



JOHNSON COUNTY

Department of Planning & Zoning
86 West Court Street
Franklin, Indiana 46131

Phone: (317) 346-4350
www.co.johnson.in.us

SPECIAL MEETING AGENDA

Johnson County Advisory Plan Commission
June 7th, 2021, 6:00 PM
Public Auditorium, West Annex Building
86 West Court Street, Franklin, Indiana

CALL TO ORDER

ROLL CALL

PUBLIC HEARINGS

Proposed Amendments to the Johnson County Zoning Ordinance: Amendments to 6-10106 J Wind Energy Conversion Systems and Establishment of a new section under 6-101-6 for Solar Energy Systems

NEW BUSINESS

ADJOURNMENT

The next meeting of the Johnson County Advisory Plan Commission is scheduled for June 28, 2021 at 6:00 PM in the public auditorium of the Courthouse West Annex Building.

Zoning Ordinance Text amendments – marked up version to show changes.

Blue Text – additions added since May PC Meeting

Red Text – additions added to original zoning ordinance, presented at the May PC Meeting

~~Red Text strikethrough – new text removed~~

~~Black Text strikethrough – original ordinance text removed.~~

6-101-3(B) Definitions to add

Accessory Solar Energy Conversion System (SECS) -A SECS that is part of the structure of a residence or business or part of the permitted yard of a residence or business and which is designed to provide electrical power, heating or cooling, or water heating only for the residence or business

Commercial Solar Energy Conversion System (SECS) - A SECS which has a nameplate capacity of at least ten (10) megawatts; and captures or converts solar energy into electricity for the purpose of selling the electricity for use in locations other than where it is generated.

Off-grid Solar Energy Conversion System – A photovoltaic solar energy system in which the circuits energized by the solar energy system are not electrically connected in any way to electric circuits that are served by an electric utility company.

Solar Energy Conversion System (SECS) – A device, array of devices, or structural design feature, the purpose of which is to provide for generation or storage of electricity from sunlight, or the collection, storage, and distribution of solar energy.

6-101-6(J) WIND ENERGY CONVERSION SYSTEMS

Standards and criteria for considering special exception approval for Wind Energy Conversion Systems shall be as follows:

1. Permitting:

- a. Micro WECS are permitted in all zoning districts as a special exception.
- b. Small WECS are permitted in all zones except R-3, R-4, and R-5 as a special exception.
- c. Large WECS are only permitted in Agricultural, Rural Residential, and Industrial Zones as special exceptions.
- d. With the approval of a special exception, a review of a building permit will be conducted administratively to ensure compliance to ordinances. The permit will be charged as a commercial structure other than buildings.

- e. As a part of the permit, the petitioner is required to provide a location map to Mapping so the tower can be added to the County GIS.
- f. All WECS shall conform to applicable industry standards, as well as all local, state and federal regulations. An applicant shall submit certificate(s) of design compliance that wind turbine manufacturers have obtained from Underwriters Laboratories ~~or an equivalent third party~~ and meet National Electrical Code.

2. Standards for Individual Towers:

- a. Noise: All WECS must meet current county ordinances for noise pollution.
- b. Setbacks: Small WECS must be located at least twice its height from all property lines. Large WECS must be located at least twice the height from all property lines and at least 1,000 feet from all buildings not belonging to the WEC owner. Property line setbacks between separate parcels both of which are participating in the project may be waived upon agreement of the landowner(s). When the WECS facilities for a single project encompass multiple parcels, there is no required ~~required~~ setback from a property line for the internal property lines in the project.
- c. Climbing: All towers must be ~~un-climbable~~ unclimbable or made ~~un-climbable~~ unclimbable for the bottom ~~11-15~~ feet and must include features to deter climbing or be protected by anti-climbing devices such as:
 - i. Fences with locking portals at least six (6) feet in height; or
 - ii. Anti-climbing devices fifteen (15) feet vertically from the base of the WECS tower; or
 - iii. Locked WECS tower doors.
- d. Aesthetics: Only non-reflective, unobtrusive colors are permitted. Blades are permitted to be black for ice mitigation.
- e. Braking: All WECS shall be equipped with a redundant braking system. This includes both aerodynamic over-speed controls (including variable pitch, tip, and other similar systems) and mechanical brakes. Mechanical brakes shall be operated in a fail-safe mode. Stall regulation shall not be considered a sufficient braking system for over-speed protection.
- f. FAA: All WECS shall comply with all applicable FAA requirements.
- g. Maintenance: The owner or operator of the WECS must annually

report continued operation to the planning and zoning office.

