



# CHARTER TOWNSHIP OF PORT HURON

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## MEMORANDUM

**To:** Chairman and Members of the Port Huron Township Planning Commission  
**From:** Kirk Lavigne, Building/Planning/Zoning Administrator  
**Date:** November 30, 2018  
**Subject:** Review and Recommendation of the Proposed Solar Energy System Ordinance

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Public Hearing regarding the addition of a new ordinance known as the “Solar Energy System Ordinance” in Section 40-669 along with additions to Section 40-3 Definitions for the purpose of providing a regulatory framework to allow for the construction of Residential, Business and Utility Scale Solar Energy Systems subject to reasonable restrictions which will preserve the public health, safety and welfare and maintain the character of the community while promoting energy efficient development.

### Summary

Enclosed with this memo is a copy of the proposed SES Ordinance based on discussions of the ordinance by the Planning Commission at our last meeting. Please review the ordinance for any concerns you may have to discuss at the upcoming meeting as that would be the last time to make any changes.

## SOLAR SYSTEM ORDINANCE

Amend Section 40-3 Definitions to include the following new definitions:

- ✚ **Ancillary Solar Equipment (ASE)** 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, water heaters or other equipment requested or necessary for system operation.
- ✚ **Residential Scale SES** shall mean a single solar energy conversion system consisting of roof panels, ground-mounted solar arrays, or other solar energy fixtures, and associated control or conversion electronics that will only be used to produce utility power for on-site use on one or two family residentially zoned and used parcels. (The installation of which shall not be considered an expansion of an existing non-conforming use.)
- ✚ **Business Scale SES** shall mean a single or multiple solar energy conversion system(s) consisting of roof panels, ground-mounted solar arrays, or other solar energy fixtures, and associated control or conversion electronics that will only be used to produce utility power for on-site use for all Business, Industrial, PSP, PUD or Multi-family Residential Zoning Districts, which will require site plan or special use approval by the Planning Commission based on compliance with the enclosed standards listed.
- ✚ **Utility Scale SES** shall mean a solar energy conversion system consisting of both traditional and/or ground-mounted solar arrays, in rows and the associated control or conversion electronics, that will be used to produce utility power for off-site customers, which will require site plan approval by the Planning Commission based on compliance with the enclosed standards listed.
- ✚ **Solar Energy System (SES)** is a system of ground, roof or other assemblies which convert solar energy to usable thermal, mechanical, chemical, or electrical energy to meet all or a significant

part of a structures' energy requirements, or sometimes in excess of the energy requirements of the property, if it is to be sold back to an investor-owned utility in accordance with the law.

Add the following ordinance to Chapter 40 of the zoning ordinance, listed in the code of ordinances as follows: **"Section 40-669. Solar Energy Systems."**

- 1) **Purpose.** The purpose of this ordinance is to provide a regulatory framework for the construction of Solar Energy Systems subject to reasonable restrictions which will preserve the public health, safety and welfare, while also maintaining the character of the community.
- 2) **Definition.** Refer to the list of enclosed definitions found in "Section 40-3 Definitions" in the Zoning Ordinance.
- 3) **General Requirements.**
  - A. **Chart Requirements.** the construction of all SES's must comply with the requirements listed for each specific use as noted in the enclosed Charts and additional zoning ordinance requirements.
  - B. **Plan Approval.** The applicant must provide the required site plan information listed for each specific type of use, including all required standard engineering information that may or may not be specifically mentioned, but that is based on standard engineering practices and code requirements. As well, the applicant must provide the following information on the plan, including, but not limited to: yard and roof setbacks, grading and drainage, screening, glare and heat reflection, noise, lighting, landscaping and maintenance, as well as those items listed below, to determine code compliance.
  - C. **Signage.** All sites shall be limited to the maximum sizes and requirements for signs listed in the ordinance, or may be approved as permitted elsewhere in the ordinance through site plan review and approval or Zoning Board of Appeals approval.
  - D. **Equipment Height.** Limitations regarding the height of equipment above roof and ground surfaces shall comply with the minimum and maximum requirements listed in the Chart requirements; unless specific approval to exceed those heights is granted thru Special Use Approval by the Planning Commission upon review and approval of the proposed elevations in consideration of and comparison to the surroundings. This shall be based on scaled elevation drawings of the site and the surrounding terrain, including a list of the exact differences permitted and requested for the heights of the system.
  - E. **Utility Connections:** All utility connections for a SES shall be placed underground, unless otherwise approved based on site conditions and requirements of the utility provider. All SES shall provide written proof of approval of the proposed site plan by the utility provider in authority. Off-grid systems do not require a utility provider approval.
  - F. **Ancillary Solar Equipment (ASE) Screening.** Where feasible, ancillary solar equipment shall be located inside of a building or be screened from public view. 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 compliance with all applicable laws and regulations and ordinances.
  - G. **Code Requirements.** The applicant must comply with all Federal, State and Local codes including review and approval by the Port Huron Township Fire Department for the

location and procedure for emergency shut off of any utility connection to provide for the safety of all First Responders.

