

ORDINANCE NO: 2023-BC-O-25

**AN ORDINANCE OF THE MADISON COUNTY BOARD OF  
COMMISSIONERS AMENDING SOLAR ENERGY STANDARDS IN MADISON  
COUNTY AND REPEALING ALL ORDINANCES AND PARTS OF  
ORDINANCES IN CONFLICT THEREWITH**

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**WHEREAS**, the Madison County Board of Commissioners (hereinafter "Commissioners") has adopted, pursuant to I.C. §36-7-4-602, a Zoning Ordinance (hereinafter "Zoning Ordinance"), which specifies the intent, permitted uses, special uses, development standards, and other information concerning various land use districts in Madison County; and,

**WHEREAS**, on January 17, 2017, the Commissioners adopted Ordinance 2017-BC-O-01, which established solar energy standards in Madison County; and,

**WHEREAS**, since the adoption of Ordinance 2017-BC-O-01, Madison County, has been presented with substantial information concerning the implementation of solar energy systems in the County. The wealth of information has been garnered through solar energy related petitions filed with the Planning Department, public hearings conducted by the Plan Commission and Board of Zoning Appeals, public information meetings led by the Planning Department, as well as the expertise of former and current Madison County Planning Directors; and,

**WHEREAS**, based on the information received, the Commissioners deem it necessary to update Madison County's Solar Energy Standards by repealing Ordinance 2017-BC-O-01 and adopting an Ordinance which incorporates the abovementioned information, which promotes and encourages the use of solar energy systems, while also preserving and protecting the health and safety of Madison County citizens; and,

**WHEREAS**, the Commissioners hereby find that, based on the above-described information, that the provisions of this Ordinance contain reasonable restrictions on solar use which restrictions do not significantly increase the cost of solar energy systems or significantly decrease their efficiency, or in the alternative, the restrictions enumerated herein allow for an alternative system of comparable cost and efficiency; and,

**WHEREAS**, the Plan Commission, on November 14, 2023. conducted a duly noticed public hearing to receive public input on this ordinance, which resulted in the Plan Commission issuing a favorable / neutral / unfavorable recommendation to the Commissioners.

**NOW THEREFORE BE IT ORDAINED** by the Madison County Board of Commissioners that Ordinance 2017-BC-O-01 is hereby repealed in its entirety, and the following is hereby established as Madison County's Solar Energy Standards.



## **SOLAR ENERGY CONVERSION SYSTEMS**

A. **PURPOSE.** This Zoning Code is adopted for the following purposes:

1. To assure that any development and production of solar-generated electricity in Madison County is safe and effective;
2. Meet the goals of the community as expressed in the 2035 Forward Madison County Comprehensive Plan, including specifically: (1) protecting farmland to preserve its agricultural use; (2) maintain aesthetics for the preservation of the rural character in the unincorporated areas and protect the associated agricultural heritage; and, (3) support the growth of agriculture as a vital element of economic development;
3. Encourage use of industrial rooftops and non-productive land including brownfields to protect prime farmland;
4. To facilitate economic opportunities for Madison County and its residents;
5. To assist in the reduction of carbon-based emissions; the dependence of petroleum and coal-based energy systems;
6. To develop standards for solar-generated energy, utilize natural resources and ecologically sound energy resources, support Indiana's renewable energy source potential and other economic development tools; and,
7. To provide a regulatory scheme for the construction and operation of Solar Energy Facilities in Madison County, subject to reasonable restrictions, to preserve the public health, safety, and general welfare.

B. **INTENT**

It is the intent of this ordinance to provide guidance for the development, construction and operation of Solar Energy Systems (SESS) in Madison County, Indiana through reasonable guidelines and restrictions on the development, construction, operation, rehabilitation, decommissioning and restoration of SES, and to preserve the health, safety and general welfare of Madison County residents and public. The ordinance embraces the spirit of the following statement from the American Planning Association:

“Solar facilities can be appropriately located in areas where they are difficult to detect, the prior use of the land has been marginal, and there is no designated future use specified (i.e., not in growth areas, not on prime farmland, and not near recreation- or historic areas). A solar facility located by itself in a

rural area, close to major transmission lines, not prominently visible from public rights-of-way or adjacent properties, and not located in growth areas, on prime farmland, or near cultural, historic, or recreational sites may be an acceptable land use with a beneficial impact on the community.”

If any provision of this ordinance, or application thereof against any party whatsoever, is held invalid by any court or administrative agency, the remainder of the ordinance, and the application of such provision to other parties, shall not be affected thereby. The provisions of this ordinance are declared to be severable.

As intended in this ordinance, SES consists of the following: Solar Energy System (SES) – the components and subsystems required to convert solar energy into electric or thermal energy suitable for use. The area of the system includes all the land inside the perimeter of the system, which extends to any fencing, buffer, and landscaping. The term applies, but is not limited to, solar photovoltaic (PV) systems, solar thermal systems, and solar hot water systems.

Systems governed by this ordinance fit into one of four system types:

- Noncommercial (NC-SES) (5 acres or less and/or less than 1 MW/ac);
- Commercial small scale (includes commercial building solar) (CS-SES) (5 acres maximum and less than 1 MW/ac unless the building is larger than 5 acres in which case the commercial scale operation can exceed 5 acres and be subject to any limitation that may be cited as conditional to approval by the Madison County Board of Zoning Appeals;
- Commercial – medium scale (CM-SES) (6 to 75 acres including required buffers and/or more than 1 MW/ac and less than 15MW/ac); and,
- Commercial – large scale (CL-SES) (76 to 400 acres including required buffers and/or greater than 16 MW/ac)

No unique SES project, either singly or as a combination of contiguous parcels, shall exceed 400 acres including required buffers. (Note, the average farm in Madison County is approximately 312 acres per the National Agricultural Statistical Service.) A three-mile neutral zone is required between unique SES projects.

The maximum duration of a special use will be 30 years and after the end of the special use permit, the permit will expire.

## C. DEFINITIONS

**Adjacent:** Lying near, close; contiguous; adjoining; neighboring.

**Adjoining:** Being in contact at some point or line; contiguous; bordering.

**Accessory Use:** A use customarily incidental and subordinate to the primary use or building and located on the same lot therewith. A use which dominates the primary use or building in area, extent, or purpose shall not be considered an accessory use.

**Applicant:** The owner, owners, or legal representative of real estate who makes application to Madison County affecting the real estate owned thereby.

**Battery Back-Up:** A battery system that stores electrical energy from a solar PV system, making the electricity available for future use. Battery Back-Up systems are common in Off-Grid Systems and Hybrid Systems.

**Building Integrated Photovoltaic System:** A combination of photovoltaic building components integrated into any building envelope system such as vertical facades including glass and other façade material, semi-transparent skylight systems, roofing materials, and shading over windows.

**Concentrated Solar Thermal Power (CST):** Solar Energy Systems that use lenses or mirrors, and often tracking systems, to focus or reflect a large area of sunlight into a small area. The concentrated energy is absorbed by a transfer fluid or gas and used as a heat source for either a conventional power plant, such as a steam power plant, or a power conversion unit. Although several concentrating solar thermal technologies exist, the most developed types are the solar trough, parabolic dish, and solar power tower.

### **Electric and Magnetic Fields (EMF):**

According to the National Institute of Environmental Health Sciences, electric and magnetic fields (EMFs) are invisible areas of energy, often referred to as radiation, that are associated with the use of electrical power and various forms of natural and man-made lighting. EMFs are typically grouped into one of two categories by their frequency (below). It should be noted that Solar Panels are classified as Ionizing.

- Non-ionizing: low-level radiation which is generally perceived as harmless to humans.

- **Ionizing:** high-level radiation which has the potential for cellular and DNA damage.

**Electricity Generation (also known as production, output):** The amount of electric energy produced by transforming other forms of energy, commonly expressed in kilowatt-hours (kWh) or megawatt- hours (MWh).

**Electrical Equipment:** Any device associated with a solar energy system, such as an outdoor electrical unit/control box, that transfers the energy from the solar energy system to the intended on-site structure.

**Financial Assurance/Commitment:** The sources of private or public funds or combinations thereof that have been identified which will be sufficient to finance public facilities or private development necessary to support development and that there is reasonable assurance that such funds will be timely put to that end. Examples include a surety bond, cash escrow, irremovable lever of credit or combinations thereof.

**Ground-Mount System:** A solar energy system that is directly installed on specialized solar racking systems, which are attached to an anchor in the ground and wired to connect to an adjacent home, building or utility. Ground-mount systems may be applicable when insufficient space, structural and shading issues or other restrictions prohibit rooftop solar.

**Hybrid Solar Photovoltaic Systems (aka grid-tied PV with battery back-up):** Solar photovoltaic electricity generation systems designed to serve the electrical needs of the building to which it is connected, thus offsetting a home or business's electricity usage, while also utilizing a battery back-up in the event of a power outage. This is the only system that provides the ability to have power when the utility grid is down. Typical system components include PV panels, inverter(s) and required electrical safety gear, battery bank, and a charge controller.