- h. Warnings: Warning and no trespassing signs must be placed at the base of the tower for all except Micro WECS.
- i. Emergency: All WECS must meet local fire and safety provisions.
- j. Lighting: Lighting must conform to current [lighting requirements of the Zoning Ordinance of Johnson County](#). (See [Section 6-101-5\(H\)\(9\)](#).)
- k. Fencing: Fencing may be required around the base of the WECS if it is considered necessary for safety concerns.
- l. [Measurement of height: Unless otherwise specified, as used in this section, the height for a WECS tower is measured from the ground to the tip of the blade at its maximum distance from the ground.](#)
- ~~m. Discontinuance of Use: Any WECS in which the use has been discontinued for more than 12 months will require documentation stating it still can be safely operated, or be removed from the property.~~
- m. Distance from Power Lines: All WECS shall be located [at least](#) 1.5 times their height from power lines.
- n. Wiring: ~~All wiring is required to be underground.~~ [All electrical wires and utility connections shall be installed underground, except for transformers, inverters, substations, controls, and similar facilities.](#)
- o. The electrical company serving the property is to be notified of the construction of a WECS.
- p. [Maximum Vibrations: Any proposed wind turbine generator shall not produce vibrations humanly perceptible beyond the property on which it is located or cause vibration that ~~could be detected~~ is detectable in nearby structures or damage to underground wells.](#)

3. Wind Farm Standards:

- a. The following standards from Individual Towers shall apply to Wind Farms: Noise, Placement, Climbing, Aesthetics, Braking, FAA, Maintenance, Warnings, Emergency, Lighting, Fencing, ~~Discontinuance of Use~~, Distance from Power Lines, and Wiring.

- b. Setbacks: All WECS are to meet setback standards under Section 6-101-6(J)(2)(b), and towers must be located at least 1.25 times their height from another tower.
- c. Signs and Warnings: The following notices shall be clearly visible and facing the public right-of-way on all facility perimeter fencing at least once every 500 feet (which may be combined on one sign) if fenced:
 - i. "No Trespassing" signs.
 - ii. "Danger" warning signs appropriate for electrical systems.
 - iii. Signage posting emergency telephone number(s).

4. Decommissioning Plan

Prior to receiving approval for a Large WECS or Wind Farm under this Ordinance, the Board of Zoning Appeals and the applicant, County Commissioners, and owner and/or operator shall formulate a decommissioning plan approved and signed by the County Commissioners and the applicant, outlining the anticipated means and cost of removing a ~~Commercial~~ the Large WECS or Wind Farm at the end of ~~their~~ its serviceable life or upon becoming a discontinued or abandoned use, to ensure that the Large WECS or Wind Farm is properly decommissioned.

- a. Surety Bond- ~~Commercial~~ Large WECS
 - i. Applicant for a Large WECS shall provide a bond, or other proof of financial responsibility that is of an amount determined by the County Commissioners to be sufficient to satisfy the decommissioning agreement requirements.
 - ii. Other proof of financial responsibility may be:
 - (a). Cash advance to county to be released upon completion of decommissioning plan; or,
 - (b). An arrangement whereby the county would have access to the funds in an escrow account or other type of account held by a bank, until the completion of the decommissioning plan.
 - iii. The Bond, or other proof of financial responsibility, shall be released upon receipt of a certificate of inspection by the Director of the Planning and Zoning Department indicating that the Large WECS has been fully decommissioned in accordance with the decommissioning plan ~~is complete~~, with no unresolved issues related to the required decommissioning. ~~plan~~.
- b. A decommissioning plan shall include, at a minimum, language ~~to~~ addressing the following:
 - i. Assurance: Written assurance that the facilities will be properly decommissioned upon the end of the project life or in the event that the facility is abandoned.

- ii. Cost estimates: The applicant shall provide a contractor cost estimate for demolition and removal of the Large WECS facility which cost estimate shall include any offsetting effects of salvage value. The cost estimates shall be made by a competent party: such as a professional engineer, a contractor capable of decommissioning or a person with suitable expertise or experience with decommissioning ~~SES~~ Large WECS.
 - iii. Cost adjustments: Terminology shall be included in the decommissioning plan that provides cost estimate adjustments derived from the US Bureau of Labor Statistics Consumer Price Indexes (CPI) to protect against inflation.
- c. Discontinuation and Abandonment
 - i. Discontinuation: All Large WECS shall be considered a discontinued use after six (6) consecutive months without energy production, unless a plan is developed and submitted to the Director outlining the steps and schedule for returning the Large WECS to service within six (6) consecutive months. Large WECS shall be subject to decommissioning upon ceasing energy production for more than twelve (12) consecutive months.
 - ii. Abandonment by the owner or operator: ~~In~~ To address concerns regarding the ~~event of~~ potential abandonment by the owner or operator, the applicant ~~will~~ shall provide an affidavit to the Director representing that all easements for solar collection shall contain terms that provide financial assurance, including access to the salvage value of the equipment, for the property owners to ensure that facilities are properly decommissioned within one (1) year of expiration or earlier termination of the project.
 - iii. Removal : A WECS owner's obligations shall include, at the WECS owner's expense, removal of all physical material pertaining to the project improvements to no less than a depth of six (6) feet below ground level within three hundred sixty-five (365) days of the discontinuation or abandonment of the WECS, and restoration of the project area to as near as practicable the condition of the site immediately before construction of such WECS improvements, unless otherwise agreed to by the property owner and Johnson County at the time of the discontinuation or abandonment of the WECS.
 - iv. Written Notices : Prior to implementation of the existing procedures for the resolution of a decommissioning default(s), the Director 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, for good faith negotiations to resolve the alleged default(s).
 - v. Costs Incurred by the County: If the County removes a WECS and appurtenant facilities, it may sell the salvage to defray the costs of removal. The permittee or grantor shall grant a license to Johnson

