ORDINANCE #05-24-21-01
AN ORDINANCE ADOPTING AN UTILITY-SCALE SOLAR ENERGY SYSTEMS ORDINANCE

Whereas, Muscatine County desires to regulate utility-scale solar energy systems within Muscatine County.

NOW, THEREFORE, BE IT HEREBY ORDAINED by the Muscatine County Board of Supervisors:

Section 1. Adoption. The Muscatine County Code of Ordinances, Title III: Property/Land Use and Development is amended by the adoption of the following chapter:

CHAPTER IX. UTILITY-SCALE SOLAR ENERGY SYSTEMS

The requirements of this Ordinance shall apply to all Utility-Scale Solar Energy Systems proposed after the effective date of this Ordinance. Utility-Scale Solar Energy Systems for which a required Muscatine County permit has been properly issued prior to the effective date of this Ordinance shall not be required to meet the requirements of this Ordinance; provided, that any such pre-existing Utility-Scale Solar Energy System, which does not provide energy for a continuous period of twelve (12) months, shall meet the requirements of this Ordinance prior to recommencing production of energy. Also, no modification or alteration to an existing Utility-Scale Solar Energy System shall be allowed without full compliance with this Ordinance.

SECTION 1. DEFINITIONS.

Solar Energy System	A system that converts energy from sunlight into electricity or an additional energy source such as heat.
Residential/Small-Scale Solar Energy System	A solar energy system that is installed at a residence or business to meet the electrical demands at that location. These systems are typically intended to offset electricity use for the owner and are not intended to be net generators of electricity.
Concentrating Solar Power (CSP)	A system that generates solar power by using mirrors or lenses to concentrate a large area of sunlight onto a receiver.
Utility-Scale Solar Energy System	A group of interconnected solar panels/arrays that convert sunlight into electricity for the primary purpose of wholesale or retail sales of generated electricity. This definition does not apply to consumer scale solar installations that are constructed primarily to provide power for use on-site.
Easement or Lease	A legal agreement for the use of property for a specified purpose.

Feeder Circuits/Lines A power line or network of lines used as a collection system that carries energy produced by a solar energy system to an interconnection point like a substation. Feeder circuits are most often placed underground.

Interconnection Link between a generator of electricity and the electrical grid.

Module An individual unit composed of multiple photovoltaic (PV) cells, with multiple modules used in a solar energy system.

Mounting The method of anchoring solar energy system modules to the ground or a building.

Non-Participating Landowner Any landowner that has not signed a lease agreement for an easement or lease with the project owner or developer, often adjacent to or near the project.

Operator The entity or individual that operates a solar energy system.

Owner The entity or individual that has ownership over a solar energy system.

Substation A subsidiary station of electricity generation, transmission and distribution system where voltage is transformed from high to low or the reverse using transformers.

System Height The height of a solar energy system, usually referring to ground mounted systems. Total system height is the measurement from the ground to the top of the mounting or modules associated with a system.

Transmission Lines Power lines used to carry electricity from collection systems or substations over long distances.

SECTION 2. UTILITY-SCALE SOLAR ENERGY SYSTEMS

2.1 General Requirements.

a. **Concentrating Solar Power (CSP) Systems.** Concentrating Solar Power Systems shall be prohibited.

b. **Site Plan.** A site plan shall be submitted and reviewed prior to approval of a Utility-Scale Solar Energy System.

c. **Special Use Permit Required.** A Utility-Scale Solar Energy System is a Special Permitted Use in the A-1 Agricultural District and a permitted use in the I-1 Light Industrial and I-2 Heavy Industrial Districts.

d. **Additional Information.** In addition to all submittal requirements of a site plan and Special Use Permit application (where required), the application for a utility-scale solar installation shall include the following information on the site plan or in narrative form, supplied by utility-scale solar energy system owner, operator or contractor installing the structures

1. Number, location and spacing of solar panels/arrays.

2. Planned location of underground or overhead electric lines.

3. Project development timeline which indicates how the applicant will inform adjacent property owners, persons in possession (tenants) and interested stakeholders in the community.

