

Solar Energy Definitions: (Amended 12/12/22; Effective 12/22/22)

1. **Solar Energy System:** A photovoltaic system or solar thermal system for generating and/or storing electricity or heat, including all above-ground and below-ground equipment or components required for the system to operate properly and to be secured to a roof surface or the ground. This includes any solar collection devices and any necessary operations and maintenance building(s) but does not include substation(s) or other transmission facilities between the solar energy system and the point of interconnection to the electric grid.
2. **Solar Energy Facility (Utility Scale/Commercial):** A solar energy system designed to capture and utilize the energy of the sun to generate electrical power to be used primarily off-site. A solar energy facility consists of an array of solar collection devices used to collect solar rays and all associated ancillary and structural devices needed to support and convert/transmit the energy collected.
3. **Solar Energy Panels (Accessory):** Solar collection devices designed to capture and utilize the energy of the sun to generate electrical power primarily for use on-site. A solar collection device is the actual material(s) used to collect solar rays and all associated ancillary and structural devices needed to support and convert/transmit the energy collected.
 - a. **Building-Integrated Accessory Solar Energy Panels:** Accessory solar energy panels that are an integral part of a primary or accessory building or structure (rather than a separate mechanical device), replacing or substituting for an architectural or structural component of the building or structure. Building-integrated systems include, but are not limited to, photovoltaic or hot water solar energy systems that are contained within roofing materials, windows, skylights, and awnings.
 - b. **Building-Mounted Accessory Solar Energy Panels:** A solar energy system mounted on racking that is attached to or ballasted on the roof or wall of a building or structure.
 - c. **Ground-Mounted Accessory Solar Energy Panels:** Accessory solar energy panels mounted on support posts, like a rack or pole, that are attached to or rest on the ground.
4. **Maximum Tilt:** The maximum angle of a solar panel (i.e., most vertical position) for capturing solar radiation as compared to the horizon line.
5. **Minimum Tilt:** The minimal angle of a solar panel (i.e., most horizontal position) for capturing solar radiation as compared to the horizon line.
6. **Non-Participating Lot(s):** One (1) or more lots for which there is not a signed lease or easement for the development of a solar energy facility associated with the applicant project.

7. **Participating Lot(s)**: One (1) or more lots under a signed lease or easement for the development of a solar energy facility associated with the applicant project.
8. **Repowering**: Reconfiguring, renovating, or replacing a solar energy facility to maintain or increase the power rating of the solar energy facility within the existing project footprint.

Special Land Use: A use which is subject to approval by the Township. A Special Land Use may be granted when specified by this Ordinance. A permitted Special Land Use is not considered to be a Nonconforming use.

Special Land Use Permit : A permit issued by the Township Board/Planning Commission to a person or persons intending to undertake the operation of an activity upon land or within a structure which is not specifically mentioned in this Ordinance and possesses a unique characteristic found to be not injurious to the health, safety, convenience and general welfare of the Township's inhabitants.

Specified Anatomical Areas: Means and includes any of the following:

- B. Less than completely and opaquely covered:
 1. Human genitals;
 2. Pubic region;
 3. Buttocks
 4. Female breast below a point immediately above the top of the areola.
- C. Human male genitals in a discernible turgid state even if completely or opaquely covered.

Specified Sexual Activities: Means and includes any of the following:

- A. Human genitals in a state of sexual arousal;
- B. Acts of or simulated acts of human masturbation, sexual intercourse, sodomy, bestiality, fellatio or cunnilingus; or
- C. Fondling or other erotic touching of human genitals, pubic region, buttocks or female breast.
- D. Excretory functions as part of or in connection with any of the activities set forth in A – C above.

Stable: A building or structure used to house horses, either for the property owner's private use or for hire.

State-Licensed Residential Facility: A structure constructed for residential purposes that is licensed by the State pursuant to Act No. 218 of the Public Acts of 1979 (Adult Foster Care Licensing Act), as amended, being Sections 400.701 to 400.737 of the Michigan Compiled Laws, or Act No. 116 of the Public Acts of 1973 (Child Care Organizations), as amended, being Sections 722.111 to 722.128 of the Michigan Compiled Laws, which provides resident services or care for six (6) or fewer individuals under twenty-four (24) hour supervision for persons in need of that supervision or care.

Stormwater Detention Basin: A facility which temporarily stores surface runoff.

Stormwater Retention Basin: A facility which stores surface runoff indefinitely.