County to enter the property to remove the WECS pursuant to the terms of an approved decommissioning plan.

K. SOLAR ENERGY CONVERSION SYSTEMS

The regulation of solar energy **conversion** systems, solar farms and facilities and other solar energy devices is authorized by Indiana Code § 36-7-2-2 and is designed to protect the public health, welfare and safety. The purpose of this Section is to plan for and regulate the use, improvement, and maintenance of real property and the location, condition, and maintenance of structures and other improvements **associated with SECS**. These regulations allow solar energy **conversion** systems, solar farms and facilities and other solar energy devices in certain areas, and, therefore, do not have the effect of unreasonably restricting the use of such facilities other than for the preservation and protection of the public health and safety. It is the policy of Johnson County to promote and encourage the use of solar energy **conversion** systems and facilities, and these regulations are not intended to and do not have the effect of significantly increasing the cost of such systems, decreasing the efficiency of such systems, or impeding alternative systems of comparable cost and efficiency. Standards and criteria for Solar Energy Conversion Systems shall be as follows:

1. Permitting:

- a. Accessory SECS are permitted in all zoning districts.
- b. Commercial SECS are only permitted in Agricultural, ~~Rural Residential~~, and Industrial Zones as special exceptions.
- c. With the approval of a special exception, a review of an improvement location permit will be conducted administratively for Commercial SECS to ensure compliance to ordinances, **and** the permit will be charged as a non-residential use improvement location permit .
 - i. The Director may require an applicant to obtain site plan approval, prior to issuance of an improvement location permit, from the Johnson County Technical Review Committee, where engineering design standards shall be based on Subdivision Control Ordinance requirements and any other applicable authority.
- d. A review of a permit will be conducted administratively for Accessory SECS to ensure compliance ~~to~~ **with** ordinances. Building or roof-mounted solar energy **conversion** systems will be treated as a remodel permit and will be charged as such. Ground mounted systems will be reviewed as an ~~Location~~-Improvement Location Permit and will be charged as such.

- e. For a building permit or improvement location permit, the applicant ~~may~~ shall submit to the Planning and Zoning Department a site plan which includes the general footprint of the solar energy conversion system, the number of panels, the generating capacity, the location of all fences, electrical poles and lines, the location of all other equipment and structures, the location of any and all underground electrical lines, facilities and structures, and the location of all access roads, rights-of-way and easements.
- i. An applicant shall submit certificate(s) of design compliance for the SECS to be installed, that the solar equipment manufacturer(s) have obtained from Underwriters Laboratories, and that certify that the SECS meets National Electrical Code requirements.
- f. All Solar Energy Conversion Systems shall conform to applicable industry standards, as well as all local, state and federal regulations. All SECS shall comply with all Federal Aviation Administration rules and regulations, and Federal Communications Commission rules and regulations.
- g. All off-grid solar energy conversion systems are exempt from these standards.

2. Standards for Accessory SECS

~~Accessory SECS which are part of the structure of a residence or business or part of the permitted yard of a residence or business and which are designed to provide electrical power, heating or cooling, or water heating only for the residence or business are exempt from this regulation.~~

- a. Setbacks: Ground-mounted SECS must meet the structure setback for the zoning district. For all parcels located in a platted major subdivision, ground-mounted SECS shall not be permitted in any front yard or in any drainage, utility, or other platted or recorded easement.
- b. Height: Building ~~or~~ and roof-mounted solar energy conversion systems shall be included when determining the building or structure height and shall not cause the building or structure to exceed the maximum allowed height in any the zoning district.

Ground or pole-mounted solar energy conversion systems shall not exceed 25 feet in height as measured from the natural grade to the top of the panel or arrays when oriented at maximum tilt.

- c. Lot Coverage: Ground-mounted systems shall meet the existing lot coverage restrictions for the zoning district except as defined below.
 - i. Ground-mounted systems shall be exempt from lot coverage or impervious surface standards if the soil under the collector is maintained in vegetation and not compacted.
- d. Ground-mounted systems shall not count toward the maximum number of accessory structures permitted.