4. Interconnection plan.

5. Operation and maintenance plan.

6. Decommissioning plan.

7. Site and structure requirements.

For projects 25 MW or larger, the Application of Certificate, required by the Iowa Utilities Board, will be considered acceptable to meet the above additional requirements. In cases where a Special Use Permit is required, the current application to the Board of Adjustment shall still be required.

e. **Setbacks.** Setbacks for all structures (including solar arrays) shall be the same as what is required for residences in the A-1 Agricultural District unless the Board of Adjustment finds that less is warranted. All structures shall observe listed setbacks in the I-1 and I-2 Districts. No setbacks are required where a property line is shared by two participating landowners. Mandated setback distances may be waived with the consent of participating landowners and adjacent property owners.

f. **Screening.** A landscape buffer may be required to be installed and maintained during the life of the operation if a Special Use Permit is required. Determination of screening requirements will be made by the Board of Adjustment as part of the review and approval process and will be based on adjacent or nearby surrounding land uses and topography.

g. **Utility connections.** Reasonable efforts shall be made to place all connections within the solar installation underground, depending on appropriate soil conditions, shape and topography of the site, distance to the connection, or other conditions

or requirements. All components used for the collection, conversion, and storage of energy shall be contained within the leased and fenced project area, excluding overhead and underground transmission lines.

h. **Grading plan.** A grading plan shall be submitted and shall include all proposed changes to the landscape of the site (e.g., clearing, grading, topographic changes, tree removal, etc.)

i. **Glare minimization.** All solar panels shall be constructed to minimize glare or reflection onto adjacent properties and adjacent roadways and must not interfere with traffic, including air traffic, or create a safety hazard.

j. **Compliance with local, state and federal regulations.** Utility-scale solar installations shall comply with applicable local, state and federal regulations.

k. **Appurtenant structures.** All appurtenant structures shall be subject to bulk and height regulations of structures in the applicable zoning district except where otherwise approved.

l. **Floodplain considerations.** Utility-scale solar installations are considered to be maximum damage potential structures and facilities for purposes of the floodplain district regulations. Utility-scale solar installations are discouraged within the 1% Special Flood Hazard Area (100 year floodplain), but may be allowed subject to provisions of the Muscatine County Floodplain Management Ordinance.

m. **Fencing/security.** An NEC compliant security fence must be installed along all exterior sides of the utility-scale solar energy system and be equipped with a minimum of one gate and locking mechanism on the primary access side. Security fences, gates and warning signs must be maintained in good condition until the utility-scale solar installation is dismantled and removed from the site.

n. **Signage.** Signage with the following information shall be maintained at all locked entrance locations:

1. A visible "High Voltage" warning sign;
2. Name(s) and phone number(s) for the electric utility provider;
3. Name(s) and phone number(s) for the site operator;
4. The facility's 911 address, GPS coordinates; and,
5. A lockbox with keys as needed.

o. **Operation and maintenance plan.** The applicant shall submit a plan for the operation and maintenance of the solar installation, which shall include measures for maintaining safe access to the installation, stormwater and

erosion controls, as well as general procedures for operation and maintenance of the installation.

p. **Soil erosion and sediment control considerations.** The applicant agrees to conduct all roadwork and other site development work in compliance with a national pollutant discharge elimination system (NPDES) permit as required by the state department of natural resources and comply with requirements as detailed by local jurisdictional authorities during the plan submittal. If subject to NPDES requirements, the applicant must submit the permit for review and comment and an erosion and sediment control plan before beginning construction. The plan must include both general "best management practices" for temporary erosion and sediment control both during and after construction and permanent drainage and erosion control measures to prevent damage to local roads or adjacent areas and to prevent sediment laden run-off into waterways.

q. **Stormwater management considerations.** For the purposes of pollutant removal, stormwater rate and runoff management, flood reduction and associated impacts, the applicant shall provide a detailed analysis of pre- and post-development stormwater runoff rates for review by local jurisdictional authorities. This requirement may be met by providing a copy of the applicant's Stormwater Pollution Prevention Plan prior to the start of construction.

r. **Ground cover and buffer areas.** Ground around and under solar arrays and in project site buffer areas shall be planted and maintained in perennial vegetated ground cover, and meet the following standards:

1. Top soil shall not be removed during development, unless part of the remediation effort.

2. Soils shall be planted and maintained in perennial vegetation to prevent erosion, manage run off and build soil. Seeds should include a mix of grasses and wildflowers, ideally native to the region of the project site that will result in a short stature prairie with a diversity of forbs or flowering plants that bloom throughout the growing season. Blooming shrubs may be used in buffer areas as appropriate for visual screening.