TABLE 5.11: TABLE OF USES PERMITTED BY RIGHT & SPECIAL LAND USES

R = Permitted by right S = Permitted with a Special Land Use Permit * indicates a site plan is required	R-1	R-2	R-3	RR	FF-1	B-1	B-2	I	CR
TRANSPORTATION SERVICES, WAREHOUSING & STORAGE									
Airports & Landing Fields*		S			S			S	
Couriers & Messengers*						R	R	R	
Postal Service*						R	R	R	
Rail yards*								S	
Scenic & Sightseeing Transportation*							R	R	
Transit & Ground Passenger Transportation*							R	R	
Truck Transportation Facilities*								R	
Warehousing & Storage*								R	
MINING									
¹ Mines, quarries, and gravel pits*	S	S	S	S	S	S	S	S	S
UTILITIES/ENERGY									
Commercial Wind Energy Facilities and Anemometer Towers*		S			S			S	
Public utility facilities (without storage yards)*	S	S	S	S	S	R	R	R	S
Public utility facilities (with storage yards)*								R	
Small On-Site Wind Energy Systems	R	R	R	R	R	R	R	R	R
² Solar Energy Facilities (Utility-Scale/Commercial)*		S			S				
² Solar Energy Panels, Accessory	R	R	R	R	R	R	R	R	R
CONSTRUCTION									
Building, developing & general contracting*		S			S		R	R	
Heavy construction*		S			S		R	R	
Special trade contractors (ex: electrical, plumbing)*		S			S		R	R	
MANUFACTURING/INDUSTRIAL/ WHOLESALE TRADE/WASTE MANAGEMENT									
Bulk storage and distribution facilities for petroleum and gas products, paint and chemicals*								S	
Computer, Electronic, & Appliance Product Mfg*								R	
Dry bulk blending plants*								R	
Food/beverage processing and packaging*								R	
Furniture & Related Product Mfg*								R	
Industrial parks*								S	
Junkyards/salvage yards/landfills*								S	
Leather & Allied Product Mfg*								R	
Miscellaneous Mfg*								R	
Oil & gas extraction facilities (offsite from wellhead location)*		S			S			S	
Oil and gas processing facilities*								S	
Printing & Related Support Activities*							R	R	
Recycling facilities*								S	
Textile & Apparel Mfg*								R	
Waste Collection Services*								S	
Waste Treatment & Disposal Services*								S	
Wholesale trade*								R	
Wood Product Mfg*					S			R	

¹Amendment adopted on February 10, 2014; effective February 24, 2014

²Amendment adopted on December 12, 2022; effective December 22, 2022

- (d) The impact on pedestrian and traffic safety in the vicinity of the property and along the proposed hauling route serving the property.
 - (e) The impact on other identifiable health, safety, and welfare interests in the local unit of government.
 - (f) The overall public interest in the extraction of the specific natural resources on the property.
- B. The Planning Commission may regulate of hours of operation, blasting hours, noise levels, dust control measures, and traffic, not preempted by part 632 of the natural resources and environmental protection act, 1994 PA 451, MCL 324.63201 to 324.63223. However, such regulation shall be reasonable in accommodating customary mining operations.