3. Standards for Commercial SECS

The development of commercial or utility scale solar energy conversion systems where such systems present few land use conflicts with current and future development patterns.

- a. Setbacks: Setback distance for Commercial SECS shall be measured from the edge of the solar energy conversion system array, excluding security fencing, screening, or berm.
 - i. All ground-mounted solar panels or arrays must be at least 150 (one-hundred fifty) feet from any property line of a non-participating landowner's property line. Property line setbacks between separate parcels both of which are participating in the project may be waived upon agreement of the landowner(s).
 - ii. When the solar facilities for a single project encompass multiple parcels, there is no ~~required~~ required setback from a property line for the internal property lines in the project.
 - iii. All ground-mounted solar panels or arrays must be at least one hundred (100) feet from the edge of any public right of way.
 - iv. All ground-mounted solar panels or arrays must be at least two hundred (200) feet from the property line if adjoined by property that is zoned residential, and at least two (200) hundred feet from the property line if adjoined by property that is zoned agricultural which has a single family dwelling within five hundred (500) feet of the solar panels or arrays.
 - v. When the solar facilities for a single project encompass multiple parcels, the solar panels or arrays must be at least 150 feet from any existing participating dwelling unit.
 - ~~iv. Setback distance should be measured from the edge of the solar energy system array, excluding security fencing, screening, or berm.~~
- b. Height: Building and ~~or~~ roof-mounted solar energy conversion system shall be measured together when determining the building or structure height and shall not cause the building or structure to exceed the maximum

allowed height in the zoning district.

Ground or pole-mounted solar energy systems shall not exceed 25 feet in height as measured from the natural grade to the top of the panel or arrays when oriented at maximum tilt.

- c. Landscape Buffer – Any Commercial SECS shall be required to meet the landscape standards as listed in Section 6-101-8(C)(2)(a). All Commercial SECS ~~installation~~ ~~installation~~ shall require a minimum Buffer Yard where the subject parcel abuts a parcel with a permitted residential use.

- d. Lighting: Lighting must conform to current lighting requirements of the Zoning Ordinance of Johnson County. (See Section 6-101-5(H)(9).)

- e. Ground Covering Plan: Ground around and under solar panels and in project site buffer areas shall be planted, established, and maintained for the life of the solar project in perennial vegetated ground cover.

To the maximum extent feasible and economical, perennial vegetation ground cover shall be based on a diverse seed mix of native species consistent with guidance specific to the local area based on guidance provided by the National Resources Conservation Service, Soil and Water Conservation District, or Conservation District. The site shall be planted and maintained to be free of all invasive species, as listed by the Indiana Invasive Species Council.

No insecticide use is permitted on the site. This provision does not apply to insecticide use in on-site buildings, in and around electrical boxes, spot control of noxious weeds, or as otherwise may be deemed necessary to protect public health and safety. Plant material must not have been treated with systemic insecticides, particularly neonicotinoids.

- f. Fencing: Perimeter fencing for the site shall not include barbed wire or woven wire designs and shall preferably use wildlife-friendly fencing standards ~~that include clearance at the bottom.~~
- g. Signs and Warnings: The following notices shall be clearly visible and facing the public right-of-way on all facility perimeter fencing near the main entrance of the facility ~~at least once every 500 feet~~ (which may be combined on one sign) if fenced:
 - i. “No Trespassing” signs.
 - ii. “Danger” warning signs appropriate for electrical systems.
 - iii. Signage posting emergency telephone number(s).

- h. Wetlands and Flood Plains: A SECS Facility plan shall not be proposed in an area designated by the Department of Natural Resources (DNR) as a flood plain.

Any site designated as isolated wetlands (those wetlands not regulated under the federal Clean Water Act) are Waters of the State and are regulated under Indiana's State Isolated Wetlands law (Indiana Code 13-18-22). Impacts to isolated wetlands require State Isolated Wetland Permits from IDEM.

- i. Noise: The noise level of all SECS shall be no greater than fifty (50) decibels measured from the nearest property line. This level may only be exceeded during short-term events such as utility outages and/or severe windstorms. All other noise and vibration levels shall follow all county, state, and federal regulations.

- j. Legal Drains: No solar energy conversion system, farm or facility may encroach upon any regulated ditch or legal drain easement. ~~the seventy-five (75) easement of any legal drain or ditch.~~

- k. Private and Mutual Drains: No solar energy conversion system may encroach upon any private or mutual drain or ditch. If the construction of the solar energy system requires the relocation of any private or mutual drain or ditch, such relocation must be approved by the parties to the private or mutual drain or ditch, performed at the expense of the SECS operator, and relocated in a manner so as not to materially impede the function of the drain or ditch. This obligation to refrain from encroaching upon any private or mutual drain or ditch continues and applies even if the encroachment is discovered after construction of the project.

