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MANDY THOMASON, RECORDER  
STARKE COUNTY, KNOX, IN  
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8-5-22

Ordinance No. 2022-017

**SOLAR ENERGY ORDINANCE**

**Section 1.** Commercial Solar Energy Systems, is added to read as follows:

**Purpose.** It is the purpose of these performance standards to enable Starke County to: regulate the permitting of commercial solar energy systems; be informed of the placement of commercial solar energy systems; preserve and protect public health and safety; allow for the orderly development of land; and protect property values in Starke County. The terms; conditions and regulations set forth herein may be enforced through the issuance and enforcement of an **Improvement Location Permit**.

Commercial Solar Energy Stems (CSES) and Private Residential Solar Energy Systems (PRSES) are defined in Section 3 of this ordinance.

Permitted Accessory Use. CSES are a permitted accessory use in the zoning district(s) permitted below. CSES that do not meet the following design standards will require a conditional use permit.

**DESIGN STANDARDS**

**A. Permitted Districts.** Subject to issuance of an **Improvement Location Permit** (hereinafter "Permit") a CSES may only be located in the following zoning districts:

Zoning District: Agricultural

**B. Parcel Line Setbacks.** Any CSES equipment, excluding any security fencing, poles, roads, and wires, necessary to connect to facilities of the electric utility, must be set back in accordance with the accessory structure standards for the zoning district. Ground mounted Solar Panels/arrays shall be set back a minimum of 50 feet from any adjoining property line and a minimum of 100 feet from the center of any public road. These setbacks shall not apply between adjoining participating parcels. Additionally, these setbacks may be waived in writing by adjacent property owners not participating in the CSES. Setbacks from center of any public road cannot be waived.

**C. Height Limit.** The height of any CSES ground mounted solar equipment is limited to 35 feet, as measured from the highest natural grade below each solar panel. If a switchyard or substation is required to connect the project to the electrical grid, the switchyard's/substation's design shall not exceed 75 feet.

For CSES located within 500 feet of an Airport or within the approach zones of an airport, the applicant shall show that the height limits are consistent with the Federal Aviation Administration (FAA) Office of Airports Interim Policy, FAA Review of Solar Energy Projects on Federally Obligated Airports, or most recent version adopted by the FAA.

**D. Noise Limit.** A noise study shall be performed and included with the submitted application for review. Noise caused by an operational CSES shall not exceed 55 dBA above background noise, as measured from the nearest residence during daylight hours. These limits may be waived by the adjoining property owner.

**E. Landscape Buffer/Screening**

Landscape Buffer /Screening shall be provided for all ground mounted CSES along all highways, roadways and along all property lines adjoining the CSES.

Participating CSES Landowners adjoining another Participating CSES Landowner may opt out of the Landscape Buffer Screening requirement "along all property lines" upon written/recorded legal agreement between said land owners. Recorded legal agreement shall be submitted to Plan Commission for approval.

A Landscape Buffer/Screening Plan shall be submitted for review with the **Preliminary Site Plan and Specifications.**

The Landscape Buffer/Screening Plan shall include, at a minimum, one large native evergreen (Coniferous) tree (a minimum of 2 feet in height) or native evergreen (coniferous) shrub a minimum of every 20 linear feet.

In addition to the evergreen plantings, the Landscape Buffer/Screening plan shall include a range of additional native deciduous tree and shrub species interspersed ( a minimum separation of 40 feet) with the evergreens in order to provide for wider habitat diversity and a more naturalized appearance.

The Landscape Buffer /Screening plan shall also include a ground cover planting of a Tall Grass Prairie Mix to provide additional screening and habitat value

All Native trees and shrubs utilized for the Landscape Buffer/Screening shall be chosen so as to reach a maximum height of approximately 20 feet or less in 20 years. Consideration for plantings of larger tree types in areas where maturity of trees may impact the array via shading will be made.

Landscape Buffer/Screening shall have a minimum width of 30 feet.  
Plantings shall also be located a minimum of 5 feet off any fence line.

The Landscape Buffer/Screening cannot be within the Right of Way of any public road or within 20 feet of the edge of the improved portion of a public road.

In order for the Landscape Buffer/Screening plantings to be a success, the Landscape Buffer/Screening Plan shall also include a Monitoring and Maintenance Plan during both the establishment period and a long term management plan for the Landscape Buffer/Screening plantings.

**F. Ground Cover**

Ground cover shall be placed on all disturbed areas of the CSES facility.

Ground around the solar panels shall be planted, established and maintained for the life of the project in perennial vegetated ground cover that meets the **2020 Indiana Solar Site Pollinator Habitat Planning Scorecard** developed by Purdue University, or an equivalent pollinator-friendly standard designed for

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Midwest ecosystems and conditions that will meet water quality and habitat goals by the local USDA/Natural Resources Conservation Service of Starke County or other qualified seed specialist.