**International Residential Code (IRC):** Part of the International Building Code (IBC), the IRC sets building standards for residential structures.

**Inverter:** A device that converts the direct current (DC) electricity produced by a solar photovoltaic system to usable alternating current (AC).

**Megawatt (MW):** Equal to 1000 Kilowatts; a measure of the use of electrical power.

**Megawatt AC (MWac):** One Megawatt alternating current (the capacity of the inverters and the max that can be output onto the grid).

**Megawatt DC (MWdc):** One Megawatt direct current (the total capacity of the panels)

**Megawatt-hour (MWh):** A unit of energy equivalent to one Megawatt (1 MW) of power expended for one hour of time.

**National Electric Code (NEC):** Sets standards and best practices for wiring and electrical systems.

**Net Metering:** A billing arrangement that allows customers with grid-connected solar electricity systems to receive credit for any excess electricity generated on-site and provided to the utility grid.

**Off-Grid Solar Photovoltaic Systems with battery back-up:** Solar photovoltaic electricity systems designed to operate independently from the local utility grid and provide electricity to a home, building, boat, RV (or remote agricultural pumps, gates, traffic signs, etc.). These systems typically require a battery bank to store the solar electricity for use during nighttime or cloudy weather (and/or other back-up generation). Typical system components include PV panels, battery bank, a charge controller, inverter(s), required disconnects, and associated electrical safety gear.

**Opacity:** The state or quality of being opaque; the degree to which something is opaque.

**Opaque:** Not transparent or translucent; impenetrable to light; not allowing light to pass through. As applied to this ordinance, it refers to completely excluding visual contact (100% opacity) with solar panels and equipment.

**Operator:** The entity responsible for the day-to-day operation and maintenance of the SES, including any third-party contractors.

**Owner:** The entity or entities with an equity interest in the SES(s), including their respective successors and assigns. Owner does not mean (i) the property owner from whom land is leased for locating the SES (unless the property owner has an equity interest in the SES or (ii) any person holding a security interest in the SES solely to secure an extension of credit, or a person foreclosing on such security interest provided that after foreclosure, such person seeks to sell the SES within one year of such event.

**Passive Solar:** Techniques, design, and materials designed to take advantage of the sun's position throughout the year (and the local climate) to heat, cool, and light a building with the sun. Passive solar incorporates

the following elements strategically to maximize the solar potential of any home or building (namely, maximizing solar heat gain in winter months and minimizing solar heat gain in summer months to reduce heating/cooling demand and maximizing the use of daylight to reduce demand for electricity for lighting): strategic design and architecture, building materials, east west and building lot orientation, windows, landscaping, awnings, and ventilation.

**Photovoltaic (PV) System:** A solar energy system that produces electricity using semiconductor devices, called photovoltaic cells, which generate electricity when exposed to sunlight. A PV system may be roof-mounted, ground-mounted, or pole-mounted.

**Prime Farmland:** Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, other land, but it is not urban or built-up land or water areas. The soil quality, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management and acceptable farming methods are applied.

**Engineer:** A qualified individual who is licensed as a professional engineer in any state in the United States.

**PV-Direct Systems:** The simplest of solar photovoltaic electric systems with the fewest components (no battery back-up and not interconnected with the utility) designed to only provide electricity when the sun is shining. Typical system components include PV panels, required electrical safety gear, and wiring.

**Racking:** Solar energy systems are attached securely and anchored to structural sections of the roof-mounted or pole-mounted systems. Specially designed metal plates called flashings prevent leaks and are placed under shingles and over bolts to create a water-tight seal.

**Roof-Mount System (aka roof-mounted, building-mounted):** A solar energy system consisting of solar panels are installed directly on the roof of a home, commercial building, and/or an accessory structure, such as a garage, pergola, and/or shed. Solar panels are mounted and secured using racking systems specifically designed to minimize the impact on the roof and prevent any leaks or structural damage. Roof-mount systems can be mounted flush with the roof or tilted toward the sun at an angle.

**Setbacks:** Setback is the required distance from the property line or roadway any structure must be located, including proposed thoroughfare plan ROW's where applicable.

**Solar Access:** The ability of one property to continue to receive sunlight across property lines without obstruction from another's property that contains buildings, foliage, or another impediment.

**Solar Array:** Multiple solar panels combined to create one system.

**Solar Collector:** A solar PV cell, panel, or array, or solar thermal collector device, that relies upon solar radiation as an energy source for the generation of electricity or for the transfer of stored heat.

**Solar Easement:** An easement recorded pursuant to IC 32-23-4, obtained for the purpose of ensuring exposure of a solar energy device or a passive solar energy system to the direct rays of the sun. Solar Easements are further described and regulated in Ordinance 16.8.B.e & Ordinance 16.11.G . Solar easements are to follow the State requirements of Recording (IC 32-23-2-5).

**Solar Energy System (SES):** The components and subsystems required to convert solar energy into electric or thermal energy suitable for use. The area of the system includes all the land inside the perimeter of the system, which extends to any fencing, buffer yard, and landscaping. The term applies, but is not limited to, solar photovoltaic (PV) systems, solar thermal systems, and solar hot water systems.

**Solar Glare:** The potential for solar panels to reflect sunlight, with intensity sufficient to cause annoyance, discomfort, or loss in a visual performance and visibility.

**Solar photovoltaic (Solar PV) System:** Solar systems consisting of photovoltaic cells, made with semiconducting materials, that produce electricity in the form of direct current (DC) when they are exposed to sunlight. A typical PV system consists of PV panels (or modules) that combine to form an array. Other system components may include racks and hardware, wiring for electrical connections, power conditioning equipment, such as an inverter and/or batteries.

**Solar Panel (or module):** A device for the direct conversion of sunlight into usable solar energy (including electricity or heat).

**Solar Thermal System (aka Solar Hot Water or Solar Heating Systems):** A solar energy system that directly heats water or other liquid using sunlight. Consists of a series of tubes that concentrate light to heat



either water or a heat-transfer fluid (such as food-grade propylene glycol, a non-toxic substance) in one of two types of collectors (flat-plate collectors and evacuated tube collectors). The heated liquid is used for such purposes as space heating and cooling, domestic hot water, and heating pool water.

**Substation:** The apparatus that connects the electrical collection system of the SES and increases the voltage with connection with the utility's transmission lines.

**Waiver Agreement:** An agreement to modify a standard required in this ordinance which is entered into by and between the landowner burdened by lessening the standard required by this Ordinance and the applicant requesting the modification of the standard required by this Ordinance. An agreement to modify a standard required by this Ordinance, or a "waiver agreement", is permissible only when a waiver of such standard is specifically authorized by this Ordinance. In order to be valid, a "waiver agreement" must: (1) Be in writing; (2) Specifically state that the document is a waiver agreement; (3) Briefly describe the standard or requirement which is being modified; (4) Briefly describe the standard agreed upon by the parties to the waiver agreement; (5) Be executed in a manner free from coercion or duress; (6) Be executed by both parties to the waiver agreement; (7) Be subject to the approval of the Executive Director; and (8) Filed with the Planning Department.

**Watts (W):** A measure of the use of electrical power; [power (Watts) = voltage (volts) x current (Amps) or by the formula  $W=VA$ ].

#### D. APPLICABILITY

This Ordinance governs the siting, development, operation, rehabilitation, decommissioning and restoration of Solar Energy Systems (SES), which generate electricity to be sold in the wholesale market or retail market, or which are used to generate electricity for private use, commercial use, and public use. This ordinance applies to all unincorporated areas of the County.

1. When any part of the development, construction, rehabilitation, operation, decommissioning or restoration of a SES requires action, recommendations, hearing and/or decision pursuant to the provisions of the Land Use and Development Code of Madison County, Indiana (Zoning Ordinance), notice shall be given pursuant to the Zoning Ordinance of the Plan Commission of Madison County, Indiana (MCPC) and the Rules & Procedures of the Board of Zoning Appeals of Madison County, Indiana (BZA).

2. Provisions of this Ordinance or other parts of the Zoning Ordinance which are specifically made applicable to a specific type of SES such as Noncommercial (NC-SES), Small- Scale Commercial (CS-SES), or Medium- or Large-Scale Commercial (M/CL-SES), shall apply to that type of SES. Provisions without reference to a specific type of SES, shall apply to all SESs unless determined otherwise by the Executive Director.

**E. EXEMPTIONS**

1. A roof-mounted NC-SES or any stand-alone systems (e.g., a flagpole light, single solar lights, etc.) with an aggregate collection and/or focusing area of 8 square feet or less are exempt from this ordinance.

2. SES constructed prior to the effective date of this Ordinance shall not be required to meet the terms and conditions of this Ordinance. Any physical modification to an existing SES, whether it was built before the effective date must be approved by the Executive Director. Routine maintenance or like-kind replacements do not require a permit.

**F. PROHIBITION**

No applicant or entity shall construct, operate, or locate within the unincorporated areas of Madison County a Solar Energy System without having fully complied with the provisions of this Ordinance.