- H. **Clearance Requirements.** All (SES) shall provide a minimum clear accessible area of 3 feet for First Responders from the edge of all roofs and a minimum of 5 feet from all property lines for all units. Additional requirements may be established for safety reasons for First Responders, as may be adopted by ordinance or as adopted by resolution of the Township Board from time to time.

**4) Specific System Requirements**

**A. Residential Scale Solar Energy Systems**

<b>RESIDENTIAL SCALE SOLAR ENERGY SYSTEMS</b>	
<b>Allowed Districts</b>	<b>One and Two Family Residential Districts &amp; Uses</b>
<b>Required Approvals</b>	<b>Building/Planning/Zoning Department</b>
<b>Max % of Lot Coverage</b>	<b>Per the Schedule of District Regulations not to exceed the maximum lot coverage of 35% for all structures, excluding rooftop units</b>
<b>Setbacks for SES units</b>	<ul style="list-style-type: none"> <li>▪ <b>Minimum 5 foot side and rear yard setbacks required</b></li> <li>▪ <b>No front yard location without PC Sketch Plan Review &amp; approval</b></li> </ul>
<b>ASE Screening Panel Screening</b>	<b>As far as possible based on fencing and/or landscaping permitted Required as noted above</b>
<b>Roof Top Units</b>	<b>Allowed as noted above</b>
<b>Ground Units</b>	<b>Allowed to a maximum of six (6) feet high</b>
<b>Outside shut off</b>	<b>Emergency outside quick disconnect shut off required</b>
<b>Wall Units and Waterfront lots</b>	<b>Allowed only with PC Sketch Plan review and approval</b>

1. **Intent.** A residential scale SES is an on-site solar energy system intended to serve the needs of the owner or occupant of the property for allowed residential uses only. Systems may be roof-top mounted or ground mounted. these systems may be approved through the issuance of a building permit, provided that the application meets all requirements and standards of the zoning ordinances and Building Codes in effect at the time of the issuance of the permits.
  - a. **Site or Sketch Plan Review.** If the Zoning Administrator has a good faith belief that the solar energy systems may have an adverse impact upon the health, safety or general welfare of the public, or if the proposed SES is located on a waterfront lot, the Administrator shall require the applicant to apply for Sketch Plan Approval to the Planning Commission.
2. **Specific Requirements.**
  - a. **Applicability.** Only one (1) interconnected solar energy system is permitted per lot or premises along with the primary principle permitted use no matter the lot size.
  - b. **Location.** Ground mounted systems shall not be permitted in the front yard without Sketch Plan Review by the Planning Commission.
  - c. **Setbacks.** All systems shall be set back at least 5 feet from all property lines to provide for emergency access.
  - d. **Glare.** The applicant shall provide documentation that glare will be eliminated, insofar as possible. This may include manufacturer's specifications of the

panels, proficient angling, adequate screening, or other means, so as not to adversely affect neighboring properties

- e. 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 Zoning Administrator or Planning Commission that is necessary to determine compliance with this ordinance

**2. Roof Mounted Solar Panels.**

- a. Panels may extend up to five (5) feet above a flat roof surface, and two (2) feet for all other roof types
- b. A report of the structural stability of the roofs supporting framework and overlaying sheathing and covering shall be provided by a structural engineer, licensed in the State of Michigan prior to the issuance of a permit, demonstrating that it can safely support the proposed loads.

**3. Ground Mount Solar Panels.**

- a. Shall only be located in the rear or side yard.
- b. The maximum ground area occupied by solar panels shall not be in excess of the total maximum percentage of lot coverage allowed in each district.
- c. The maximum ground-mounted panel height is six (6) feet, measured from the grade to the top of the panel.
- d. Panels shall be screened from residential districts and/or uses and public rights of way by a greenbelt and/or six (6) foot high privacy fence, as allowed per the fence ordinance.
- e. Notwithstanding the restrictions listed herein, combined systems, demonstrating dual purposes such as solar systems that provide protection for cars as a carport, or other similar uses may be permitted upon review and approval by the planning commission.

