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**810.01 — PURPOSE AND INTENT** This section aims to permit the accommodation of solar energy systems in the Village of Sugar Bush Knolls, Ohio.

#### **810.02 — DEFINITIONS**

- A. "ACCESSORY STRUCTURE" is a structure as defined in Section 101.01 of these Ordinances.
- B. "ALTERNATIVE ENERGY SYSTEMS" are structures, equipment, devices, or construction techniques used for the production of heat, light, cooling, electricity, or other forms of energy on site and may be attached to or separate from the principal structure.
- C. "BUILDING-INTEGRATED PHOTOVOLTAIC (BIPV) SYSTEMS" is a solar energy system that consists of integrating photovoltaic modules into the building structure, such as the roof or the façade and that does not alter the relief of the roof.
- D. "FLUSH-MOUNTED SOLAR PANEL" is a system of photovoltaic panels and tiles that are installed flush to the surface of a roof and that cannot be angled or raised.

- E. “FREE-STANDING PORTABLE SOLAR ENERGY SYSTEM” is a portable solar energy system that is not directly installed in the ground and is not attached or affixed to an existing structure or intended to remain in place permanently.
- F. “NET-METERING” is a billing arrangement that allows solar customers to get credit for excess electricity that is generated and delivered back to the grid so that the homeowner only pays for the net electricity usage at the end of the month.
- G. “PERMIT GRANTING AUTHORITY” for a proposed solar system installation is the Village Planning Commission. If approved, the proposed system must be submitted to the Chief Building Official of Portage County, Ohio for deliberation for a permit for installation.
- H. “POTOVOLTAIC (PV) SYSTEMS” produce electricity by the use of semiconductor devices, called photovoltaic cells that generate electricity whenever light strikes them.
- I. “QUALIFIED SOLAR INSTALLER” is an installing contractor who is approved by the Portage County, Ohio Building Department. Such person must have had adequate training to determine the degree and extent of the hazard and the personal protective equipment and job planning necessary to perform the installation safely. Such training shall include the proper use of special precautionary techniques and personal protective equipment, as well as the skills and techniques necessary to distinguish exposed energized parts from other parts of electrical equipment and to determine the nominal voltage of exposed live parts.
- J. “ROOFTOP OR BUILDING MOUNTED SOLAR SYSTEM” is a solar power system where solar panels are mounted on top of the structure of a roof either as a flush-mounted system or as modules fixed to frames that can be tilted toward the south at an optimal angle.
- K. “SMALL-SCALE SOLAR” refers to solar photovoltaic systems that produce up to ten (10) kilowatts (kW) per hour of energy or solar-thermal systems that serve the building to which they are attached, and do not provide energy for any other building.
- L. “SOLAR COLLECTOR” is a solar photovoltaic cell panel, or array, or solar hot air or water collector device, which relies upon solar radiation as an energy source for the generation of electricity or transfer of stored heat.
- M. “SOLAR ENERGY EQUIPMENT/SYSTEMS” are solar collectors, controls, energy storage devices, heat pumps, heat exchangers, and other materials, hardware or equipment necessary to the process by which solar radiation is collected, converted into another form or energy, stored, protected from unnecessary dissipation and distributed. Solar systems include solar thermal, photovoltaic, and concentrated solar.

- N. “SOLAR PANEL” is a device for the direct conversion of solar energy into electricity.
- O. “SOLAR STORAGE BATTERY” is a device that stores energy from the sun and makes it available in an electrical form.
- P. “SOLAR-THERMAL SYSTEMS” directly heat water or other liquid using sunlight. The heated liquid is used for such purposes as space heating and cooling, domestic hot water, and heating pool water.

#### **810.03 — APPLICABILITY**

- A. The requirements of this Ordinance shall apply to all Small-Scale Solar Energy Systems modified or installed after the effective date of this Ordinance.
- B. All solar energy systems shall be designed, erected, and installed in accordance with all applicable codes, regulations, and standards.
- C. Solar energy collectors shall be permitted only to provide power for use by owners, lessees, tenants, residents, or other occupants of the premises on which they are erected, but nothing contained in this provision shall be construed to prohibit the sale of excess power through a “net-billing” or “net-metering” arrangement.

#### **810.04 — PERMITTING**

- A. No small scale solar energy system or device shall be installed or operated in the Village of Sugar Bush Knolls except in compliance with this article.
- B. Rooftop and Building-Mounted Solar Collectors are permitted in the Village of Sugar Bush Knolls subject to the following conditions:
  - 1. Building permits shall be required for installation of all rooftop and building-mounted solar collectors.
  - 2. Placement of solar collectors on flat roofs shall be allowed as of right, provided that panels do not extend horizontally past the roofline.
- C. Building-Integrated Photovoltaic (BiPV) Systems are permitted outright.
- D. Freestanding portable solar energy systems are not permitted in the Village of Sugar Bush Knolls.
- E. Ground-Mounted and Free-Standing Solar Collectors are not permitted in the Village of Sugar Bush Knolls.

- F. Solar-thermal systems are permitted subject to the following condition: building permits are required for the installation of all solar-thermal systems.

**810.05 — SAFETY**

- A. All solar collector installations must be performed by a qualified solar installer.
- B. Any connection to the public utility grid must be inspected by the appropriate public utility.
- C. Solar energy systems shall be maintained in good working order.
- D. If solar storage batteries are included as part of the solar collector system, they must be placed in a secure container or enclosure when in use and when no longer used shall be disposed of in accordance with the laws and regulations of Portage County and the State of Ohio.
- E. If a solar collector ceases to perform its originally intended function for more than twelve (12) consecutive months, the property owner shall remove the collector, mount, and associated equipment by no later than ninety (90) days after the end of the twelve-month period.