**G. CONFLICT WITH OTHER REGULATIONS**

Nothing in this Ordinance is intended to preempt other applicable state and federal laws or regulations, including compliance with all Federal Aviation Administration rules and regulations and shall comply with the notification requirements of the FAA; nor are they intended to interfere with, abrogate, or annul any other ordinance, rule, or regulation, statute or other provision of law.

In the event, that any provision of these regulations imposes restrictions different from any other ordinance, rule, regulation, statute, or provision of law, the provisions that are more restrictive or that impose higher standards shall govern.

**H. PETITIONS AND APPLICATIONS**

Non-commercial and small commercial SES can be approved by the planning office based on information provided in the Improvement Location Permit in use at the time. (ILP)Medium-scale commercial projects (CM-SES) must be approved for a special use by the Board of Zoning Appeals prior to issuing a building permit. Large-scale commercial projects (CL-SES) projects must be on property zoned "High Impact District" and forwarded to the Board of Zoning

Appeals for a special use petition to be heard at a public hearing. Any project except for a noncommercial (NC-SES) requires a pre-project meeting with the Executive Director. Specific filing requirements will be provided at that time.

Prior to the issuance of an improvement location permit, applicants must acknowledge in writing that the issuing of said permit for a solar energy system shall not and does not create in the property owner, its, his, her or their successors and assigns in title or, create in the property itself: (a) the right to remain free of shadows and/or obstructions to solar energy caused by development of adjacent or other property or the growth of any trees or vegetation on such property, or (b) the right to prohibit the development on or growth of any trees or vegetation on such property.

This disclaimer is subordinate to any solar easements entered into with adjacent landowners and subject to the terms agreed to therein.

## **I. TECHNICAL REQUIREMENTS**

### **1. Noncommercial (NC-SES)/Commercial Small (CS-SES)**

#### **A. Safety Design and Installation Standards for Noncommercial and Commercial Small Solar Energy Systems (NC-SES) and Fees**

##### **1. Interference:**

When selecting a site for solar panels, all applicants shall take into consideration the potential maximum allowable structure height and possible landscaping of the adjacent properties to avoid interference and potential loss of efficiency from the sun to the solar panel surface.

##### **2. Roof-mounted and Wall-mounted NC-SES and CS-SES are a permitted accessory use in all zoning districts under the following requirements:**

- a. A roof-mounted or wall-mounted NC-SES and CS-SES may be located on a principal or accessory building.
- b. Roof-mounted solar panels installed on a building or structure with a sloped roof shall not project vertically more than the height requirements for the district in which they are located. The panels shall not be located within three (3) feet of any peak, eave, or valley of the roof to maintain pathways of accessibility.
- c. Wall-mounted NC-SES and CS-SES shall comply with the setbacks for principal and accessory structures in the underlying zoning districts.

d. Roof-mounted and wall-mounted NC-SES and CS-SES may be installed on legal nonconforming buildings if the installation of the SES does not increase the nonconformity.

e. Parcels with a residential use in a commercial or industrial zone district (HC, LC, GC, LI, GI, HI) shall conform to the developmental standards of the residential zone districts (R1, R2, R3, MR, MH) as determined by the Executive Director to be the current use on the property.

f. Roof-mounted solar panels shall be located only on rear or side-facing roofs as viewed from any adjoining street unless the applicant demonstrates to the Director that, due to solar access limitations, no location exists other than the street-facing roof, where the solar energy system can perform effectively.

g. For roof and wall-mounted systems, the applicant shall provide evidence that the roof or wall can hold the load imposed on the structure.

h. Roof and wall-mounted NC-SES and CS-SES shall be in such a manner as to ensure emergency access to the roof, provide pathways to specific areas of the roof, and provide for smoke ventilation opportunities. Roof and wall-mounted NC-SES and CS-SES shall be in accordance with the Indiana Fire Code.

### **3. Ground-Mounted NC-SES**

#### **a. Setback**

- The minimum yard setbacks from front, side, and rear property lines shall be equivalent to the building setback in the zoning district.
- Ground-mounted NC-SES and CS-SES shall only be permitted in the rear and side yard.
- No part of an NC-SES and CS-SES shall be located in front of the Primary Structure.

b. Ground-mounted NC-SES and CS-SES shall not exceed 15 feet in height above the ground elevation surrounding the systems. In residential zone districts the maximum height of a ground-mounted NC-SES shall be 10 feet.

c. Safety/warning signage as required by applicable law concerning voltage shall be placed at ground-mounted electrical devices, equipment, and structures.

d. Ground-mounted NC-SES and CS-SES shall not be placed within any legal easement or right-of-way location or placed within any storm water

conveyance system or in any other manner that would alter or impede stormwater runoff from collecting in a constructed storm water conveyance system except by permission granted in writing by the County Drainage Board.

e. Parcels with a residential use in a commercial or industrial zone district (HC, LC, GC, LI, GI, HI) shall conform to the developmental standards of the residential zone districts (R1, R2, R3, MR, MH) as determined by the Executive Director to be the current use on the property.

#### **4. Electrical Components**

##### **a. Standards**

Electrical components shall conform to applicable local, state, and national safety codes for similar systems.

b. All on-site utility, transmission lines, and plumbing shall be placed underground in compliance with all laws and applicable regulations.

c. When solar storage batteries are included as part of the solar energy collector system, they must be placed in a secure container or enclosure meeting the requirements of the Indiana Building Code and IDEM regulations when in use and when no longer used shall be disposed of in accordance with all applicable laws and regulations.

#### **5. Utility Interconnection**

An NC-SES and CS-SES, if interconnected to a utility system, shall meet the requirements for interconnection and operate as required by applicable law.

#### **6. Color, Finish and Glare**

a. To the extent reasonably possible, solar energy panels, regardless of how they are mounted, shall be oriented and/or screened year-round so that glare is directed away from adjacent properties and streets.

b. To the extent reasonably possible, NC-SES and CS-SES shall be designed using such features as colors, materials, textures, screening, and landscaping to blend into their settings and avoid visual blight. The NC-SES and CS-SES shall remain painted or finished in the color or finish that was originally applied by the manufacturer. The exterior surface of any visible components shall be non-reflective, neutral color like white, gray or another non-obtrusive color. Finishes shall be matte or non-reflective.

c. The property owner has the burden of mitigating any glare produced so as not to have significant adverse impact on adjacent uses. Mitigation

is accomplished by siting, panel orientation, landscaping and/or other means. The determination of the Executive Director shall be conclusive relative to the property owner's compliance with this standard.

## **7. Signage**

No portion of the NC-SES and CS-SES shall contain or be used to display advertising. The manufacturer's name and equipment information or indication of ownership shall be allowed on any equipment of the NC-SES and CS-SES provided they comply with Ordinance 7 of the Ordinance. Appropriate Warning signs will be allowed.

## **8. Solar Easements**

a. Where a subdivision or land development proposes a NC-SES and CS-SES, solar easements may be provided. Said easements shall be in writing and shall be subject to the same conveyance and instrument recording requirements prescribed in IC32-23-2-5 or subsequent amendment(s).

b. Any such solar easements shall be appurtenant; shall run with the land benefited and burdened; and shall be defined and limited by conditions stated in the instrument of conveyance. Instruments creating a solar easement shall meet the requirements of IC 32-23-4.4 and 4.5 and include but not be limited to the following:

- A description of the dimensions of the easement including vertical and horizontal angles measured in the degrees at which the solar easement extends over the real property that is subject to the solar easement, and a description of the real property to which the solar easement is appurtenant.
- Restriction on the placement of vegetation, structures, and other objects which may impair or obstruct the passage of sunlight through the easement;
- Terms and conditions, if any, under which the easement may be revised or terminated;
- An explanation of the compensation for the owner of the real property subject to the solar easement for maintaining the easement and for the owner of the real property benefiting from the solar easement in the event of interference with the easement.

## 9. Fees

### a. Roof-mounted and wall-mounted Solar Improvement Location Permit

- Noncommercial - \$125.00
- Commercial Small - \$250

### b. Ground-mounted Solar Improvement Location Permit

- Noncommercial - \$200.00
- Commercial - \$325.00

## 2. Commercial Solar Energy Systems (APPLIES TO CM-SES AND CL-SES)

### A. Prime Farmland

No more than 10% of a CM- or CL-SES may be located on Prime Farmland as designated on the Soil Data Access (SDA) Prime and other Important Farmlands report for Madison County in the "Farm Class" column as "All areas are prime farmland" or "Farmland of statewide importance", and as indicated "Prime Farmland" (in light green) on the map in Appendix B. A letter from the Madison County Natural Resources Conservation Service (NRCS) or another qualified source stating that no more than 10% of the proposed project is on Prime Farmland shall be included with the Improvement Location Permit and project application. Madison County reserves the right to use its own Geographic Information System mapping to verify the stated percentage.

### B. Property Value Guarantee Agreements

Property Value Guarantee will be offered by the solar developer to all non-participating residents and landowners within three miles of a CM and CL-SES. Fair market value will be established by, at a minimum, two licensed appraisers acceptable to both the developer and the county. If the property value of a home decreases and a home or landowner is unable to sell his property after the CM or CL SES is erected, the developer will pay that landowner the difference or buy the property at the baseline fair market value determined prior to construction of the SES.