- l. All electrical wires and utility connections shall be installed underground, except for transformers, inverters, substations and controls.

4. Decommissioning Plan

Prior to receiving approval for a Commercial SECS under this Ordinance, the Board of Zoning Appeals and the applicant, County Commissioners, and owner and/or operator shall formulate a decommissioning plan approved and signed by the County Commissioners and the applicant, outlining the anticipated means and cost of removing a the Commercial SECS at the end of ~~their~~ its serviceable life or upon becoming a discontinued or abandoned use, to ensure that the Commercial SECS is properly decommissioned.

- a. Surety Bond-Commercial SECS
 - i. Applicant for a Commercial SECS shall provide a bond, or other proof of financial responsibility that is of an amount determined by the County Commissioners to be sufficient to satisfy the decommissioning agreement requirements.
 - ii. Other proof of financial responsibility may be:
 - (a). Cash advance to county to be released upon completion of decommissioning plan; or,
 - (b). An arrangement whereby the county would have access to the funds in an escrow account or other type of account held by a bank, until the completion of the decommissioning plan.
 - iii. The bond, or other proof of financial responsibility, shall be released upon receipt of a certificate of inspection by the Director of the Planning and Zoning Department indicating that the Commercial SECS has been fully decommissioned in accordance with the decommissioning plan, with no unresolved issues related to the required decommissioning plan.
- b. A decommissioning plan shall include, at a minimum, language addressing to the following:
 - i. Assurance: Written assurance that the facilities will be properly decommissioned upon the end of the project life or in the event that the facility is abandoned.
 - ii. Cost estimates: The applicant shall provide a contractor cost estimate for demolition and removal of the Commercial SECS facility which cost estimate shall include any offsetting effects of salvage value. The cost estimates shall be made by a competent party: such as a professional engineer, a contractor capable of decommissioning or a person with suitable expertise or experience with decommissioning SES Commercial SECS.
 - iii. Cost adjustments: Terminology shall be included in the decommissioning plan that provides cost estimate adjustments derived from the US Bureau of Labor Statistics Consumer Price Indexes (CPI) to protect against inflation.
- c. Discontinuation and Abandonment
 - i. Discontinuation: All Commercial SECS shall be considered a discontinued use after six (6) consecutive months without energy production, unless a plan is developed and submitted to the Director outlining the steps and schedule for returning the Commercial SECS to service within six (6) consecutive months. Commercial SECS shall be subject to decommissioning upon ceasing energy production for more than twelve (12) consecutive months.
 - ii. Abandonment by the owner or operator: ~~In~~ To address concerns regarding the event of potential abandonment by the owner or

operator, the applicant ~~will~~ shall provide an affidavit to the Director representing that all easements for solar collection shall contain terms that provide financial assurance, including access to the salvage value of the equipment, for the property owners to ensure that facilities are properly decommissioned within one (1) year of expiration or earlier termination of the project.

- iii. Removal: An ~~applicant's~~ SECS owner's obligations shall include, at the SECS owner's expense, removal of all physical material pertaining to the project improvements to no less than a depth of six (6) feet below ground level within three hundred sixty-five (365) days of the discontinuation or abandonment of the ~~facility~~ SECS, and restoration of the project area to as near as practicable the condition of the site immediately before construction of such SECS improvements, unless otherwise agreed to by the property owner and Johnson County at the time of the discontinuation or abandonment of the SECS.
- iv. Written Notices: Prior to implementation of the existing procedures for the resolution of ~~such a decommissioning default(s)~~, the Director 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, for good faith negotiations to resolve the alleged default(s).
- v. Costs Incurred by the County: If the County removes a ~~solar plant~~ SECS and appurtenant facilities, it may sell the salvage to defray the costs of removal. ~~By approval,~~ The permittee or grantor shall grant a license to Johnson County to enter the property to remove the ~~solar plant~~ SECS pursuant to the terms of an approved decommissioning plan.

~~K.~~ L. ACCESSORY DWELLING UNITS

**Proposed Zoning Ordinance Text Amendments to
6-101-3(B), 6-101-6(J) 6-101-6(K). & 6-101-6(L)
Clean Version with no mark ups shown**

6-101-3(B) Definitions to add

Accessory Solar Energy Conversion System (SECS) -A SECS that is part of the structure of a residence or business or part of the permitted yard of a residence or business and which is designed to provide electrical power, heating or cooling, or water heating only for the residence or business

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- c. Large WECS are only permitted in Agricultural, Rural Residential, and Industrial Zones as special exceptions.
- d. With the approval of a special exception, a review of a building permit will be conducted administratively to ensure compliance to ordinances. The permit will be charged as a commercial structure other than buildings.
- e. As a part of the permit, the petitioner is required to provide a location map to Mapping so the tower can be added to the County GIS.