**810.06 — APPEALS**

- A. If an individual is found to be in violation of the provisions of this Ordinance, appeals should be made in accordance with the established procedures of the Village of Sugar Bush Knolls code.
- B. If a building permit for a solar energy device is denied because of a conflict with other goals of the Village of Sugar Bush Knolls, the applicant may seek relief from the Village of Sugar Bush Knolls Planning Commission, which shall regard solar energy as a factor to be considered, weighed, and balanced along with other factors.

**820.00 — GEOTHERMAL ENERGY SYSTEM STANDARDS**

**820.01 — PURPOSE AND INTENT** This section aims to permit the accommodation of geothermal energy systems in the Village of Sugar Bush Knolls, Ohio.

**820.02 — DEFINITIONS** A geothermal energy system is one that derives its heat energy from the earth.

### **820.03 — APPLICABILITY**

- A. The requirements of this Ordinance shall apply to all geothermal energy systems modified or installed after the effective date of this Ordinance.
- B. All geothermal energy systems shall be designed, erected, and installed in accordance with all applicable codes, regulations, and standards.
- C. Geothermal energy collectors shall be permitted only to provide power for use by owners, lessees, tenants, residents, or other occupants of the premises on which they are erected, but nothing contained in this provision shall be construed to prohibit the sale of excess power through a “net billing or “net-metering” arrangement.

### **820.04 — PERMITTING**

- A. No geothermal energy system shall be installed or operated in the Village of Sugar Bush Knolls except in compliance with this article.
- B. A building permit and zoning permit shall be obtained for any ground source heat pump system prior to installation or usage.
- C. The installation and construction of a geothermal energy system, referred to as a ground source heat pump system, shall be subject to the following development and design standards:
  - 1. Location Ground source heat pump systems in accordance with the standards in this section are allowed as a permitted accessory use.
  - 2. Ground source heat pump systems shall adhere to the accessory use standards set forth in Sections 105.04B. unless modified by this section. A ground source heat pump system shall not count toward the maximum number of permitted accessory uses allowed on a single parcel.
  - 3. System Requirements Only closed loop ground source heat pump systems utilizing heat transfer fluids as defined in this Zoning Code are permitted. Open loop ground source heat pump systems are not permitted.
  - 4. Setbacks
    - a. All components of ground source heat pump systems including pumps, borings, and loops shall be set back at least five (5) feet from interior side lot lines and at least ten (10) feet from rear lot lines.

- b. Above-ground equipment associated with ground source heat pumps shall not be installed in the front yard of any lot or the side yard of a corner lot adjacent to a public right-of-way and shall meet all required setbacks for the applicable zoning district for an accessory use.
- 5. Easements Ground source heat pump systems shall not encroach on public or private drainage, utility, or roadway easements.
- 6. Noise Ground source heat pump systems shall comply with performance standards set forth in these Ordinances.

**820.05 — SAFETY**

- A. Safety Ground source heat pumps shall be certified by Underwriters Laboratories, Inc. and meet the requirements of the State of Ohio Basic Building Code.
- B. System Abandonment If the ground source heat pump system remains nonfunctional or inoperative for a continuous period of one (1) year, the system shall be deemed to be abandoned and shall constitute a violation of these Ordinances. The owner shall remove the abandoned system at his expense after a demolition permit has been obtained in accordance with the following:
  - 1. The heat pump and any external mechanical equipment shall be removed.
  - 2. Pipes or coils below the land surface shall be filled with grout to displace the heat transfer fluid. The heat transfer fluid shall be captured and disposed of in accordance with applicable regulations. The top of the pipe, coil, or boring shall be uncovered and grouted.
  - 3. Lake ground source heat pump systems shall be completely removed from the bottom of the body of water.

**820.06 — APPEALS**

- A. If an individual is found to be in violation of the provisions of these Ordinances, appeals should be made in accordance with the established procedures of the Village of Sugar Bush Knolls Ordinances.
- B. If a building permit for a geothermal energy device is denied because of a conflict with other goals of the Village of Sugar Bush Knolls, the applicant may seek relief from the Village of Sugar Bush Knolls Planning Commission that shall regard geothermal energy as a factor to be considered, weighed, and balanced along with other factors.

## **830.00 — WIND ENERGY SYSTEMS STANDARDS**

### **830.00 — WIND ENERGY SYSTEMS STANDARDS**

No wind energy systems of any kind are permitted in the Village of Sugar Bush Knolls.

As technologies advance for capturing energy from wind sources, residents are encouraged to bring new developments to the Village Council for discussion and possible adoption as a permitted energy source, providing the new technology meets aesthetic guidelines and noise restrictions.

## **840.00 — OUTDOOR HYDRONIC FURNACES STANDARDS**

### **840.00 — OUTDOOR HYDRONIC FURNACES STANDARDS**

No outdoor hydronic furnaces of any kind are permitted in the Village of Sugar Bush Knolls.

If technologies improve for outdoor hydronic furnaces, residents are encouraged to bring new developments to the Village Council for discussion and possible adoption as a permitted energy source, providing the new technology meets aesthetic and environmental guidelines and noise restrictions.