**B. Business Scale Solar Energy Systems**

<b>BUSINESS SCALE SOLAR ENERGY SYSTEMS</b>	
<b>Allowed Districts</b>	<b>All Business, Industrial, PSP, PUD and Multi-Family Zoning Districts</b>
<b>Required Approvals</b>	<ul style="list-style-type: none"> <li>▪ <b>Site Plan approval by the Planning Commission for projects not in excess of the maximum lot coverage allowed per lot per district</b></li> <li>▪ <b>Special Use approval by the Planning Commission for projects in excess of the maximum lot coverage allowed per district</b></li> </ul>
<b>Setbacks for SES units</b>	<ul style="list-style-type: none"> <li>▪ <b>Minimum front, side and rear yard setbacks required per current regulations per district</b></li> </ul>
<b>ASE Screening</b>	<b>Required as noted below</b>
<b>Panel Screening</b>	<b>Required as noted below</b>
<b>Roof Top Units</b>	<b>Allowed as noted below</b>
<b>Wall Units</b>	<b>Subject to Site Plan review and approval</b>
<b>Ground Units</b>	<b>Allowed to a maximum of eight (8) feet high</b>
<b>Outside shut off</b>	<b>Emergency outside quick disconnect shut off required</b>

- 1. **Intent.** An on-site use solar energy system is intended to serve the needs of the on-site owner and additional occupants and/or facilities on site only.
  - a. Systems must be approved by the Planning Commission subject to Site Plan review and approval or Special Use Approval as noted above.

**2. Specific Requirements.**

- a. Setbacks. All systems shall be set back at least twenty (20) feet from all property lines.
- b. Glare. The applicant shall provide documentation that glare will be eliminated, insofar as possible. This may include manufacture's specifications of the panels, proficient angling, adequate screening, or other means, as to not adversely affect neighboring properties
- c. Mechanical equipment must be screened from street and neighboring residences by fencing or landscaping as approved by the Planning Commission.
- d. A site plan, drawn to scale and conforming to Section 40-52, Site Plan Procedures and Standards, 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.

**3. Roof Mounted Solar Panels.**

- a. Panels may extend up to five (5) feet above a flat roof surface and two (2) feet for all other roof types.
- b. A report of the structural stability of the roofs supporting framework and overlaying sheathing and covering shall be provided by a structural engineer licensed in the State of Michigan prior to the issuance of a permit, demonstrating that it can safely support the proposed loads.

**4. Ground Mounted Solar Panels.**

- a. The maximum ground area occupied by solar panels and associated paved surfaces shall not exceed the maximum allowable percentage of lot coverage listed for each specific District.
- b. The maximum ground-mounted panel height is eight (8) feet, measured from the grade to the top of the panel.
- c. SES Panels shall be screened from abutting residential districts, uses and public rights of way by a greenbelt and/or up to eight (8) foot high privacy fence. Screening requirements may be waived or reduced by the Planning Commission when existing natural vegetation accomplishes the same.
- d. Notwithstanding the restrictions listed herein, combined systems, demonstrating dual purposes such as solar systems that provide protection for cars as a carport, or other similar uses may be permitted upon review and approval by the planning commission.

**C. Utility Scale Solar Energy Systems**

<b>UTILITY SCALE SOLAR ENERGY SYSTEMS</b>	
<b>Allowed Districts</b>	<b>All I-L &amp; I-H Industrial, B-3 General Business, PSP and PUD Zoned Properties</b>
<b>Required Approvals Based on District</b>	<ul style="list-style-type: none"> <li>▪ <b>Site Plan review required for all I-L &amp; I-H Industrial, PSP &amp; PUD's</b></li> <li>▪ <b>Special Use Approval for B-3 General Business Zoning Districts</b></li> </ul>
<b>Max % of Lot coverage</b>	<b>Based on the Zoning Ordinance requirements for each District and Planning Commission review and approval under Sketch Plan or Site Plan Approval</b>
<b>Setbacks for SES units</b>	<ul style="list-style-type: none"> <li>▪ <b>Minimum 30-foot side and rear yard setbacks required in general</b></li> <li>▪ <b>Minimum 50-foot setbacks from Residential Districts</b></li> </ul>

	<ul style="list-style-type: none"> <li>▪ <b>No location in a front yard setback without Special Use Approval</b></li> </ul>
<b>ASE Screening may be required for:</b>	<b>Panel, Roof top, wall and ground units based on Planning Commission review and approval as listed below, including minimum eight (8) feet screening requirements on property located next to residential districts</b>
<b>Outside shut off</b>	<b>Emergency outside shut off required</b>