- f. All WECS shall conform to applicable industry standards, as well as all local, state and federal regulations. An applicant shall submit certificate(s) of design compliance that wind turbine manufacturers have obtained from Underwriters Laboratories and meet National Electrical Code.

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- a. Noise: All WECS must meet current county ordinances for noise pollution.
- b. Setbacks: Small WECS must be located at least twice its height from all property lines. Large WECS must be located at least twice the height from all property lines and at least 1,000 feet from all buildings not belonging to the WEC owner. Property line setbacks between separate parcels both of which are participating in the project may be waived upon agreement of the landowner(s). When the WECS facilities for a single project encompass multiple parcels, there is no required setback from a property line for the internal property lines in the project.
- c. Climbing: All towers must be unclimbable or made unclimbable for the bottom 15 feet and must include features to deter climbing or be protected by anti-climbing devices such as:
 - i. Fences with locking portals at least six (6) feet in height; or
 - ii. Anti-climbing devices fifteen (15) feet vertically from the base of the WECS tower; or
 - iii. Locked WECS tower doors.
- d. Aesthetics: Only non-reflective, unobtrusive colors are permitted. Blades are permitted to be black for ice mitigation.
- e. Braking: All WECS shall be equipped with a redundant braking system. This includes both aerodynamic over-speed controls (including variable pitch, tip, and other similar systems) and mechanical brakes. Mechanical brakes shall be operated in a fail-safe mode. Stall regulation shall not be considered a sufficient braking system for over-speed protection.
- f. FAA: All WECS shall comply with all applicable FAA requirements.
- g. Maintenance: The owner or operator of the WECS must annually report continued operation to the planning and zoning office.
- h. Warnings: Warning and no trespassing signs must be placed at the base of the tower for all except Micro WECS.

- i. Emergency: All WECS must meet local fire and safety provisions.
- j. Lighting: Lighting must conform to current lighting requirements of the Zoning Ordinance of Johnson County. (See Section 6-101-5(H)(9).)
- k. Fencing: Fencing may be required around the base of the WECS if it is considered necessary for safety concerns.
- l. Measurement of height: Unless otherwise specified, as used in this section, the height for a WECS tower is measured from the ground to the tip of the blade at its maximum distance from the ground.
- m. Distance from Power Lines: All WECS shall be located at least 1.5 times their height from power lines.
- n. Wiring: All electrical wires and utility connections shall be installed underground, except for transformers, inverters, substations, controls, and similar facilities.
- o. The electrical company serving the property is to be notified of the construction of a WECS.
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- b. A decommissioning plan shall include, at a minimum, language addressing the following:
 - i. Assurance: Written assurance that the facilities will be properly decommissioned upon the end of the project life or in the event that the facility is abandoned.
 - ii. Cost estimates: The applicant shall provide a contractor cost estimate for demolition and removal of the Large WECS facility which cost estimate shall include any offsetting effects of salvage value. The cost estimates shall be made by a competent party: such as a professional engineer, a contractor capable of decommissioning or a person with suitable expertise or experience with decommissioning Large WECS.
 - iii. Cost adjustments: Terminology shall be included in the decommissioning plan that provides cost estimate adjustments derived from the US Bureau of Labor Statistics Consumer Price Indexes (CPI) to protect against inflation.

- c. Discontinuation and Abandonment
 - i. Discontinuation: All Large WECS shall be considered a discontinued use after six (6) consecutive months without energy production, unless a plan is developed and submitted to the Director outlining the steps and schedule for returning the Large WECS to service within six (6) consecutive months. Large WECS shall be subject to decommissioning upon ceasing energy production for more than twelve (12) consecutive months.
 - ii. Abandonment by the owner or operator: To address concerns regarding the potential abandonment by the owner or operator, the applicant shall provide an affidavit to the Director representing that all easements for solar collection shall contain terms that provide financial assurance, including access to the salvage value of the equipment, for the property owners to ensure that facilities are properly decommissioned within one (1) year of expiration or earlier termination of the project.
 - ii. Removal : A WECS owner's obligations shall include, at the WECS owner's expense, removal of all physical material pertaining to the project improvements to no less than a depth of six (6) feet below ground level within three hundred sixty-five (365) days of the discontinuation or abandonment of the WECS, and restoration of the project area to as near as practicable the condition of the site immediately before construction of such WECS improvements, unless otherwise agreed to by the property owner and Johnson County at the time of the discontinuation or abandonment of the WECS.
 - iii. Written Notices : Prior to implementation of the existing procedures for the resolution of a decommissioning default(s), the Director 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, for good faith negotiations to resolve the alleged default(s).
 - iv. Costs Incurred by the County: If the County removes a WECS and appurtenant facilities, it may sell the salvage to defray the costs of removal. The permittee or grantor shall grant a license to Johnson County to enter the property to remove the WECS pursuant to the terms of an approved decommissioning plan.