3. Seed mixes and maintenance practices should be consistent with recommendations made by qualified natural resource professionals such as those from the Department of Natural resources, County Soil and Water Conservation Service or Natural Resource Conservation Service.

4. Notification of the landowner, farm tenant and adjoining landowner shall be required and approval of the landowner secured prior to the company enrolling the land in a Candidate Conservation agreement or

Habitat Conservation Plan under the Endangered Species Act. The notification should include information about the size of the buffer areas to adjacent properties, a summary of the agreement or plan, and where the landowner, tenant or adjoining landowner may obtain more information.

s. **Maintenance, repair or replacement of facility.** Maintenance shall include, but not be limited to, painting, structural repairs, and integrity of security measures. Site access shall be maintained to a level acceptable to emergency response officials. Any retrofit, replacement or refurbishment of equipment shall adhere to all applicable local, state and federal requirements.

t. **Access Required.** The Zoning/Building Official and any other necessary personnel may enter the property for which a Special Use or Building Permit has been issued under this ordinance to conduct an inspection to determine whether the conditions stated in the permit have been met as specified by statute, ordinance or code. Failure to provide access shall be deemed a violation of this ordinance.

2.2 Infrastructure Protection and Road Use Agreements.

A pre-construction plan will be developed between the system owner, operator or contractor and Muscatine County that addresses potential impacts to roads and other infrastructure from solar project construction as well as post construction review to identify impacts and provide for repairs, prior to issuance of the building permit. All routes on County roads that will be used for the construction and maintenance purposes shall be identified on the site plan. All routes for either ingress or egress shall be shown. Prior to issuance of a building permit, the developer must complete and provide a pre-construction baseline survey/assessment to determine existing road conditions for assessing potential future damage due to developmental-related traffic. Prior to the issuance of the building permit, the developer shall provide a road repair plan to ameliorate any and all damage, installation, or replacement of roads that might be required by the developer. Prior to the issuance of the building permit, the developer shall provide a letter of credit or surety bond in an amount and form approved by the appropriate road authority (s) when warranted. The provisions of this section shall be subject to approval by the Muscatine County Engineer.

2.3 Decommissioning and Site Reclamation Plan.

The application must include a decommissioning plan that describes the anticipated life of the utility-scale solar installation; the anticipated manner in which the project will be decommissioned; the anticipated site restoration actions; the estimated decommissioning costs in current

dollars; and the method for ensuring that funds will be available for decommissioning and restoration.

The applicant shall provide the basis for estimates of net costs for decommissioning the site (decommissioning costs less salvage value). The cost basis shall include a mechanism for calculating adjusted costs over the life of the project.

Restoration or reclamation activities shall include, but not be limited to, the following:

1. Restoration of the pre-construction surface grade and soil profile after removal of structures, equipment, graveled areas and access roads.
2. Re-vegetation of restored soil areas with crops, native seed mixes, plant species suitable to the area, consistent with the county's weed control plan.

For any part of the energy project on leased property, the plan may incorporate agreements with the landowner regarding leaving access roads, fences, gates or repurposed buildings in place or regarding restoration of agricultural crops or forest resource land. Any use of remaining structures must be in conformance with the regulations in effect at the time.

After the utility-scale solar installation is in service, following a continuous one-year period in which no electricity is generated, or if substantial action on the project is discontinued for a period of one year, the permit holder will have one year to complete decommissioning of the utility-scale solar installation.

Decommissioning shall be completed in accordance with the approved decommissioning plan. The owner or operator of the system must notify the County when the project is discontinued.

Section 2. Amendments. The Muscatine County Code of Ordinances, Title III Property/Land Use and Development, Chapter II Zoning Ordinance is amended by adoption of the following new subsections:

Article III, Section 3: 3.31 Utility-Scale Solar Energy Systems

Article X, Section 2: 2.8 Utility-Scale Solar Energy Systems

Section 3. Severability. If any section, provision, or part of this ordinance shall be adjudged invalid or unconstitutional, such adjudication shall not affect the validity of the regulations as a whole or any section, provision, or part thereof not adjudged invalid or unconstitutional.

Section 4. Effective Date. This ordinance shall take effect upon its publication as required by law.

Section 5. Conflict with Provisions. All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

PASSED, APPROVED AND ORDAINED this 24th day of May, 2021.

ATTEST:

/s/Tibe Vander Linden
Muscatine County Auditor

/s/Santos Saucedo, Chairperson
Muscatine County Board of Supervisors