¹Section 9.24 – Solar Energy

1Amendment adopted December 12, 2022; Effective December 22, 2022

A. Solar Energy Facilities (Utility-Scale/Commercial).

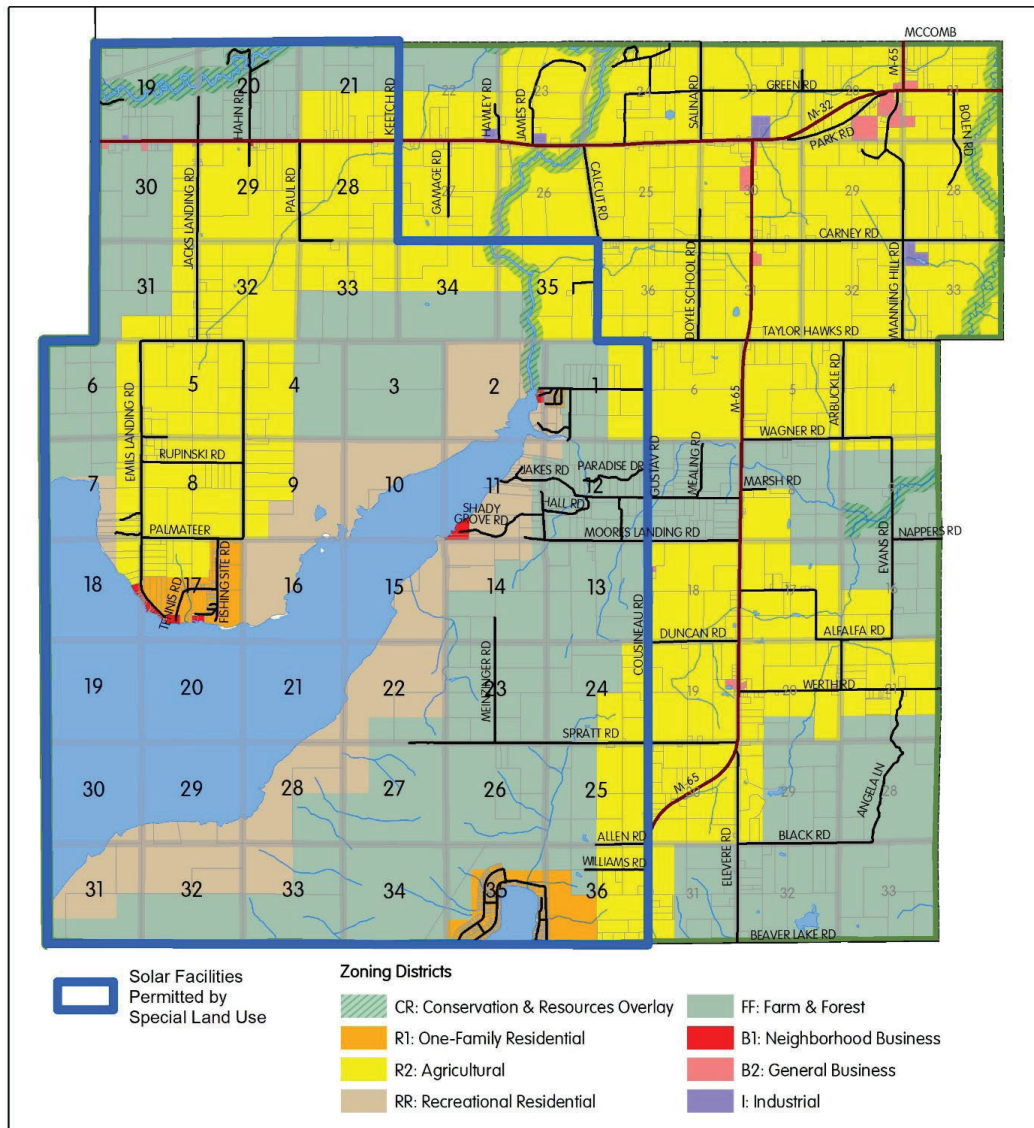
A solar energy facility (utility-scale/commercial) shall require a Special Land Use permit and shall be evaluated with the following standards in addition to the standards in Section 7.2.E and Section 8.1.B.

1. **Intent and Location**: The Green Township Master Plan states the following:
 - a. **Agriculture – Goal 1**: Recognize the importance of agricultural lands as an economic base and way of life in Green Township.
 - (1) Objective 1: Maintain and provide for the preservation of farmland and woodlands, where feasible.
 - (2) Objective 2: Discourage the conversion of farmland into other more intensive uses. Recognize farmland as contributing to the scenic and rural character of the Township.
 - (3) Objective 6: Recognize the importance and encourage the continued opportunity to purchase fresh foods produced on local agricultural land.
 - b. **Natural Environment - Goal 1**: Protect and preserve the natural environment by protecting groundwater, surface water, environmentally sensitive areas, highly erosive areas, woodlands, wetlands, open space, fish and wildlife.
 - (1) Objective 1: Encourage a land use pattern that is oriented to the natural features and water resources of the area. Evaluate type and density of proposed developments based on soil suitability, slope of land, potential for groundwater and surface water degradation and contamination, compatibility with adjacent land uses, and impacts to sensitive natural areas like wetlands, greenways, and wildlife corridors.

- c. **Community Character - Goal 1:** Maintain the desirable aspects of the community character of Green Township while working toward resolving the problematic aspects.
 - (1) Objective 1: Utilize the existing resources of Green Township in a productive manner to maintain the community character and address problems.

- d. **Planning And Community Development - Goal 1:** Guide future development in a manner that will protect existing development, preserve rural community character, and conserve natural resources and environment, yet meets the long-term needs of the community.
 - (1) Objective 2: Control the location of new development by designating appropriate areas for new residential, commercial, light industrial, and resort/recreational land uses.