No permit for construction shall be given by any department until all property value guarantee agreements have been filed with the Madison County planning department. A surety bond shall be provided in the amount of three percent of the assessed value of all properties within three miles of any part of the solar facility for the life of the project. The surety bond shall be used to pay for appraisals, cover decreases in value of affected homes, buyouts, and other uses to achieve the goals of this section.

## **C. Safety, Design, and Installation Standards for Commercial Solar Energy Systems**

### **1. Zoning**

The CM-SES requires a Special Use from the Board of Zoning Appeals and can be located on parcels located in any district identified in Appendix A as allowing the SES through a special exception. The CL-SES must be in a HI zone district and approved for a special use from the Board of Zoning Appeals.

### **2. Setbacks and Siting of Facilities**

#### **a. Setbacks**

Minimum setbacks are identified and measured from the center line of the road right-of-way (ROW) or the property line where there is no ROW present.

Setbacks are as follows:

- NC-SES and CS-SES - same as the zoning district
- CM-SES - 400' from any adjoining road or from the property line of a non-participating homeowner to the beginning of the project.
- CL-SES - 450' from any adjoining road or from the property line of a non-participating homeowner to the beginning of the project.
- Setbacks apply to the entire SES including solar panels, racking, underground cabling, fencing, access roads/lanes, ingress/egress roads, and other power equipment.

Increased setbacks (i.e., greater than those for the zoning district) only apply to non-participating homeowners in the vicinity of a proposed solar project and do not apply to parcels of vacant farmland. Such vacant farmland shall follow the Typical Setbacks of their Zoning District. Adjacent land/homeowners may waive the setback requirements by execution of a Waiver Agreement.

#### **b. Substation Setbacks**

The substation setbacks shall be the same as those of the SES. An adjacent landowner may waive this setback requirement by execution of a waiver agreement.



c. Poles and Underground Wiring

For all poles carrying overhead wiring and for any underground wiring connecting the racks and components of a SES and/or to connect a SES to a substation for connection to or other direct connection to a utility's electric transmission line, there are no setback requirements from property lines of adjoining landowners so long as the poles and underground wiring are located within a recorded easement for such purpose.

d. Easements

Ground-mounted SES shall not be placed within any legal easement or right-of-way location, or be placed within any storm water conveyance system, regulated drain easement, special flood hazard area, or in any other manner that would alter or impede storm water runoff from collecting in a constructed storm water conveyance system except by written permissions granted by the Madison County Drainage Board, and owner of the land and/or right-of-way and/or easement. This would include but not be limited to state, county, and/or privately owned waterways, ditches, drainage tiles, retention areas and designated swales.

e. Inverters

Any inverter shall be a minimum of seven hundred fifty (750) feet from any dwelling and encapsulated.

f. Roads and Drives

Driveway cuts for ingress/egress roads into a SES shall be no closer than 300 feet from the property line of an adjoining landowner.

g. Horizontal Extension of SES

The furthest horizontal extension of a SES, excepting the SES collection system, SES transmission lines, ingress/egress road and SES access roads/lanes, shall not extend into a setback which is otherwise required for the zoning district in which the SES is located or into a required buffer yard or into a setback required for an adjacent zoning district nor be less than fifteen (15') feet from any structure or public right-of-way easement for any above-ground telephone line, electrical transmission line, electrical distribution line or other above ground communication or transmission line.

h. Enclosure Guarantee

No SES shall enclose no more than two sides of a non-participating residential property.

**3. Equipment type**

a. All SES shall be constructed of commercially available equipment and conform to applicable industry standards, as well as all local state and federal regulations. All panel brands and models used must have a full Toxicity Characteristic Leaching Procedure (TCLP) test showing that the proposed model of panels will not be considered hazardous waste at the end of life of the panel. Panels may not include Gen-X chemicals, P-FAS compounds, or heavy metals that are exposed to precipitation.

b. When solar storage batteries are included as part of the solar energy collector system, they must be placed in a secure container or enclosure meeting the requirements of the Indiana Building Code and IDEM regulations when in use and when no longer used shall be disposed of in accordance with all applicable laws and regulations.

**4. Electrical components**

a. Standards

Electrical components of all SES shall conform to applicable local, state, and national safety codes for similar SES.

b. Cables and lines

All cables and lines on site, except transmission cables and lines, shall be buried no less than thirty-six (36") inches underground. Transmission cables and lines shall be buried no less than sixty (60") inches underground with a warning mesh located at thirty-six inches (36") deep.

No plow type installations are permitted, only open trenching or boring installations. All underground cabling will be marked at road crossings, creeks, riverbeds and property lines with a metal or fiberglass post at least five (5) feet in height.

c. Battery Storage requires a separate permit from the Planning Department.

## **5. Foundations**

A qualified engineer shall certify, prior to application for building permits, that the foundation and design of the solar panel racking, and support is within accepted professional standards, given local soil and climate conditions.

## **6. Color, finish, and glare**

In addition to any applicable Federal Aviation Administration (FAA) requirements that now exist and the same are amended from time to time, the following shall also apply:

- a. The SES shall remain painted or finished in the color or finish that was originally applied by the manufacturer provided the exterior surface of any visible components are non-reflective, a neutral color like white, gray or another non-obtrusive color. Finishes shall be matte or non-reflective.
- b. To the extent reasonably possible, solar energy panels, regardless of how they are mounted, shall be oriented and/or screened year-round so that glare is directed away from adjacent properties, structures, and roadways.
- c. The applicant has the burden of proving that any color, finish, or glare produced does not have significant adverse impact on adjacent uses either through siting or mitigation.

## **7. Materials handling, storage, and disposal**

### **a. Solid wastes:**

All solid wastes whether generated from supplies, equipment, parts, packaging, operation, maintenance, rehabilitation, decommissioning, restoration of the facility, or otherwise, including, but not limited to, old parts and equipment related to the maintenance, rehabilitation, decommissioning, or restoration of any, shall be removed from the site promptly and disposed of in accordance with all federal, state, and local regulations, laws, and ordinances. The SES owner and SES operator shall have the same responsibility for compliance hereof.

b. Hazardous materials

All hazardous materials or hazardous waste related to the construction, operation, maintenance, rehabilitation, decommissioning, or restoration of any SES or otherwise generated by the facility shall be handled, stored, transported, and disposed of in accordance with all applicable local, state, and federal regulations and laws. The SES owner and the SES operator shall have the same responsibility for compliance hereof.

**8. Sewer and water**

All SES facilities shall comply with the septic system and well regulations as currently required or as hereinafter amended, of the Madison County Health Department and the State of Indiana Department of Public Health.

**9. Utility interconnection**

A SES, if interconnected to a utility system, shall meet the requirements for interconnection and operate as prescribed by the interconnection agreement with the electrical utility, as any applicable federal and state regulations now exist and as the same are from time to time amended.

**10. Signage**

Signs shall comply with the Sign Standards provided in the Madison County Code of Ordinances.

a. Development Signs

An identification sign relating to a SES may be located on each side of the fenced facility area provided that there shall be no more than one (1) sign located on any side of the SES fenced facility area unless additional identification signs are required to provide reasonable notice to the general public.

b. A sign shall be securely posted on each gate entry point clearly displaying an emergency telephone number(s) and other contact information.

c. All ingress/egress roads to a SES shall have posted in a conspicuous location a 911 address road sign indicating the assigned address for that location.

d. Warning signs shall comply with applicable laws.

e. No portion of the SES shall contain or be used to display advertising. The manufacturer's name and equipment information or indication of ownership shall be allowed on any equipment of the SES provided they comply with the prevailing sign regulations.

f. All signage required or permitted by this Ordinance shall be made of materials and constructed in a manner to be durable and long lasting. The same shall be painted or made of material with a distinct, high contrast background and be weatherproof paint or other weatherproof material to promote safety and protect the public from hazards and/or potential hazards.

#### **11. Collection cable/lines**

Collection cables, collection lines, and communication lines installed as part of any SES shall not be considered essential services.

#### **12. Other Appurtenances**

No appurtenances other than those associated with the SES construction operations, maintenance, repair, replacement, rehabilitation, decommissioning, restoration, removal, and permit requirements shall be connected to the SES area except after notice of hearing and the hearing before the BZA pursuant to the applicable Ordinance(s) of this Ordinance.

#### **13. Height**

Ground-mounted SES arrays shall not exceed fifteen (15) feet in height when oriented at maximum tilt.

#### **14. Fence**

- a. For security, all ground-mounted SES shall be completely enclosed by a minimum six (6) foot high fence with a locking gate accessed by a keypad or Knox box with key.
- b. Signage will be permitted as specified in this ordinance.
- c. The fence should be located between the access road/lane and any required landscaping in the Buffer Yard unless otherwise approved by a subsection of this ordinance.
- d. A fence in an agriculture (AP, AG, CR) zone located on the property lines is the sole responsibility of the SES owner/operator.