K. SOLAR ENERGY CONVERSION SYSTEMS

The regulation of solar energy conversion systems, solar farms and facilities and other solar energy devices is authorized by Indiana Code § 36-7-2-2 and is designed to protect the public health, welfare and safety. The purpose of this Section is to plan for and regulate the use, improvement, and maintenance of real property and the location, condition, and maintenance of structures and other improvements

associated with SECS. These regulations allow solar energy conversion systems, solar farms and facilities and other solar energy devices in certain areas, and, therefore, do not have the effect of unreasonably restricting the use of such facilities other than for the preservation and protection of the public health and safety. It is the policy of Johnson County to promote and encourage the use of solar energy conversion systems and facilities, and these regulations are not intended to and do not have the effect of significantly increasing the cost of such systems, decreasing the efficiency of such systems, or impeding alternative systems of comparable cost and efficiency. Standards and criteria for Solar Energy Conversion Systems shall be as follows:

1. Permitting:

- a. Accessory SECS are permitted in all zoning districts.
- b. Commercial SECS are only permitted in Agricultural and Industrial Zones as special exceptions.
- c. With the approval of a special exception, a review of an improvement location permit will be conducted administratively for Commercial SECS to ensure compliance to ordinances, and the permit will be charged as a non-residential use improvement location permit .
 - i. The Director may require an applicant to obtain site plan approval, prior to issuance of an improvement location permit, from the Johnson County Technical Review Committee, where engineering design standards shall be based on Subdivision Control Ordinance requirements and any other applicable authority.
- d. A review of a permit will be conducted administratively for Accessory SECS to ensure compliance with ordinances. Building or roof-mounted solar energy conversion systems will be treated as a remodel permit and will be charged as such. Ground mounted systems will be reviewed as an Improvement Location Permit and will be charged as such.
- e. For a building permit or improvement location permit, the applicant shall submit to the Planning and Zoning Department a site plan which includes the general footprint of the solar energy conversion system, the number of panels, the generating capacity, the location of all fences, electrical poles and lines, the location of all other equipment and structures, the location of any and all underground electrical lines, facilities and structures, and the location of all access roads, rights-of-way and easements.
 - i. An applicant shall submit certificate(s) of design compliance for the SECS to be installed, that the solar equipment manufacturer(s) have obtained

from Underwriters Laboratories, and that certify that the SECS meets National Electrical Code requirements.

- f. All Solar Energy Conversion Systems shall conform to applicable industry standards, as well as all local, state and federal regulations. All SECS shall comply with all Federal Aviation Administration rules and regulations, and Federal Communications Commission rules and regulations.
- g. All off-grid solar energy conversion systems are exempt from these standards.

2. Standards for Accessory SECS

- a. Setbacks: Ground-mounted SECS must meet the structure setback for the zoning district. For all parcels located in a platted major subdivision, ground-mounted SECS shall not be permitted in any front yard or in any drainage, utility, or other platted or recorded easement.
- b. Height: Building and roof-mounted solar energy conversion systems shall be included when determining the building or structure height and shall not cause the building or structure to exceed the maximum allowed height in the zoning district.

Ground or pole-mounted solar energy conversion systems shall not exceed 25 feet in height as measured from the natural grade to the top of the panel or arrays when oriented at maximum tilt.

- c. Lot Coverage: Ground-mounted systems shall meet the existing lot coverage restrictions for the zoning district except as defined below.
 - i. Ground-mounted systems shall be exempt from lot coverage or impervious surface standards if the soil under the collector is maintained in vegetation and not compacted.
- d. Ground-mounted systems shall not count toward the maximum number of accessory structures permitted.

3. Standards for Commercial SECS

The development of commercial or utility scale solar energy conversion systems where such systems present few land use conflicts with current and future development patterns.

- a. Setbacks: Setback distance for Commercial SECS shall be measured from the

edge of the solar energy conversion system array, excluding security fencing, screening, or berm.

- i. All ground-mounted solar panels or arrays must be at least 150 (one-hundred fifty) feet from any property line of a non-participating landowner's property line. Property line setbacks between separate parcels both of which are participating in the project may be waived upon agreement of the landowner(s).
 - ii. When the solar facilities for a single project encompass multiple parcels, there is no required setback from a property line for the internal property lines in the project.
 - iii. All ground-mounted solar panels or arrays must be at least one hundred (100) feet from the edge of any public right of way.
 - iv. All ground-mounted solar panels or arrays must be at least two hundred (200) feet from the property line if adjoined by property that is zoned residential, and at least two (200) hundred feet from the property line if adjoined by property that is zoned agricultural which has a single family dwelling within five hundred (500) feet of the solar panels or arrays.
 - v. When the solar facilities for a single project encompass multiple parcels, the solar panels or arrays must be at least 150 feet from any existing participating dwelling unit.
- b. Height: Building and roof-mounted solar energy conversion system shall be measured together when determining the building or structure height and shall not cause the building or structure to exceed the maximum allowed height in the zoning district.

