

**SECTION 5.26 – SOLAR ENERGY SYSTEMS**  
**(Adopted 3/18/19)**

**A. Purpose and Intent**

Blackman Charter Township determines that it is in the public interest to encourage the use and development of renewable energy systems that enhance energy conservation efforts in a safe and efficient manner that is subject to reasonable conditions that will limit adverse impact on nearby properties, environment, and rural character of the region. The Township resolves that the following regulation and standards shall be adopted to ensure that solar energy systems can be constructed within Blackman Charter Township while protecting public health, safety, and natural resources.

**B. Criteria for the Use of All Solar Energy Equipment**

1. Solar energy equipment shall be located in the least visibly obtrusive location where panels would be functional.
2. Solar energy equipment shall be repaired or replaced within three (3) months of becoming nonfunctional.
3. Each system shall conform to applicable industry standards including those of the American National Standards Institute (ANSI).

**5.26.1 – Definitions**

**A. Accessory Solar Energy System:** A small solar energy system which is roof, or building mounted, or architecturally-integrated, or ground mounted panels which are located on a lot or parcel with a principal use such as residence or business designed to supply energy for onsite residential or business use; excess energy produced may be sold back to the grid through net metering or commercial use to generate energy to offset utility costs or as an additional revenue stream. A small solar energy system generates up to but not exceeding 20kW, and can occupy, in total, no more than five (5) acres.

**B. Community Solar Energy System (CSES) (also called "Solar Garden"):** A large scale facility that converts sunlight into electricity by photovoltaics (PV) array, for the primary purpose of providing retail electric power (or financial proxy for retail power) to multiple community members or businesses residing or located off-site from the location of the solar energy system. Roof or ground-mounted CSES or Solar Gardens are designed to supply energy for off-site users on the distribution grid. A large scale CSES or Solar Garden system exceeds 20kW, and can occupy, in total, more than five (5) acres.

**C. Solar Farm:** A large scale facility that converts sunlight into electricity by photovoltaics (PV) array, for the primary purpose of wholesale sales of generated electricity to the electric transmission grid. A roof or ground-mounted solar farm is the primary land use for the parcel on which it is located. A large scale solar energy system exceeds 20kW, and can occupy, in total, more than five (5) acres.

**D. Solar Collection Panels:** Panels and tiles comprised of semiconductor devices and typically referred to as photovoltaic cells, which collect and convert solar energy directly into electricity or solar thermal panels that convert solar energy indirectly to heat a fluid, and can also power solar cooling systems.

### **5.26.2 - Permitted Use Standards for Accessory Solar Systems**

Accessory Solar Energy Systems are a small solar energy system designed and used as an accessory use to serve the needs of a home, farm, or small business (on-site usage). Accessory Solar Energy Systems are Permitted Uses in all zoning districts, reviewed by the Zoning Administrator, and subject to the following standards:

**A. Property Set-Backs:** Projects shall follow the district's applicable setbacks of the property's principal use. Ground mounted panel systems shall not be located within a FEMA floodplain or designated wetlands, within forty (40) feet of a riparian shoreline, and/or within three hundred (300) feet of governmental and/or nongovernmental wildlife management areas and scenic trail corridors.

**B. Construction Standards:** The owner(s) and/or operator(s) shall submit a site plan and obtain all necessary permits from the Township, and other applicable government agencies.

1. An Accessory Solar Energy System may not occupy more than five (5%) percent of the property or up to five (5) acres, whichever is less.
2. All electrical interconnection and distribution lines within the project boundary shall be underground, unless determined otherwise by the planning commission because of severe environmental constraints (e.g. wetlands, hard bedrock), except for wiring between panels in a single solar array, and except for power lines that leave the project or are within the substation. All electrical interconnections and distribution components must comply with all applicable codes and public utility requirements.
3. Plans shall be provided to the Public Safety Department for review of potential hazards/issues.
4. Height of ground mounted panels shall not exceed fourteen (14) feet.

**C. Nuisances:** Accessory Solar Energy Systems shall not produce glare that is a nuisance to occupants of neighboring properties, or persons traveling neighboring roads, or air routes. Noise produced from Solar Energy Systems shall not exceed 5 dB above ambient sound levels as measured at the property line. Adequate setbacks shall be provided to comply with these limitations.

