feet	N/A	No
Milan	No	N/A	40 feet	N/A	No
Chicago, IL	No	No	N/A	18 inches into required side setback 3 feet maximum into required rear setback	Yes
Fayetteville, NC	No	N/A	N/A	At least two feet from side or rear lot line	No
Massachusetts MODEL ordinance	Possibly, must be locate in the side or rear yard to the extent practicable	N/A	Same as Accessory Structures	Small – Half the required setback distance Medium or Large- 20 feet	N/A
Utah MODEL ordinance	No	No	Same as Accessory Structures	Same as Accessory Structures	No
New York State MODEL ordinance	No	Yes	Same as Accessory Structures	Same as Accessory Structures	No