## **15. Noise**

No operating SES shall produce noise that exceeds any of the following limitations except during construction or maintenance. Adequate setbacks, barriers, enclosures, use of quieter equipment, or other effective means of reducing noise shall be used to comply with these limitations:

- a. Fifty dBA, as measured at the property line of any adjacent residentially zoned lot;
- b. Forty-five dBA, as measured at any existing adjacent residence between the hours of nine p.m. and seven a.m.; and
- c. Sixty dBA, as measured at the property lines of the project boundary, unless the owner of the affected property agrees to a higher noise level, as follows: The owner of an adjacent property that would otherwise be protected by the sixty dBA noise limitations may voluntarily agree, by written waiver, to a higher noise level. Any such agreement must specifically state the noise standard being modified, the extent of the modification, and be in the form of a legally binding contract or easement between the landowner (including assignees in interest) and the solar energy system developer, effective for the life of the project. This waiver must be recorded and cross-referenced with the affected property (properties).
- d. The Executive Director may hire an appropriate company, at the SES's owner or SES's operator's expense, to determine if noise levels have been exceeded.

## **16. Ingress/Egress and Perimeter Access**

- a. At a minimum, a twenty-foot wide ingress/egress road must be provided from a public street, legally established access drive/road or another roadway into the site. This access shall be graveled or paved a minimum of twelve (12) feet, and design accepted by the Executive Director upon written approval of the local Fire Department with primary jurisdiction. Approvals must meet all state and federal regulations.
- b. At a minimum, a twelve (12) feet wide perimeter access road/lane shall be provided around the perimeter of the SES

between the solar arrays and required fence to allow access for maintenance vehicles and emergency management vehicles including fire apparatus and emergency vehicles. Part of this access may be well-maintained grass lane. The design of the perimeter access road/lane shall be accepted by the Executive Director upon written approval from the local Fire Department with primary jurisdiction. Approvals must meet all state and federal regulations.

### **7. Lighting**

The ground-mounted SES shall not be artificially lit except to the extent required for safety or applicable federal, state, or local authority. Such lighting shall be shielded and downcast so as not to affect adjacent properties.

### **18. Power and communication lines**

Power and communication lines running between banks of solar panels and to nearby electric substations or interconnections with buildings shall be buried underground. Exemptions may be granted by the Executive Director in instances where shallow bedrock, water courses, or other elements of the natural landscape interfere with the ability to bury lines, or distance makes undergrounding infeasible, at the discretion of the Executive Director. Power and communication lines between the project and the point of interconnection with the transmission system may be overhead.

### **19. Wildlife and Environmental Impact Mitigation**

The petitioner shall provide with the application submitted for the SES analysis conducted by a qualified third-party professional to conduct an analysis to identify and assess any potential impacts on wildlife and impacts on the natural environment and provide recommendations to be incorporated in the project design. The level of detail in the analysis will be determined prior to the application during the application meeting between the developer and the Executive Director and will be based on the perceived level of potential impacts in the area being sited for the proposed SES.

### **20. Electro-magnetic Frequency**

Electro-magnetic Frequency has the potential to create health issues for people with pacemakers and similar devices. Signage should be placed on site alerting potential visitors to the possibility of harm. All property

owners living adjacent to any commercial solar field shall be notified of the possibility of health issues associated with the presence of the SES.

## **21. Sub-surface and surface drains (regulated and non-regulated)**

a. Damages, including but not limited to damming, cutting, removing, and blocking, to surface, sub-surface drains, or any other drainage infrastructure, by any cause connected with the project during construction, post construction, while in operation, or before the decommissioning is complete, must be restored by the SES owner to a condition that is equal to or better than the pre-existing conditions within three (3) months after receipt of notice of such damage, unless such repair is rendered impractical by weather or other natural force. The SES owner shall be responsible for all expenses related to repairs, relocations, reconfigurations, and replacements of drainage infrastructure and systems that are damaged.

The SES owner shall post a "5A" surety bond in an amount determined by the Drainage Board, payable to the Drainage Board to address any need for drainage tile repair, replacement or re-routing caused by construction activities or installation of the Project, such bond to be posted within 45 days after commencement of the construction of the SES and SES facilities. The bond is to remain in effect for a period of five (5) years after the first day the SES is in operation. The Drainage Board shall determine and adjudicate whether claims brought by an adjacent property owner for damage was and is a direct result from the project based on substantial evidence. The Drainage Board may waive the posting of a bond or modify the requirements of this section.

- The SES owner and operator of the SES shall fully comply with Indiana Code requirements regarding regulated drains except as otherwise approved by the Drainage Board and any other entities with concurrent jurisdiction, including, but not limited to, the Storm Water Management Ordinance.
- The owner, operator, and/or petitioner shall enter into an agreement with the Drainage Board and County Surveyor to retain an appropriate inspector, at the owner/operator's sole expense. The inspector will ensure that all drainage infrastructures was installed according to specifications of the drainage plans and according to the requirements in the Storm Water Management Ordinance and any additional



written requirements from the Drainage Board and County Surveyor. The Drainage Board may waive the requirements of this section.

## **22. Buffer from Water Sources**

No solar facility shall be sited within three miles of any FEMA/DNR floodplain, major named creek, and the White River, and any natural flowing spring well.

## **D. Operation and Maintenance**

### **1. Repair**

The SES owner and/or operator shall repair, maintain, and replace the SES and related solar equipment during the term of the permit in a manner consistent with industry standards as needed to keep the SES in good repair and operating condition.

### **2. Operation and Maintenance Plan**

The applicant shall submit a plan for the operation and maintenance of the SES, which shall include measures for maintaining safe access to the installation, storm water controls, as well as general procedures for operation and maintenance of the installation.

### **3. Physical Modifications**

Any physical modification to any SES or a part thereof which materially alters the mechanical load, mechanical load path, or major electrical components shall require recertification by all appropriate regulatory authorities. Like-kind replacements shall not require recertification, unless required by a regulatory authority. Prior to making any material physical modification, other than a like-kind modification, the owner or operator of such SES shall confer with the Executive Director, County Surveyor, County Engineer, and any other appropriate regulatory authority as to whether the proposed physical modification requires re-certification of such SES.

### **3. Groundwater Monitoring**

Prior to construction, the owner/operator shall engage at the owner/operators' expense an independent third party to develop a groundwater monitoring program within the fence line of the SES which will include, but not be limited to, the establishment of baseline levels of ground water and for monitoring to continue annually for the life of the Project, with the final monitoring taking place within sixty (60) days after the completion of decommissioning. The results of the monitoring program are to be submitted to the Executive Director within thirty (30) days of the owner/operator receiving the results from each monitoring every two years or in event of breakage of panels through storms or accidents or at the request of the Executive Director. Results shall also be provided to any necessary government agencies as required by law.

#### **4. Declaration of Public Nuisance**

Any SES declared unsafe by the County Commissioners by being in breach of, or out of compliance with its SES permit(s) may seek to be rehabilitated and declared safe by appropriate repair(s) and other essential steps necessary to eliminate the breach(es). An SES declared by the County Commissioners by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, damage, abandonment or as provided herein to be determined unsafe, is hereby declared to be a public nuisance.

A Rehabilitation Plan shall be submitted to the County Commissioners within 60 days. This plan shall provide procedures to rehabilitate the SES in a time not to exceed three hundred sixty-five (365) days except in the event of force majeure, including but not limited to unavailability of components or parts, strikes, and moratoriums which said majeure extends said time to 18 months total or a reasonable extension agreed to by the County Commissioners. In the absence of an approved Rehabilitation Plan or meeting the agreed to time schedule(s), or failure to execute the required repair(s), in the time determined reasonable by the County Commissioners, such SES shall be demolished and removed in accordance with the Decommissioning-Restoration Plan and Agreement.

#### **5. Public Nuisance Waiver**

In the instance that an unavoidable Act of God inhibits, damages, or destroys part of, or the majority of, the SES, the three hundred sixty-five (365) day public nuisance removal timeline will be waived so long as the SES owner and/or SES operator provides a Rehabilitation Plan to remedy the damage and said plan is submitted to, and approved by, the County Commissioners. Said plan will outline the necessary protocol and time schedule for returning the SES to energy production and must be submitted to the County within sixty (60) days of the date the damage was incurred, or a time determined reasonable by the County Commissioners.

#### **6. Adverse Effects**

a. To the extent possible the SES owner and/or operator shall minimize and/or mitigate all adverse effects created by the development of a SES.

b. Failure to Remedy a Complaint: Penalty

- If the planning commission receives a complaint about the SES operation, the Executive Director shall make an appropriate investigation and determine if the complaint is meritorious, and if so, follow the county enforcement process.

## **7. Liability Insurance**

Prior to the initiation of construction and/or any operation, the owner and operator of an SES shall maintain a commercial general liability policy covering death, bodily injury and property damage, which may be combined with umbrella coverage, and shall be required to name Madison County, Indiana as an additional insureds solely to the extent of liabilities arising under this Ordinance, and said policy shall carry dollar amounts satisfactory to the County Commissioners and with agreed upon dollar amount limits per occurrence, aggregate coverage, and deductible amounts, all of which shall be agreed upon by the owner and operator and said County Commissioners and provided in the Decommissioning-Restoration Plan and Agreement or other appropriate plan or agreement between the County Commissioners and SES owner and SES operator.

