

**Topic:** Solar Energy; Zoning  
**Resource Type:** Regulations  
**State:** Michigan  
**Jurisdiction Type:** Municipal  
**Municipality:** Township of Casco  
**Year:** 2013  
**Community Type - applicable to:** Rural; Suburban  
**Title:** Township of Casco Zoning Ordinance §§  
13.26-13.28; Solar Zoning

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### ***Abstract***

Casco Township passed Ordinance #30-83 to add provisions addressing small, medium, and large solar energy systems in its zoning ordinance. The ordinance defines small solar energy systems as single residential or small business-scale solar energy conversion systems consisting of roof panels, ground-mounted solar arrays, or other solar energy fixtures, and associated control or conversion electronics, occupying no more than one-half acre of land and that produce utility power primarily to onsite users or customers. Medium solar energy systems are defined as private onsite or utility-scale solar energy conversion systems with many ground-mounted solar arrays in rows or roof panels, and associated control or conversion electronics, occupying more than one-half acre but no more than ten acres of land and that produce utility power to onsite and offsite customers. Finally, the ordinance defines large solar energy systems as utility-scale solar energy conversion systems with many ground-mounted solar arrays in rows, and associated control or conversion electronics, occupying more than ten acres of land and that produce utility power to offsite customers.

### ***Resource***

See separate PDF.

1. Increase the overall height of the wireless communication's support structure by more than 20 feet or 10% of its original height, whichever is greater.
  2. Increase the width of the wireless communications support structure by more than the minimum necessary to permit collocation.
  3. Increase the area of the existing equipment compound to greater than 2,500 square feet.
- D. The proposed collocation complies with the terms and conditions of any previous final approval of the wireless communications support structure or equipment compound by the Township Board.
- E. Any proposed collocation that meets items A and B, above, but not C and D above shall follow the procedures for special approval as provided in Section 4.03.

#### **SECTION 13.26 SMALL SOLAR ENERGY SYSTEMS**

Small solar energy systems may be installed and operated in all districts, provided the systems meet setback and other standards, as provided in this section:

- A. Small solar energy systems may be approved through the issuance of a Building Permit provided the application meets setback and other standards, as provided in this Section, and provided solar panels are roof mounted. If the Building Official has a good faith belief that the solar energy system could have a specific, adverse impact upon the public health and safety, the Official may require the applicant to apply for a Site Plan approval to the Planning Commission. All ground mounted solar panels require approval by the Planning Commission.
- B. Approval by the Planning Commission is required for all small solar energy systems that do not meet (a) above.
- C. The requirement for a complete, professionally-prepared site plan shall not apply to applications proposing 1) only roof mounted solar panels or 2) proposing ground mounted panels do not exceed 8,000 square feet in total area. When a full site plan is not required, a sketch plan shall be submitted. A sketch plan, drawn to scale, shall show existing and proposed structures, driveways, adjacent structures within 100 feet, and any other information requested by the Planning Commission that is necessary to determine compliance with this ordinance.

- D. Photovoltaic solar energy systems may extend up to five (5) feet above the roof surface even if this exceeds the maximum height limit for the principal structure for the district in which it is located, or if this exceeds the height limit of an accessory structure.
- E. Solar water or swimming pool heating systems may extend up to five (5) feet above the roof surface even if this exceeds the maximum height limit for the principal structure for the district in which it is located, or if this exceeds the height limit of an accessory structure.
- F. Excluding solar collection panels, solar energy system equipment may be installed within the required side and rear yard, but shall not be closer than five (5) feet from any property line.

- G. Ground mounted solar collection panels, where the solar panels are attached to the ground by a pole, metal frame or other similar support structure, shall comply with existing regulations for accessory structures but in no instance shall the panels exceed twenty (20) feet in height in residential zones and must meet a rear yard setback of five (5) feet. Any mechanical equipment used as part of the solar system shall be screened from view from any public street, residential district or agricultural district by use of a masonry screen wall, evergreen vegetation or other screening of a similar effectiveness and quality, as determined by the Planning Commission.



- H. Solar panels shall be placed such that concentrated solar radiation or solar glare shall not be directed onto nearby properties or roadways. Traffic safety shall be protected and adjacent properties shall be protected from unreasonable glare and radiation. The applicant shall submit documentation to verify compliance with this section. When deemed appropriate, the Planning Commission may require a report from a registered civil engineer or other professional the Planning Commission finds to be qualified to address this issue.
- I. If more than 8,000 square feet of impervious surface will be located on the site, the application shall include a drainage

plan prepared by a registered civil engineer showing how stormwater runoff will be managed and demonstrating that runoff from the site will not exceed the agricultural runoff rate or otherwise cause undue flooding. If detergents will be used to clean solar panels, details on the type of detergent, frequency and quantity of use, and stormwater quality protection measures shall be provided. Any necessary permits from outside agencies for off-site discharge shall be provided.