In order to meet these adopted goals and objectives concerning the preservation of agricultural lands, the protection of the natural environment, and the maintenance of community character, Green Township has evaluated areas of the Township which would be suitable for the establishment of solar energy facilities. The Township has designated an area which will have the least impact to agriculture, the environment, and the community character of Green Township. The designated area consists of a lower percentage of active farms and a lower percentage of prime agricultural soils than other areas of the Township. Solar energy facilities shall be allowed in the R-2 and FF-1 Districts in the sections shown on the following map:



2. **Setbacks:** The setbacks of all solar collection devices and ancillary equipment shall be at least fifty (50) feet from the road right-of-way and all property lines of non-participating lots.
3. **Height:** The total height for all solar collection devices shall not exceed twenty (20) feet when oriented at maximum tilt.
4. **Reflection/Glare.** Solar collection devices, or a combination of devices, shall be designed and located to avoid glare or reflection onto adjacent properties and adjacent roadways and shall not interfere with traffic or create a safety hazard. This may be accomplished by both the placement and angle of the collection devices as well as human-made or environmental barriers. Plans to reduce glare may be required in the initial materials submitted.

5. **Impervious Surface/Stormwater**. If more than eight thousand (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. 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.
6. **Screening**. Solar devices shall be screened year-round from view from any existing adjacent non-participating lot line and the public right-of-way by use of a screening wall, evergreen vegetation, or other screening of similar effectiveness and quality, as determined by the Planning Commission. Screening shall be installed which screens the facility fully from view from the time of planting or installation. Screening shall be maintained throughout the life of the facility including replacing dead vegetation within six (6) months or at the earliest feasible time of year dependent on the weather.
7. **Wiring**. Wiring (including communication lines) may be buried underground. Any above-ground wiring within the footprint of the solar energy facilities shall not exceed the height of the solar array at maximum tilt.
8. **Lighting**: Solar Energy Facility lighting shall be limited to inverter and/or substation locations only. Light fixtures shall have downlit shielding and be placed to keep light on-site and glare away from adjacent properties, bodies of water, and adjacent roadways. Flashing or intermittent lights are prohibited.
9. **Sound**. The sound pressure level of a solar energy facility and all ancillary solar equipment shall not exceed forty-five (45) dBA (Leq (1 hour)) at the property line of an adjacent non-participating lot. The site plan shall include modeled sound isolines extending from the sound source to the property lines to demonstrate compliance with this standard.
10. **Land Clearing**: Land disturbance or clearing shall be limited to what is minimally necessary for the installation and operation of the system and to ensure sufficient all-season access to the solar resource given the topography of the land. Topsoil distributed during site preparation (grading) on the property shall be retained on site.
11. **Access Drives**: New access drives within the Solar Energy Facility shall be designed to minimize the extent of soil disturbance, water runoff, and soil compaction on the premises. The use of geotextile fabrics and gravel placed on the surface of the existing soil for temporary roadways during the construction of the Solar Energy Facility is permitted, provided that the geotextile fabrics and gravel are removed once the Solar Energy Facility is in operation.
12. **Fencing**: Solar Energy Facilities may be secured with perimeter fencing to restrict unauthorized access. Fencing is not subject to setbacks in subsection A.2.
13. **Lot Coverage**: Solar collection devices shall not count toward the maximum lot coverage standards in Section 5.10 (Schedule of Regulations).

14. **Agricultural Protection:** For sites where agriculture is a permitted use in a district, solar energy facilities shall be sited to minimize impacts to agricultural production through site design and accommodations including:
- a. The ground mounting of panels by screw, piling, or a similar system that does not require a footing, concrete, or other permanent mounting in order to minimize soil compaction.
 - b. Siting panels to avoid disturbance and compaction of farmland by siting panels along field edges and in nonproduction areas to the maximum extent practicable and financially feasible.
 - c. Maintaining all drainage infrastructure on-site, including drain tile and ditches, during the operation of the solar energy facility.
 - d. Siting the solar energy facility to avoid isolating areas of the farm operation such that they are no longer viable or efficient for agricultural production, including, but not limited to, restricting the movement of agricultural vehicles/equipment for planting, cultivation, and harvesting of crops, and creating negative impacts on support infrastructure such as irrigation systems or drains.
 - e. Voluntarily purchasing agricultural conservation easements from an equivalent number of prime farmland acres if the township has adopted a purchase of development rights ordinance.
15. **Repowering:** In addition to repairing or replacing solar energy components to maintain the system, a solar energy facility may at any time be repowered, without the need to apply for a new Special Land Use permit, by reconfiguring, renovating, or replacing the solar energy components to increase the power rating within the existing project footprint.