1. **Intent.** A Utility Scale Solar Energy System is a system that is designed and built to provide electricity to the electric utility grid. These systems are intended to be so constructed and located to be compatible with other land uses such as farms and heavy industrial uses, while being distanced enough from residential uses to avoid becoming a nuisance. These systems shall be permitted in the I-L Light and I-H Heavy Industrial, and PSP Public/Semi-Public Districts under Site Plan review and approval by the Planning Commission. They are also permitted in the B-3 General Business and PUD Districts subject to Special Use review and approval by the Planning Commission. All Large Solar Energy Systems shall be subject to the following:
2. **Specific Requirements.**
  - a. No utility-scale solar system that is proposed to be connected to a public utility grid shall be installed until evidence has been given to the planning commission that the owner/developer/applicant has been approved by the authorized utility company to install an interconnected customer-owned system. Off-grid systems are exempt from this requirement.
  - b. **Setbacks.** All systems shall be set back at least thirty (30) feet from all property lines; all systems shall be set back at least fifty (50) feet from all residential uses or districts.
  - c. **Glare.** The applicant shall provide documentation that glare will be eliminated, insofar as possible. This may include manufacturer's specifications of the panels, proficient angling, adequate screening, or other means, as to not adversely affect neighboring properties
  - d. A site plan, drawn to scale and conforming to the zoning ordinance requirements listed, 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.
  - e. The maximum ground area occupied by solar panels and associated paved surfaces shall be determined by the Planning Commission based on the circumstances of each particular large solar system application.
  - f. If more than 2,000 square feet of impervious surface is proposed, a drainage plan prepared by a registered civil engineer is required.
  - g. The maximum ground-mounted panel height will be based on review and approval of the Planning Commission in consideration of proposed screening and the surrounding districts.
  - h. SES Panels and Mechanical Equipment shall be enclosed with Security fencing and spaced to ensure adequate emergency access. It shall also be screened from residential districts and public rights of way by a greenbelt and/or up to (8) foot high privacy fence, and/or by a landscaped greenbelt and berm, as determined by the Planning Commission. Screening requirements may be waived or reduced by the Planning Commission when existing natural vegetation accomplishes the same. Any berm required shall be a minimum of three (3) feet

high, with a 3-foot wide crown and 1 on 3 side slopes. The minimum landscaping requirement shall be two staggered rows of evergreen trees, chosen from other vegetation approved by the Planning Commission, not less than 5 feet tall at time of planting, placed on each of the side slopes of the berm, with a 10-foot spacing between trees in each row. The Planning Commission may require supplemental planting of small evergreen and/or deciduous shrubs along the crown of the berm. Planting requirements may be reduced up to 50% by the Planning Commission, but not eliminated, only when existing natural vegetation accomplishes a substantial portion of the screening requirement.

- 5) Responsibilities.** The approval of a SES, if approved by the municipality, will in no manner be the responsibility of the municipality or alleviate the owner of the property or the system, to oversee or provide protection from any form of legal action that results due to the lack of due diligence on the part of the applicant to address the following issues:
- A. Solar Access.** The Township makes no assurance of solar access other than the provisions of this Section. The applicant may provide evidence of covenants, easements or similar documentation for abutting property owners providing access to solar energy for the operation of a solar energy system.
  - B. Visual Impact.** The solar energy system shall not have a significant adverse visual impact on the natural features or neighborhood character of the surrounding area and shall be located to minimize glare and heat on adjacent properties and roadways. Solar energy systems that are visible from the street must be either composed of building-integrated components (such as solar shingles) that are not readily evident, or be designed and mounted to match the aesthetics, shape, proportions, and slope of the roof or screened from view.
  - C. Decommissioning and/or Removal.** If the solar energy system ceases to operate or is abandoned for a period of twelve months or is deemed by the Zoning Administrator or Building Official to be unsafe or in-consistent with the building code requirements, the current land owner shall repair and restore the system to good working order within a reasonable time set by the Zoning Administrator or Building Official or, if no longer operating or no longer in compliance with federal, state or local codes, the 'current land owner 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 re-development.
  - D. Bonds.** A minimum ten (10) year irrevocable surety bond shall be required to be posted based on an engineered review of the cost associated to the restoration of the property to a natural state. The cost estimate and bond shall be reviewed and renewed every 10 years for compatibility with current restoration costs.