- J. If solar energy system ceases to operate or is abandoned for a period of six months or is deemed by the Building Official to be unsafe or not consistent with code, the Applicant shall repair and restore the system to good working order within a reasonable time set by the Building Official or, if no longer operating or no longer in compliance with federal, state or local codes, it shall remove the system in its entirety. This shall include removing posts, equipment, panels, foundations and other items so that the ground is restored to its preconstruction state and is ready for development as another land use.
  
- K. When a ground mounted solar panel(s) is located adjacent to a residential or agricultural district (i.e., properties zoned AG, R-1, R-2, RT, or ROS) or public right-of-way, a 26-foot wide (minimum) greenbelt shall be constructed so as to provide a buffer between the panels and the adjacent residential / agricultural or public property. Planning Commission may waive or reduce the greenbelt requirement upon a determination that the solar panels are located more than 200 feet from an adjacent property zoned residential or agricultural or from any public right-of-way. Planning Commission may waive or reduce the greenbelt requirement if the adjacent residential or agricultural property is likely to remain undeveloped, or existing natural features to remain provide adequate screening. Greenbelts shall be planted as part of an approved site plan and shall thereafter be maintained in a healthy, growing condition to provide a screen to abutting properties. Specific planting requirements for greenbelts are as follows:
  - 1. The planting strip shall be no less than twenty-six (26) feet in width.
  - 2. Plant materials shall not be placed closer than four (4) feet from the property line.
  - 3. A minimum of one (1) evergreen tree shall be planted at twenty (20) foot intervals (on average).

4. A minimum of three (3) intermediate shrubs shall be placed between the spaced evergreen trees.

**SECTION 13.27 MEDIUM SOLAR ENERGY SYSTEMS**

- A. Medium solar energy systems may be installed and operated in the districts that make reference to this section, provided the systems meet setback and other standards, as provided in this section.
- B. Medium-sized solar energy systems may be approved through the Site Plan approval process, which requires action by the Planning Commission.
- C. Photovoltaic solar energy systems may extend up to five (5) feet above the roof surface even if this exceeds the maximum height limit for the principal structure for the district in which it is located, or if this exceeds the height limit of an accessory structure.
- D. Solar water or swimming pool heating systems may extend up to five (5) feet above the roof surface even if this exceeds the maximum height limit for the principal structure for the district in which it is located, or if this exceeds the height limit of an accessory structure.
- E. Excluding solar collection panels, solar energy system equipment may be installed within the required side and rear yard, but shall not be closer than five (5) feet from any property line.
- F. Ground mounted solar collection panels shall comply with existing regulations for accessory structures but in no instance shall the panels exceed twenty (20) feet in height in residential zones and must meet a rear yard setback of five (5) feet.
- G. Medium solar facilities proposed in agricultural (AG) and open space zones (ROS) are encouraged to locate on predominantly (more than 60 percent) non-prime farm lands. If they do not meet this standard, the use shall be deemed a Special Land Use, which requires a public hearing. The Application for a Special Land Use permit shall include an analysis of the potential for agricultural use on the subject site by expert in agriculture or soil science, as determined by the Planning Commission.
- H. Ground-mounted solar facilities shall meet the front, rear, and side yard setback requirements of the zone in which they are located, with the following exception: In all zones abutting a

residential district (including AG) or residential use, the setbacks shall be at least 50 feet from all property lines adjoining said district(s) or use.