A proposal to change the project footprint of an existing solar energy facility shall be considered a new application, subject to the ordinance standards at the time of the request. Expenses for legal services and other studies resulting from an application to modify a solar energy facility will be reimbursed to the Township by the solar energy facility owner in compliance with established escrow policy.

16. **Abandonment:** Any Solar Energy Facility which is not used for six (6) continuous months shall be deemed to be abandoned. The applicant/permit holder will be so notified in writing by the Township and requested to dismantle the site and return it to its original state. If there are mitigating circumstances as to why the site has not been used, the applicant/permit holder may contact the Township and request a three (3) month extension. If a site has been deemed abandoned and no request for an extension is received, the applicant/permit holder will again be notified to dismantle the site and return it to its original state. If the applicant/permit holder does not do this, the Township will have the removal and restoration done at the owner/applicant's expense. Removal 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.

17. **Performance Guarantee**: As a condition of approval, prior to construction, the Planning Commission may require an owner to deposit funds in escrow with the Township or provide an insurance bond satisfactory to the Planning Commission to assure the removal of the solar energy facility. If required, such escrow deposit or insurance bond shall be in an amount equal to the cost of removal of the facility. The deposit or bond shall be maintained by successor owners of the facility.

18. **Decommissioning Plan**: A decommissioning plan is required at the time of application.
 - a. The decommissioning plan shall include:
 - (1) The anticipated manner in which the project will be decommissioned, including a description of which above-grade and below-grade improvements will be removed, retained (e.g. access drive, fencing), or restored for viable reuse of the property consistent with the zoning district.
 - (2) The projected decommissioning costs for removal of the solar energy facility (net of salvage value in current dollars) and soil stabilization, less the amount of the surety bond posted with the State of Michigan for decommissioning of panels installed on PA 116 lands.
 - (3) The method of ensuring that funds will be available for site decommissioning and stabilization (in the form of surety bond, irrevocable letter of credit, or cash deposit).
 - b. A review of the amount of the performance guarantee based on inflation, salvage value, and current removal costs shall be completed every five (5) years, for the life of the project, and approved by the Township Board. A solar energy facility owner may at any time:
 - (1) Proceed with the decommissioning plan approved by the Planning Commission and remove the system as indicated in the most recent approved plan; or
 - (2) Amend the decommissioning plan with Planning Commission approval and proceed according to the revised plan.

B. Solar Energy Panels (Accessory):

Solar energy panels shall be allowed as a permitted accessory use in all zoning districts subject to the requirements below. A zoning permit shall be required for ground-mounted solar panels over two hundred (200) square feet (in sum). A building permit may be required. All ground-mounted and building-mounted solar panels shall meet the following standards (whether or not a zoning permit is required):

1. **Submittal Requirements**: Applicants for building-mounted accessory solar energy panels that require a zoning permit shall submit drawings that show the location of

the system on the property, height, tilt features (if applicable), the primary structure, accessory structures, and setbacks to property lines. Applications that meet the ordinance requirements shall be granted administrative approval by the Zoning Administrator.

2. **Height:**

- a. Ground-mounted accessory solar energy panels shall not exceed the allowable height of structures in that district when oriented at maximum tilt measured from the ground to the top of the system.
- b. Building-mounted accessory solar energy systems shall not exceed five (5) feet above the finished roof.

3. **Setbacks/Location.**

- a. Ground-mounted accessory solar energy panels shall adhere to setbacks and location established for detached accessory buildings pursuant to **Section 3.9**. Setbacks are measured from the lot line to the nearest portion of the structure when oriented at minimum tilt. If no solar access is available in the location required, the Planning Commission may approve ground-mounted solar energy panels in an alternate location on a case-by-case basis. Screening from the road or neighboring property may be required.
- b. Building-mounted accessory solar energy panels shall adhere to district setbacks for a principal building but may encroach into designated principal building setbacks by twelve (12) inches.

4. **Glare.** Panels shall not result in glare onto adjoining properties or public rights of way.

5. **Lot Coverage for Residential Lots:** Ground-mounted solar panels shall not count toward the maximum lot coverage standards in Section 5.10 (Schedule of Regulations).

6. **Nonconformities.**

- a. A building-mounted accessory solar energy panel installed on a nonconforming building or nonconforming use shall not be considered an expansion of the nonconformity.
- b. Ground-mounted accessory solar energy panels installed on a nonconforming lot or nonconforming use shall not be considered an expansion of the nonconformity.

7. **Building-Integrated Solar Panels:** Building-Integrated solar energy panels are subject only to zoning regulations applicable to the structure or building and not subject to accessory ground or building-mounted standards in subsections 1 through 5 above.