## **D. Application for a Commercial SES**

Applications for SESs shall include the following information and be completed on a Madison County Improvement Location Permit form being used at the time of the application.

### **1. Contact information of SES Applicant**

The name(s), address(es), telephone number(s) and e-mail address(es) (if available) of the applicant(s), together with a description of the applicant's business structure and overall role in the proposed project.

### **2. Contact information of SES Owner**

The name(s), address(es), telephone number(s) and e-mail address(es) (if available) of the SES owner(s), together with a description of the owner's business structure and overall role in the proposed SES, and documentation of real estate ownership of any real property upon which any part of the proposed SES is to be located. The SES owner shall inform the Executive Director of any change of SES ownership, in whole or part, and shall furnish the required information regarding such owner.

### **3. Contact information of SES Operator**

The name(s), address(es), telephone number(s) and e-mail address(es) (if available) of the operator(s), as well as a description of the operator's business structure and overall role in the proposed project. The SES operator shall inform the Executive Director of any change of the SES operator and furnish the required information regarding such operator.

### **4. Legal description**

The legal description and the 911 Emergency Address of the real property upon which the SES is to be located.

## **5. SES Description**

The SES description and information including, but not limited to the following:

- a. Type of solar technology (e.g. solar panels, solar shingles, etc.)
- b. Solar panel mounting technique (e.g. ground-mount, roof-mount, etc.);
- c. Solar panel installation height;
- d. Nameplate generating capacity;
- e. The means of interconnecting with the electrical grid;
- f. The potential equipment manufacturer(s); including information sheets and installation manuals;
- g. Accessory structures and other appurtenances; and,
- h. Other information as determined by the Executive Director.

## **6. Preliminary Site Plan**

a. A site plan, drawn to scale, including distances pertaining to all applicable setback and buffer requirements. All drawings shall be at a scale of one (1") inch equals thirty (30') feet. Any other scale must be approved by the Executive Director. No individual sheet or drawing shall exceed twenty-four (24") inches by thirty-six (36") inches without the prior consent of the Executive Director.

b. The preliminary site plan shall illustrate the following:

- Property lines upon tract(s) subject to the application, together with property lines and with the names of owners or record of each adjacent tract(s).
- Location and name/number of public roads surrounding, abutting, and/or traversing the SES and any SES ingress/egress road.
- Substations: location
- Location of electrical cabling outside of fenced areas
- Ancillary equipment
- Proposed solar arrays, connecting lines, and all affiliated installations and structures.
- Proposed Access points, interior drives, security features, and fencing
- Surface water drainage patterns
- Woodlands, Grasslands, and Farmland identification
- Soil types

- Area designated Prime Farmland on each participating parcel.
- Any structure within one quarter (1/4) mile of the proposed SES boundary.
- The location of any airport within one (1) mile of the proposed SES boundary.
- Setback lines: Distances from the SES to each setback requirement listed in Ordinance 16.9A.b.
- The location of any historic or heritage sites as recognized by the Division of Historic Preservation and Archeology of the Indiana Department of Natural Resources, within one (1) mile of a proposed SES.
- The location of any wetlands based upon a delineation plan prepared in accordance with the applicable U.S. Army Corps of Engineers requirements and guidelines, within one (1) mile of a proposed SES.
- Location of any Special Flood Hazard Area as determined by the Federal Emergency Management Agency (FEMA) and by the Indiana Department of Natural Resources (IDNR), whichever is more stringent.
- Location and height of fencing, access roads, berms and landscaping associated with any buffer zone.

**7. Topographic Map** A United States Geological Survey (USGS) topographical map, or map with similar data, of the property and the surrounding area, with contours of not more than two-foot intervals.

**8. Wetland Delineation**

A Wetland delineation and report shall be submitted on properties proposed for use as a CM-SES or a CL-SES.

**9. Landowner agreements**

- a. Fully executed leases signed by the landowner for every parcel under contract (financial information can be redacted) of any description signed by participating landowners authorizing the placement of the identified SES on landowner's property.
- b. Fully executed Setback Waiver Agreements, if applicable, signed by adjacent landowners.

- c. An executed copy of any other waiver agreement signed by adjacent landowner(s).
- d. A copy of any recorded Solar Easements from adjacent landowners.

#### **10. Engineering Certification**

For all SES and SES facilities, the manufacturer's engineer or another qualified registered professional engineer shall certify, as part of the Improvement Location Permit Application, that all structural aspects of the SES design are within accepted professional standards, and the structure or substrate the solar technology will be affixed to will tolerate the installed weight of said technology (e.g. roof structure, soils, etc.).

#### **11. Proof of Correspondence and Cooperation with Wildlife Agencies**

For the purposes of demonstrating compliance with required permits, the applicant shall provide written documentation that the applicant is in direct correspondence, cooperation and in compliance and shall remain in compliance with all applicable regulations and requirements of the U.S. Fish and Wildlife Service and the Indiana Department of Natural Resources. The application shall include the documentation of the wildlife and environmental analysis conducted under Section B-9 of this ordinance.

#### **12. Solar Easement**

A Solar Easement may be entered into between affected parties as described in this ordinance and must be submitted with the SES application.

#### **13. Waivers**

All waiver agreements shall be in writing and follow the requirements specified in Ordinance 16.3 (definitions). Copies of all waivers are required as part of the SES application.

### **E. CM-SES and CL-SES Fees**

#### **1. CM-SES**

- Applications shall be assessed an application fee of \$5,000,
- An ILP base fee of \$500 and \$50 per MW

#### **2. CL-SES Improvement Location Permit**

- Applications shall be assessed a \$20,000 fee
- An ILP base fee of \$1,750 and \$50 per MW

#### **F. Community Meeting**

Prior to submission of an application for an improvement location permit for a CL-SES, a community information meeting, open and advertised to the public, shall be hosted by the project developer. The purpose of the meeting is outreach, with the intent of providing complete information to the community in an informal setting. The meeting shall not be construed to be a local government meeting or formal public hearing. A summary and report regarding the community meeting shall be submitted to the Department at the time of the application for the Special Use Permit. The report shall include a list of the landowners who were invited, a record of attendees, and copies of all written comments received.

#### **G. Emergency Services Plan**

Prior to issuance of a building permit, the SES owner or operator shall provide a plan including but not limited to the project summary, electrical schematic, and site plan to the appropriate local safety officials including the Madison County Emergency Management, Sheriff Department, the responding Fire Department, and Madison County Building Inspector. Upon request the owner or operator shall cooperate with local safety officials in developing an emergency response plan. Any specialized training necessary will be provided at the operator's expense. Knox boxes and keys shall be provided at locked entrances for emergency personnel access. All means of shutting down the solar photovoltaic installation shall be clearly marked. The owner or operator shall identify a responsible person for public inquiries throughout the life of the installation.

#### **H. Operation and Maintenance Plan**

The applicant shall submit a plan for the operation and maintenance of the SES which shall include measures for maintaining safe access to the installation, storm water controls, as well as general procedures for operation and maintenance of the facility. Maintenance of vegetation within the buffer strip and underneath the ground-mounted solar arrays should be included in the plan and consistent with the requirements in this section.

#### **I. Emergency Response**

The owner/operator of the SES shall conduct, at the expense of the owner/operator, biannual training drills with local emergency responders.

#### **J. Decommissioning-Restoration Plan and Agreement (for CM-SES and CL-SES)**

Prior to receiving an Improvement Location Permit (ILP), under this Ordinance, the applicant, owner and operator shall submit and shall enter into a Decommissioning-Restoration Plan and Agreement with the County Commissioners outlining the anticipated means, costs and method of payment of all costs in carrying out such Decommissioning-Restoration Plan and Agreement at the end of the SES life or the life of any part of a SES, upon becoming an abandoned use, or being declared a public nuisance..

## **1. Discontinuation and abandonment**

a. Owner operator shall give written notice of intent to abandon use of an SES facility 60 days prior to the discontinuation of electrical production to the County Commissioners and Plan Commission.

b. An SES or portion of an SES shall be considered an abandoned use after one (1) year without energy production unless a Rehabilitation Plan developed by the SES owner and SES operator is submitted to, and approved by, the County Commissioners outlining the necessary procedures and time schedule for commencing or returning the SES to energy production as provided in this ordinance. Failure by the SES owner and/or operator to commence energy production at such SES or return such SES to energy production within the time schedule which has been approved by the County Commissioners, said SES or portion of SES shall be considered an abandoned use and/or a public nuisance.