**Notes:** Pollinator mixes are used only in buffer areas and around solar panels and are not intended to be planted under solar panels.

It is recommended that all vegetation in the field is dead prior to planting pollinator habitat and that seeds are not planted more than ¼”.

Converting areas of Non-native grasses to native grasses and wildflowers may require significant effort. It is recommended to seek out a specialist that can guide you in the process of planting and managing pollinator habitat.

Additionally, the vegetated groundcover shall be required to be planted and controlled On-Site to be free of invasive or noxious species (where identified within established ground cover) as listed by the Indiana Invasive Species Council and to further require that no insecticide or limited use of insecticide be permitted on the site. Also, ground cover must include permanent seeding specifications submitted with the final Landscape-Buffer/Screening Plan and shall meet required groundcover specifications mentioned above and also be reviewed and approved by the Starke County Plan Commission Board.

#### **G. Drainage and Erosion Control**

It is required that runoff calculations be included for all disturbed areas per the Starke County Drainage Ordinance, Section 5-7-1-G of the amended Code of the County of Starke, Indiana dated 1991, or most current. If it can be shown in submitted runoff calculations that the proposed Ground Cover perennial mix, as submitted in Section F above, meets or exceeds the “C” value of the existing ground cover condition of the site, then discharge and storage requirements may be waived for permeable surfaces.

It is required that a Drainage and Erosion Control Plan be prepared and submitted to local and State agencies in order to comply with the IDEM Construction Storm Water General Permit (formerly “Rule 5”).

Provide Temporary seeding mix specifications with Erosion Control Plan Submittal.

#### **H. Application and Permits**

Any CSES shall be required to submit a **Preliminary Site Plan and Specifications** to the Technical Advisory Committee for review. Such review shall occur within 30 days of filing. Once a **Preliminary Site Plan and Specifications** has been approved by the Plan Commission, an **Improvement Location Permit** shall be issued. The Improvement Location Permit Form is created by the Plan Commission once an **Improvement Location Permit** is applied for.

**The Preliminary Site Plan and Specifications shall include and/or show the following:**

1. Solar System specifications, including typical manufacturer and model and maximum spatial extent (height and fence lines).
2. Preliminary array/module design and site plans with the maximum spatial extent of the CSES and its perimeter fence indicated.
3. Certification on the Preliminary Site Plans and Specifications that layout, design, and installation conform to and comply with all applicable industry standards, such as the National Electrical Code (NEC) (NFPA-70), the American National Standards Institute (ANSI), the Underwriter's Laboratories (UL), the American Society for Testing & Materials (ASTM), the Institute of Electric & Electronic Engineers (IEEE), the Solar Rating & Certification Corporation (SRCC), the Electrical Testing Laboratory (ETL), and other similar certifying organizations, the Federal Aviation Administration (FAA), the Indiana Building Code (IBC), and any other standards applicable to solar energy systems. The manufacturer specifications for the key components of the CSES shall be included with the submittal.
4. All ground-mounted electrical and control equipment for CSES shall be labeled and secured to prevent unauthorized access.
5. All CSES shall be installed so as not to cause significant wire or wireless communication signal disturbance. An Affidavit certifying compliance with this requirement shall be included with the Preliminary Site Plan and Specifications submittal.
6. All CSES shall be designed to avoid concentrated and prolonged glare onto abutting structures and roadways. An Affidavit certifying compliance with this requirement shall be included with the Preliminary Site Plan and Specifications submittal.
7. For CSES located within 500 feet of an airport or within approach zones of an airport, the Applicant shall complete and provide the results of a glare analysis through a qualitative analysis of potential impact, field test demonstration or geometric analysis of ocular impact in consultation with the Federal Aviation Administration (FAA) Office of Airports, consistent with the Interim Policy, FAA Review of Solar Energy projects on Federally Obligated Airports, or most recent version adopted by the FAA.
8. All ground-mounted electrical and control equipment for CSES shall be fenced to prevent unauthorized access. The solar array and/or modules shall be designed and installed to prevent access by the public. A chain-link fence with three rows of secure wire on top with metal posts, and a locked gate are required. Show fence details, Gate Details and Locking mechanism details and Specifications on the Preliminary Site Plan and Specifications submittal.
9. To the greatest practical extent, all electrical wires and utility connections for CSES shall be installed underground, except for transformers, inverters, switchyards/substations, High Voltage Transmission lines, and controls. Any DC Above Ground Designs including any

system of hangars and exposed PV wiring shall meet current NEC Standards and also be installed at heights that allow necessary weed abatement.