### **5.26.3 - Conditional Use Standards for CSES/Solar Garden, or Solar Farm**

Community Solar Energy System, Solar Garden, or Solar Farms are large solar energy systems designed with the primary use of generating electricity to the electric transmission grid. Community Solar Energy System, Solar Garden, or Solar Farms are Conditional Uses in all

agricultural, commercial, and industrial zoning districts (excludes residential and office districts), reviewed by the planning commission, and subject to the following standards:

- A. **Process:** Large solar energy system projects shall require prior to construction approval, a site assessment study conducted by a private company independent of the project applicant(s) and/or property owner to determine feasibility, including the project's description identifying the size, rated power output, project life, development phases, likely market for the generated energy; visual impact using renditions or photos; analysis of onsite traffic; environmental analysis including soils, wetlands, surface water, woodlots, historical features, review of potential impacts on wildlife, corridor preservation at the site, and mitigation measures.
  
- B. **Nuisances:** Large solar energy system projects shall not produce glare that is a nuisance to occupants of neighboring properties or persons traveling neighboring roads, or air routes. Noise produced from large solar energy systems shall not exceed 5dBA above ambient sound levels as measured at the property line. Adequate setbacks shall be provided to comply with these limitations.
  
- C. **Property Set-Backs:** Set-Backs shall follow the district's applicable setbacks of the property's principal use. Ground mounted panel systems shall not be located within a FEMA floodplain or designated wetlands, within forty (40) feet of a riparian shoreline, within one hundred fifty (150) of a residential district, and/or within three hundred (300) feet of governmental and/or nongovernmental wildlife management areas, parks, and scenic trail corridors.
  
- D. **Construction Standards:** Project applicant(s) shall submit a site plan, and obtain all pertinent permits from the Township and other applicable government agencies.
  - 1. The maximum property coverage restrictions shall not apply to photovoltaic solar panels. Any other regulated structures on the property are subject to the maximum lot coverage restrictions of the district.
  
  - 2. All electrical interconnection and distribution lines within the project boundary shall be underground, unless determined otherwise by the planning commission because of severe environmental constraints (e.g. wetlands, hard bedrock), except for wiring between panels in a single solar array, and except for power lines that leave the project or are within the substation. All electrical interconnections and distribution components must comply with all applicable codes and public utility requirements.
  
  - 3. Lighting at the facility must be shielded to prevent atmospheric light pollution. Light pole(s) shall not exceed eighteen (18) feet.
  
- E. **Height:** Ground mounted photovoltaic solar panel arrays shall not exceed fourteen (14) feet.
  
- F. **Landscaping:** Ground mounted photovoltaic solar panel arrays shall be screened from view along road and adjacent residences. The Planning Commission may alter the landscaping requirement depending upon the location and existing plant material on the site.
  
- G. **Safety/Access:** Perimeter security fencing is required around the Solar Energy facility and

all electrical equipment. Keys or code access shall be provided for emergency personnel.

1. Owner(s) and/or operator(s) shall identify emergency and normal shutdown procedures.
2. Owner(s) and/or operator(s) shall identify potential hazards including solid and hazardous waste, generated by the project to adjacent properties, roadways, and to the community in general.
3. Plans shall be provided to the Public Safety Department for review of potential hazards/issues.

**H. Telecommunications Interference:** Owner(s) and/or operator(s) shall identify electromagnetic fields and communications interference generated by the project. Adequate setbacks shall be provided to mitigate the interference.

**I. Utilities Interconnection:** No grid-connected photovoltaic system shall be installed until the owner(s) and/or operator(s) submit a completed interconnection agreement with the electric utility in whose service territory the large solar energy system is located.

**J. Project Life and Final Reclamation:** The owner(s) and/or operator(s) shall submit a decommissioning plan for ground-mounted photovoltaic systems to ensure that the owner(s) and/or operator(s) properly remove the equipment and facilities upon the end of the project life or in the event they are not in use for twelve (12) consecutive months. The plan must show a completion date not to exceed eighteen (18) months, and shall include provisions for the removal of all structures and foundations, the removal of all electrical transmission components, the restoration of soil and vegetation and a soundly-based plan ensuring financial resources will be available to fully decommission the site. The Township may require the owner(s) and/or operator(s) to post a bond, letter of credit or establish an escrow account to ensure property decommissioning.

**K. Planning Commission Review:** Due to the ever changing technical capabilities of photovoltaic solar panels and of new technology in general, the Planning Commission shall have the authority to review and consider alternatives in both dimensional requirements as well as physical development requirements found within the Solar Energy Systems Ordinance.

#### **5.26.4 - Effective Date:**

This ordinance shall take effect upon publication following its adoption.