## **2. Removal and Restoration**

The SES owner and/or the SES operator is required to remove all physical material pertaining to the SES above ground level and all improvements of said SES below ground level for all SES's declared irreparably damaged, and/or an abandoned use and/or a public nuisance. All panels broken or at the end of life must be recycled. Any agreements with participating landowners that differ from these requirements must be submitted to the Planning Director, and the Planning Director has the discretion to approve or require a variance heard by the BZA. All materials shall be removed, and the SES site restored within three hundred sixty-five (365) days of the discontinuation of energy production or in accordance with agreements developed under Ordinance 16.11.A.d and Ordinance 16.13.D. An SES which is irreparably damaged, abandoned or declared to be a public nuisance shall within said time limit (365 days) require the SES owner and/or SES operator to have completed restoration of the SES site to as near as practicable to the original condition of the SES site prior to the development of such SES. If the property has been timbered or trees removed within two (2) years prior to the initial landowner agreements, the original condition means replanted with trees of similar species as originally removed, unless otherwise agreed to by the landowner. If any portion of the SES is found to be hazardous in nature by state or federal regulatory agency(ies) or required to be recycled, the SES owner and/or SES operator is required to remove in a manner as prescribed by law.

Owner/operator must remediate all land to its original state and relative fertility based on soil tests pre-construction paid for by developer chosen by the county.

## **3. Identification and Removal of Hazardous Materials**

During any construction, removal, or restoration effort, the SES owner/operator shall identify all hazardous materials as regulated by state and federal regulatory agencies, such as the EPA and IDEM, as well as non-hazardous materials and indicate the appropriate handling, storage, and transport during disposal.



#### **4. Performance Guarantee**

Prior to issuance of an ILP, the applicant must provide the County with a performance guarantee in the form of a bond, irrevocable letter of credit and agreement, or other financial security acceptable to the County Commissioners in the amount of 150% of the estimated decommission and restoration cost to allow for the anticipated increase in future costs of decommission. Estimates shall be determined by a licensed engineer.

Unless otherwise agreed to by all parties, every five (5) years, or upon request of the Madison County Planning Commission, a new engineer's estimate of probable cost of Decommissioning and Restoration, shall be submitted for approval in the same manner as the initial submission, and the bond, letter of credit, or other financial security acceptable to the county shall be adjusted upward or downward as necessary. A new estimate will be submitted to the Commissioners prior to the sale of any portion of the SES and the Performance Guarantee adjusted appropriately and made part of the sales agreement.

All expenses involved in such removal and restoration shall be paid by the SES owner and SES operator, or removal and restoration will be completed by Madison County at the SES owner's expense and SES operator's expense as specifically provided by the Decommissioning-Restoration Plan and Agreement.

If the owner/operator defaults or decommissions, the county retains the right, after appropriate court order, to enter the property and remove any parts of the SES with funds from the surety on file.

#### **5. Written notices**

Prior to implementation of any procedures or remedy for the resolution of any SES owner's and/or operator's failure to decommission the SES pursuant to the Decommissioning-Restoration Plan and Agreement, and/or Rehabilitation Plan and/or the Ordinance, the County Commissioners shall first provide written notice to the owner and/or operator, setting forth the alleged default(s). Such written notice shall provide the owner and/or operator a reasonable time period not to exceed sixty (60) days, except upon such longer time to which all said parties agree, for good faith negotiations between the SES owner and/or operator and the County Commissioners or its duly appointed representative, to resolve the default(s). In the event the negotiations fail to resolve the default issue(s), either party may pursue any and all remedies available by the terms of the Ordinance and/or Decommissioning-Restoration Plan and Agreement and/or Rehabilitation Plan

#### **6. Costs incurred by Madison County**

In the event, after written notice, the owner and/or operator shall fail to enter into a Rehabilitation Agreement or decommission the SES in accordance with the Zoning Ordinance and the Decommissioning-Restoration Plan and Agreement, the owner and/or operator shall pay all reasonable costs, including reasonable attorney fees, incurred by the County to remove the SES.

### **K. Drainage Agreement, and Road Use and Maintenance Agreements**

Prior to issuing an Improvement Location Permit, the applicant must provide a Drainage Agreement and a Road Use and Maintenance Agreement approved by the County Commissioners or their designees. The Drainage Agreement must prescribe or reference provisions to address field tile damages and repairs thereof for any field tile owned by Madison County. The Road Use Agreement should specify provisions to remedy any road damage caused by the SES.

For repair of drainage infrastructure or systems damages by any cause connected with the Project, Petitioner shall restore the drainage infrastructure or system to pre-existing conditions or better within a period of three (3) months after receipt of notice of such damage unless such repair is rendered impractical by weather or other natural force. Petitioners shall be responsible for all expenses related to repairs, relocations, reconfigurations, and replacements of drainage infrastructure and systems that are damaged as a direct result of the Project. Petitioner shall post a "5A" surety bond in an amount to be determined by the Madison County Drainage Board ("Drainage Board"), payable to the Drainage Board to address any need for drainage tile repair, replacement or re-routing caused by construction activities or installation of the Project, such bond to be posted within 45 days after commencement of Project commercial operations date and to remain in effect for a period of five (5) years thereafter. The Drainage Board shall determine and adjudicate whether claims brought by an adjacent property owner for damage to drainage tile directly result from the project based on substantial evidence.

Petitioner shall fully comply with Indiana Code requirements regarding legal drains except as otherwise approved by the Drainage Board and any other necessary bodies, including, but not limited to, the Storm Water Management Ordinance. Petitioner shall repair documented damages to County roads damaged during construction or operations to the pre-construction condition pursuant to the direction of the Madison County Highway Superintendent. Petitioner shall post a "5A" surety bond in an amount to be determined by the Madison County Board of Commissioners to address said repairs.

Petitioner shall pursue an agreement with the Drainage Board and Madison County Surveyor ("Surveyor"). Petitioner shall comply with the reasonable direction of the Surveyor regarding (a) retention at Petitioner's sole expense of an appropriate inspector including a "not to exceed" budget; (b) notification to the Surveyor when all drainage improvements and worth within the public right-of-way have been completed and inspected by the inspector; and (c) timeline and process for repair of any damage caused by the Project.

### **L. Erosion Control Plan**

An erosion control plan shall be developed in accordance with protocol of the Natural Resources Conservation Services (NRCS), and any storm water quality management plan adopted by the applicable jurisdiction(s).

The area beneath the ground-mounted SES is considered pervious cover. However, use of impervious construction materials within the SES would cause areas to be subject to the impervious surface's limitations for the applicable Zoning District. Natural (pervious) ground covers are required beneath the solar arrays.

#### **M. Solar Easements**

Where a land development proposes an SES, solar easements may be provided. Said easements shall be in writing and shall be subject to the conveyance and instrument recording requirements prescribed in IC 32-23-2-5 or subsequent amendment. Any such easements shall be appurtenant; shall run with the land benefited and burdened; and shall be defined and limited by conditions stated in the instrument of conveyance. If necessary, an SES owner and/or operator must obtain any solar easements necessary to guarantee unobstructed solar access by separate civil agreement(s) with adjacent property owner(s). Copies of such easements shall be submitted as part of the application process with proof of recording in the Madison County Recorder's Office.

#### **N. Economic Development Agreement (ONLY APPLICABLE TO CL-SES)**

Due to the complexity of large-scale alternative energy projects, the county requires an Economic Development Agreement or other appropriate instrument to address the taxing, land use, property assessment, as well as other issues related to such a project. The county is required to ensure the prevention of large tax shifts that may otherwise be incurred by the taxpayers of the county and more particularly of those taxing units upon which the project resides due to any reduction in tax base caused by these said projects. Therefore, in cooperation with all parties, an agreement shall be established that allows for an acceptable solution for the proper taxation of said SES. Any agreement drafted and or implemented shall be developed in conjunction with and be approved by the board of County Commissioners and any other Board or Council as may be required by law prior to the issuance of any permits and or the commencing of construction.

#### **O. Pre-construction requirements for an SES**

In addition to complying with the approved Road Use and Maintenance Agreement, an applicant, owner, and/or operator proposing to use any county road(s), for the purposes of transporting any component of an SES, substation and/or any other equipment for the construction, operation or maintenance of an SES shall comply with the following pre-construction requirements. All roads and services that will be used for transportation of construction materials, construction of the SES, and/or maintenance of the SES shall be identified. If the route includes a public road, such route shall be approved by the Madison County Engineer. To the extent possible, state or federal Highways shall be utilized for the purposes of transporting any component of an SES, substation and/or any other equipment for the construction, operation, or maintenance of an SES.

The applicant, owner, and/or operator shall conduct a pre-construction baseline survey in coordination with, and acceptable to, the Madison County Engineer. This survey shall be a part of the Road Use and Maintenance Agreement to determine existing road conditions for assessing current needed improvements and potential future damage. The survey shall include, but not be limited to, photographs, and/or video, or a combination thereof, and a written agreement to document the condition of the public facility as the same exists on the date of the baseline survey.

Any material change of location of the SES fenced boundary and any material change in the location of SES facilities outside of the SES fenced boundary prior to construction shall be furnished to the Director, County Engineer, County Surveyor and any other person(s) designated and authorized by the County Commissioners. It shall be the duty

and responsibility of the applicant, owner and/or operator to obtain any variance required by such change and to comply with any other requirement necessitated by such change. Any variance required by this Section shall be obtained prior to construction or implementation of such change.