10. Exterior lighting for CSES shall be limited to that required for safety, inspection/repair/maintenance, and operational purposes.
11. All signs, other than the manufacturer's or installer's identification, appropriate warning (including safety and trespassing) signs, or Owner Identification on a solar panel array and/or module signage, building, or other structure associated with a CSES, shall be prohibited.
12. The CSES applicant shall certify by affidavit that they will comply with the utility notification requirements contained in Indiana law and accompanying regulations unless the applicant intends, and so states in an affidavit, that the system will not be connected to the electricity grid.
13. Prior to the start of construction, a Decommissioning Agreement must be executed by the applicant that stipulates that decommissioning of the entire facility will begin upon the occurrence of twelve consecutive months of no power generation at the facility.

In order to facilitate and ensure appropriate removal of the energy generation equipment of a CSES when it reaches the end of its useful life, or if the applicant ceases operation of the facility, applicants must file a Decommissioning Agreement which details the means by which decommissioning will be accomplished and the timeline for completion.

This agreement must include a description of implementing the decommissioning, a description of the work required, a cost estimate for decommissioning, a schedule for contributions to a decommissioning fund, and a demonstration of financial assurance.

Salvage value shall be considered in determining decommissioning cost.

In the event of a force Majeure, or other event which results in the absence of electrical generation for twelve months, or by the end of the twelfth month of non-operation, the applicant must demonstrate to Starke County's satisfaction that the decommissioning must be initiated eighteen months after the force Majeure or other event. The County considers a force Majeure to mean fire, earth quake, flood, tornado, or other acts of God and natural disasters, war, civil strife or other similar violence.

The operator of any CSES shall secure and provide a performance bond, escrow deposit, or other financial assurance in a form acceptable to the County in an amount determined by a third-party engineering firm to ensure the proper decommissioning and removal of the CSES.

The applicant will have the financial assurance mechanism in place prior to the start of the construction and will re-evaluate the decommissioning cost and financial assurance at the end of years five, ten, and fifteen. Every five years after the start of construction, updated

proof of acceptable financial assurance must be submitted to Starke County for review.

Proof of acceptable financial assurance will be required prior to the start of commercial operation.

A Draft of the proposed Decommissioning Agreement shall be submitted for review along with the **Preliminary Site Plan and Specifications**.

Final acceptance and approval of the Decommissioning Agreement shall be by the Starke County Commissioners.

14. The **Preliminary Site Plan and Specifications** shall include all required drainage calculations and "Rule 5" submittal information as outlined in Item G above for review. An approved Erosion and Sediment Control plan and permit in accordance with IDEM Construction Storm Water General Permit (formerly "Rule 5") standards shall be required before any construction can begin on site. IDEM Construction Storm Water General Permit shall be posted on-site.
15. Submit **Preliminary Site Plan and Specifications** to County Drainage Board for review and approval. Drainage Board written approval shall be required for all CSES. All CSES facilities shall be located a minimum of 75 feet from any county ditch bank, county tile and shall not be built over any county tile lines unless Drainage Board approval is given to such a request.
16. Must follow same rules as building in a Flood Plain, including raising elevation of structures if deemed necessary and/or applying for Letters of Map Amendment. Must submit Elevation Certificate for all sites with any electrical and/or permanent structures located within the IDNR published Flood Plain.
17. Applicant agrees to pay all reasonable County Attorney fees and costs in the enforcement of the terms of this Ordinance.
18. If Starke County finds it is necessary to hire an Engineering Consultant to review **Preliminary Site Plans and Specifications** for conformance to this Ordinance, the Applicant agrees to pay all reasonable Engineering Consultant fees according to the terms of this Ordinance.
19. All Preliminary (and final) Site Plans provided to the County shall require all roads, Section numbers, Range numbers, Township numbers, Governmental Townships, parcel numbers of each affected parcel, road names, Legal drain names, River names, North Arrow and other pertinent mapping information be shown on said plans.
20. A Road Use and Maintenance Agreement must be executed by the applicant prior to the start of construction. The Road-Use and Maintenance Agreement document shall be provided to the Applicant by the Starke County Highway Department. Final acceptance and approval of the Road-Use and Maintenance Agreement shall be by the Starke County Commissioners.