- I. Ground-mounted solar facilities shall meet the height limit requirements of the zone in which they are located.
- J. Any mechanical equipment used as part of the solar system shall be screened from view from any public street, residential district or agricultural district by use of a masonry screen wall, evergreen vegetation or other screening of a similar effectiveness and quality, as determined by the Planning Commission.
- K. Solar panels shall be placed such that concentrated solar radiation or solar glare shall not be directed onto nearby properties or roadways. Traffic safety shall be protected and adjacent properties shall be protected from unreasonable glare and radiation. The applicant shall submit documentation to verify compliance with this section. When deemed appropriate, the Planning Commission may require a report from a registered civil engineer or other professional the Planning Commission finds to be qualified to address this issue.
- L. The applicant shall submit documentation to verify compliance with this section. When deemed appropriate, the Planning Commission may require a report from a registered civil engineer or other professional the Planning Commission finds to be qualified to address this issue.
- M. The application shall include a drainage plan prepared by a registered civil engineer showing how stormwater runoff will be managed and demonstrating that runoff from the site will not exceed the agricultural runoff rate or otherwise cause undue flooding. If detergents will be used to clean solar panels, details on the type of detergent, frequency and quantity of use, quantity and source of water, and stormwater quality protection measures shall be provided. Any necessary permits from outside agencies for off-site discharge shall be provided. Applicant shall demonstrate the use of well water shall not negatively impact the function of existing wells in the area.
- N. If solar energy system ceases to operate or is abandoned for a period of six months or is deemed by the Building Official to be unsafe or not consistent with code, the Applicant shall repair and restore the system to good working order within a reasonable time set by the Building Official or, if no longer operating or

no longer in compliance with federal, state or local codes, it shall remove the system in its entirety. This shall include removing posts, equipment, panels, foundations and other items so that the ground is restored to its preconstruction state and is ready for development as another land use.

O. The Applicant shall post a performance guarantee (cash, letter of credit or bond deemed suitable by the Township attorney) to cover the cost of removal of the equipment, structures and foundations related to the solar system in the event of abandonment or failure to comply with federal, state or local laws (after being given reasonable time to remedy the problem).

P. When a ground mounted solar panel(s) is located adjacent to a residential or agricultural district (i.e., properties zoned AG, R-1, R-2, RT, or ROS) or public right-of-way, a 26-foot wide (minimum) greenbelt shall be constructed so as to provide a buffer between the panels and the adjacent residential / agricultural or public property. Planning Commission may waive or reduce the greenbelt requirement upon a determination that the solar panels are located more than 200 feet from an adjacent property zoned residential or agricultural or from any public right-of-way. Planning Commission may waive or reduce the greenbelt requirement if the adjacent residential or agricultural property is likely to remain undeveloped, or existing natural features to remain provide adequate screening. Greenbelts shall be planted as part of an approved site plan and shall thereafter be maintained in a healthy, growing condition to provide a screen to abutting properties. Specific planting requirements for greenbelts are as follows:

1. The planting strip shall be no less than twenty-six (26) feet in width.
2. Plant materials shall not be placed closer than four (4) feet from the property line.
3. A minimum of one (1) evergreen tree shall be planted at twenty (20) foot intervals (on average).
4. A minimum of three (3) intermediate shrubs shall be placed between the spaced evergreen trees.

**SECTION 13.28 LARGE SOLAR ENERGY SYSTEMS**

- A. Large solar energy systems may be installed and operated in the districts that make reference to this section, provided the systems meet setback and other standards, as provided in this section.
- B. Large solar energy systems shall meet all the requirements of Section 13.25 Medium Solar Energy Systems, provided that all Large Solar Energy Systems shall be treated as a Special Land Use in the AG, B-2, B-1, ROS, and OS Districts. In the IND Districts, Large Solar Energy Systems shall be a principal permitted use subject to the standards in this section.
- C. If the use is a Special Land Use, it shall adhere to the general special land use standards of the Township (Article XV). In reviewing the application, the Planning Commission shall particularly focus on the ability of the use to be in harmony with the surrounding area and the intent and policies of the Master Plan. Potential impact on neighboring properties in terms of glare, stormwater runoff, property values, aesthetics, and screening shall be considered by the Planning Commission in determining whether the use is appropriate on the subject property.

**SECTION 13.29 NON-RESIDENTIAL DRIVEWAYS**

- 1. All commercially and industrially zoned lots (B-1, B-2, OS, and IND Districts) and ROS zoned lots shall be permitted one (1) driveway onto the abutting public thoroughfare as a matter of right. Corner lots shall be permitted one (1) driveway on each abutting thoroughfare. The Planning Commission may permit additional driveways subject to special land use and site plan approval provided, however, that the following may be permitted by the Planning Commission as a matter of right: one (1) additional driveway may be permitted for properties with a continuous frontage of over four-hundred (400) feet, and one (1) additional driveway for each additional four-hundred (400) feet of frontage may also be permitted.
- 2. Any non-residential driveway constructed on an agriculturally or residentially zoned lot (AG, R-1, R-2, RT Districts) shall be subject to special land use and site plan approval by the Planning Commission.

6/19/13

Ord. 30-84 Effective 9/18/2013

Ord. 30-93 Effective 1/25/2017