**P. Construction Requirements**

During construction, the applicant shall demonstrate and document to the satisfaction of the County Engineer, County Highway Superintendent, County Surveyor, Executive Director and any other person(s) designated and authorized by the County Commissioners, that the following requirements are being met:

- All reasonable dust control measures required by the County Commissioners during construction of the SES are being followed together with any additional steps or adjustments for dust control which may from time to time be required by the County Commissioners.
- Reasonable storm water best management practices as required by the approved Drainage Plan/Agreement.
- Near a residence or public use noise shall be kept to a minimum during the hours of 7pm to 7am.

**Q. Post-Construction Requirement for an SES**

Post-construction, the applicant shall comply with the following provisions:

**1. Road Repairs**

Any road damage caused by the transport of any matter or material utilized in any way regarding the SES, in the construction of the SES, the installation of the same, and/or the removal and decommissioning of the same, shall be repaired to the satisfaction of the Madison County Engineer (as per the Road Use and Maintenance Agreement). The County Engineer may choose to require either remediation of road(s) upon completion of the SES or said Engineer is authorized to collect fees for oversized load permits. Further, a surety bond or letter of credit in an amount to be determined by the County Engineer may be required by the County to ensure that future repairs are completed to the satisfaction of the County Commissioners. The cost of such bond or letter of credit shall be paid by the SES owner and said bond shall remain in full force and effect until the decommissioning and restoration is fully completed as prescribed by this Zoning Ordinance and the Decommissioning-Restoration Plan and Agreement.

**2. As-Built Plans Requirement**

Where upon completion of all development, the exact measurements of the location of utilities, structures and components erected during the development are necessary for public record and shall therefore be recorded. The applicant, owner, and/or operator shall submit a copy of the final as built survey to the Director with the locations of the SES facilities shown thereon. Said Director,

after being satisfied that the locations of the SES facilities are substantially similar to the locations on the originally approved final plan(s) or as the same were from time to time amended, shall approve, date and sign said as-built survey for the SES, which the applicant, owner, and/or operator shall then record and provide Plan Commission a copy of said recorded Plans.

### **3. Change in Ownership**

It is the duty and responsibility of the SES applicant, SES owner and/or SES operator and any subsequent SES owner and SES operator, in addition to the notice requirements of any SES plan(s) and SES agreement(s) to notify by written notice the County Commissioners and Director of any change in the ownership of the SES or any part of the ownership thereof to and through the time that the final Decommissioning-Restoration Plan and Agreement are concluded and all applicable acceptances, releases and performance standards of any description have been met and concluded and accepted by the appropriate local, state, federal or private authority, department, agency, and person(s) and all financial payments or other financial obligations are fully satisfied and all appropriate parties are in receipt thereof.

### **R. Indemnification**

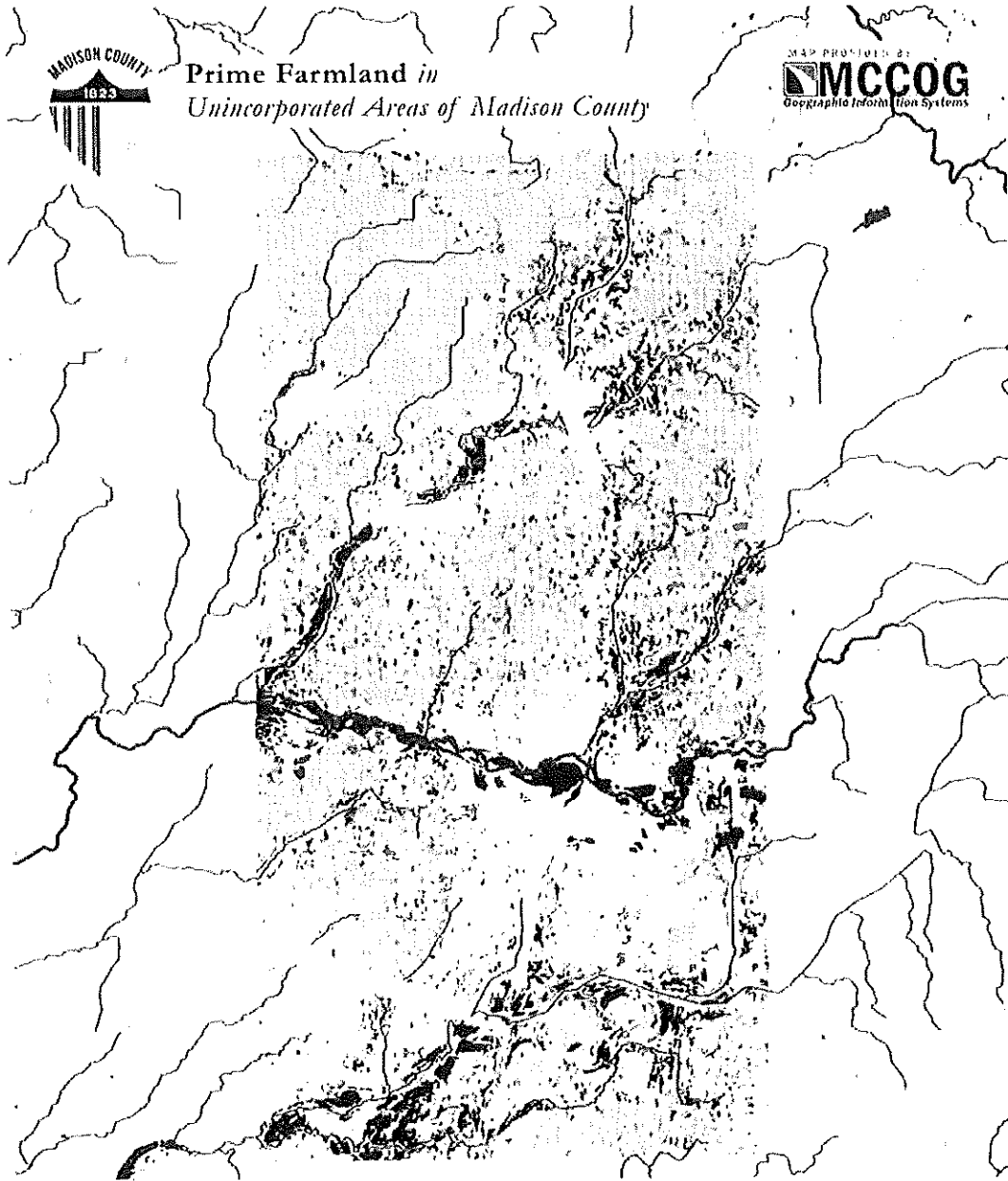
The applicant, owner and/or operator of the SES project shall defend, indemnify, and hold harmless the County and its officials from and against any and all claims, demands, losses, suits, causes of action, damages, injuries, costs, expenses, and liability whatsoever, including attorney fees without limitation, arising out of acts or omissions of the applicant, owner and/or operator associated with the construction and/or operations and/or design of the SES project.

**APPENDIX A: ZONING TABLE**

SOLAR ENERGY SYSTEMS: ZONING	CI-SES	CM-SES	CS-SES	NC-SES
Agriculture Protection (AP)				P
Agricultural (AG)		S		P
Conservation Residential (CR)		S		P
Single-Family Residential (R1)				P
Single-Family Residential (R2)				P
Single and Two-Family Residential (R3)				P
Multifamily Residential (MR)			P	P
Manufactured Home Park (MH)			P	P
Parks and Recreation (PR)		S		P
Institutional (IS)		S	P	P
Local Commercial (LC)		S	P	P
General Commercial (GC)		S	P	P
Highway Commercial (HC)		S	P	P
Light Industrial (LI)		S	P	P
General Industrial (GI)		S	P	P
High Impact (HI)	S	S	P	P

P- permitted use; S- special use; BLANK – not permitted.

APPENDIX B: PRIME FARMLAND MAP

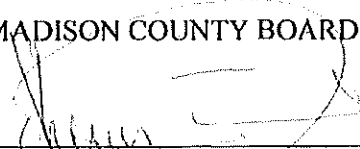


Prime farmland – Light green  
Prime farmland if drained – dark green

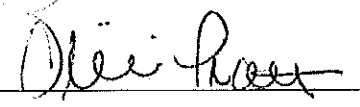
**BE IT FURTHER ORDAINED** that in addition to the repeal of Ordinance 2017-BC-O-01, all portions of other Ordinances in conflict with this Ordinance are hereby repealed.

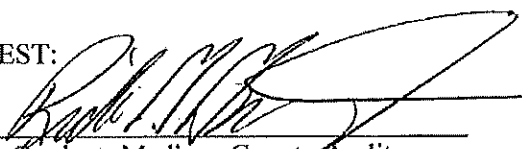
SO ORDAINED this 5th day of December, 2023, .

MADISON COUNTY BOARD OF COMMISSIONERS

  
\_\_\_\_\_  
John Richwine, President

  
\_\_\_\_\_  
Darlene Likens, Vice-President.

  
\_\_\_\_\_  
Olivia Pratt, Member

ATTEST:  
  
\_\_\_\_\_  
Rick Gardner, Madison County Auditor

-Planning docs/solarordinancedraft/11-17-23 solar ord final