21. The Applicant shall identify all State highways and local roads to be used in the transport of equipment and parts for construction of the CSES. They shall also prepare a timeline and phasing plan for construction and identify any known road closures. This information shall be released to the local newspapers as notice to persons who may be affected. This information shall also be conveyed to local law enforcement, emergency services, public school corporations, the United States Postal Service, and the regional office of the Indiana Department of Transportation (INDOT).
22. All adjacent land owners must be notified by certified mail of the CSES project. Mailings must include a toll-free phone number of the Applicant for adjacent land owners to direct their comments and questions to.
23. **Pre-Construction Survey.** The Applicant shall conduct a pre-construction baseline survey, acceptable to the Starke County Highway Superintendent, to determine existing road and culvert conditions for assessing potential future damage. The survey shall include photographs, or video, or a combination thereof, and a written agreement to document the condition of the public facilities. The Starke County Highway Superintendent shall have 10 business days to respond to the pre-construction baseline survey
24. **As-Built Plans Requirement.** Upon completion of the development, the exact measurements of the location of utilities and structures erected during the development are necessary for public record and shall therefore be recorded. The applicant, owner, or operator shall submit a copy of the Final Construction Plans (as-Built plans), as amended, to the Planning Administrator. After being satisfied that the measurements are substantially the same as indicated on the originally approved final plans, The Planning Administrator shall approve, date and sign said Final Construction Plans (as-Built plans) for the project, which the applicant, owner, or operator shall then record the As-Built document in the Office of the Starke County Recorder.
25. Preliminary (and Final) Site Plans and Specifications shall include a note indicating the following:  
  
*Contractors are to keep track of all installed utilities and structures and noted differences from the approved Final Construction Plans for inclusion into the final As-Built document.. The applicant, owner, or operator shall submit a copy of the Final Construction Plans (As-Built plans), as amended, to the Planning Administrator. After being satisfied that the measurements are substantially the same as indicated on the originally approved final plans, The Planning Administrator shall approve, date and sign said Final Construction Plans (as-Built plans), for the project, which the applicant, owner, or operator shall then record the As-Built document in the Office of the Starke County Recorder.*
26. **Change in Ownership.** It is the responsibility of the owner or operator listed in the application to inform the Starke County Plan Commission of all changes in ownership and

operation during the life of the project, including the sale or transfer of ownership or operation.

**Section 2. Improvement Location Permit Fees**, is amended by the addition of Solar Energy System Fees as follows:

**1. CSES Permits**

- a. Fees applicable to **Preliminary Site Plan and Specifications** submittal will also be required, as well as any and all other permits as required by Starke County.
- b. Engineering Consultant fees for review of **Preliminary Site Plan and Specifications** may also be required. Applicant shall be responsible for payment of said fees prior to receiving any **Improvement Location Permit**.

- c. An ILP application for a CSES permit shall be accompanied by a fee of:

0-10 kilowatts	\$150.00
11-50 kilowatts	\$300.00
51-100 kilowatts	\$600.00
101-500 kilowatts	\$1,200.00
501-1000 kilowatts	\$2,750.00
1,001-2,000 kilowatts	\$6,000.00
Over 2,000 kilowatts	\$6,000.00 + \$200.00 for each additional 1,000 kw

- d. Maximum Fee of \$50,000.00

- 2. **PRSES Permits.** Application shall be accompanied by an accessory use fee of \$150.00.

**Section 3. Definitions:**

**"Commercial Solar Energy Systems (CSES)"** means an area of land or other area used by a property owner, multiple property owners, and/or corporate entity for a solar collection system principally used to capture solar energy, convert it to electrical energy or thermal power, and supply electrical or thermal power, primarily or solely for off-site utility grid use, and consisting of one or more free-standing ground-mounted, solar arrays or modules, battery storage facilities, solar related equipment, and ancillary improvements, including substations. CSES are a minimum of 10 acres in total area.

**"Private Residential Solar Energy Systems (PRSES)"** means an area of land or other area used for a solar collection system principally used to capture solar energy convert it to electrical energy or thermal power, and supply electrical or thermal power, primarily or solely for on-site residential use, and consisting of one or more free-standing, ground or roof mounted, solar arrays or modules, or solar related equipment, intended to primarily reduce on-site consumption of utility power and/or fuels. PRSES shall be permitted in all zoning districts and shall be treated as accessory structures in each zoning district in which they are erected. The maximum size of PRSES is limited to the maximum size allowed for an accessory structure in each zoning district (other accessory structures shall not be included in maximum size calculations).

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Section 4. This Ordinance is effective upon passage this 8 of August 2022

Starke County Plan Commission Public Hearing Held On August 8, 2022

Recommended and Approved By The Starke County Plan Commission on August 8, 2022.

Presented to the Starke County Commissioners On September 19 2022.

This Ordinance shall be effective upon its passage and posting of law.

Dated this 19 day of September 2022.

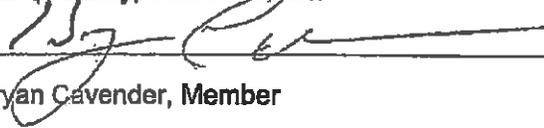
Starke County Board of Commissioners.



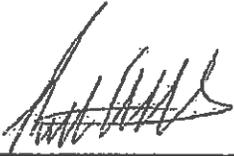
Charles Chesak, President



Mark Gourley, Vice-President



Bryan Cavender, Member

Attest: 

Rachel Oesterreich, Auditor