Ground or pole-mounted solar energy systems shall not exceed 25 feet in height as measured from the natural grade to the top of the panel or arrays when oriented at maximum tilt.

- c. Landscape Buffer – Any Commercial SECS shall be required to meet the landscape standards as listed in Section 6-101-8(C)(2)(a). All Commercial SECS installation shall require a minimum Buffer Yard where the subject parcel abuts a parcel with a permitted residential use.
- d. Lighting: Lighting must conform to current lighting requirements of the Zoning Ordinance of Johnson County. (See Section 6-101-5(H)(9).)
- e. Ground Covering Plan: Ground around and under solar panels and in project site buffer areas shall be planted, established, and maintained for the life of the solar project in perennial vegetated ground cover.

To the maximum extent feasible and economical, perennial vegetation ground cover shall be based on a diverse seed mix of native species consistent with guidance specific to the local area based on guidance provided by the National Resources Conservation Service, Soil and Water Conservation District, or Conservation District. The site shall be planted and maintained to be free of all invasive species, as listed by the Indiana Invasive Species Council.

No insecticide use is permitted on the site. This provision does not apply to insecticide use in on-site buildings, in and around electrical boxes, spot control of noxious weeds, or as otherwise may be deemed necessary to protect public health and safety. Plant material must not have been treated with systemic insecticides, particularly neonicotinoids.

- f. Fencing: Perimeter fencing for the site shall not include barbed wire or woven wire designs and shall preferably use wildlife-friendly fencing standards.
- g. Signs and Warnings: The following notices shall be clearly visible and facing the public right-of-way on all facility perimeter fencing near the main entrance of the facility (which may be combined on one sign) if fenced:
 - i. "No Trespassing" signs.
 - ii. "Danger" warning signs appropriate for electrical systems.
 - iii. Signage posting emergency telephone number(s).
- h. Wetlands and Flood Plains: A SECS Facility plan shall not be proposed in an area designated by the Department of Natural Resources (DNR) as a flood plain.

Any site designated as isolated wetlands (those wetlands not regulated under the federal Clean Water Act) are Waters of the State and are regulated under Indiana's State Isolated Wetlands law (Indiana Code 13-18-22). Impacts to isolated wetlands require State Isolated Wetland Permits from IDEM.

- i. Noise: The noise level of all SECS shall be no greater than fifty (50) decibels measured from the nearest property line. This level may only be exceeded during short-term events such as utility outages and/or severe windstorms. All other noise and vibration levels shall follow all county, state, and federal regulations.
- j. Legal Drains: No solar energy conversion system, farm or facility may encroach upon any regulated ditch or legal drain easement.

- k. Private and Mutual Drains: No solar energy conversion system may encroach upon any private or mutual drain or ditch. If the construction of the solar energy system requires the relocation of any private or mutual drain or ditch, such relocation must be approved by the parties to the private or mutual drain or ditch, performed at the expense of the SECS operator, and relocated in a manner so as not to materially impede the function of the drain or ditch. This obligation to refrain from encroaching upon any private or mutual drain or ditch continues and applies even if the encroachment is discovered after construction of the project.
- l. All electrical wires and utility connections shall be installed underground, except for transformers, inverters, substations and controls.

4. Decommissioning Plan

Prior to receiving approval for a Commercial SECS under this Ordinance, the Board of Zoning Appeals and the applicant, County Commissioners, and owner and/or operator shall formulate a decommissioning plan approved and signed by the County Commissioners and the applicant, outlining the anticipated means and cost of removing the Commercial SECS at the end of its serviceable life or upon becoming a discontinued or abandoned use, to ensure that the Commercial SECS is properly decommissioned.

- a. Surety Bond-Commercial SECS
 - i. Applicant for a Commercial SECS shall provide a bond, or other proof of financial responsibility that is of an amount determined by the County Commissioners to be sufficient to satisfy the decommissioning agreement requirements.
 - ii. Other proof of financial responsibility may be:
 - (a). Cash advance to county to be released upon completion of decommissioning plan; or,
 - (b). An arrangement whereby the county would have access to the funds in an escrow account or other type of account held by a bank, until the completion of the decommissioning plan.
 - iii. The bond, or other proof of financial responsibility, shall be released upon receipt of a certificate of inspection by the Director of the Planning and Zoning Department indicating that the Commercial SECS has been fully decommissioned in accordance with the decommissioning plan, with no unresolved issues related to the required decommissioning.
- b. A decommissioning plan shall include, at a minimum, language addressing the following:

- i. Assurance: Written assurance that the facilities will be properly decommissioned upon the end of the project life or in the event that the facility is abandoned.
 - ii. Cost estimates: The applicant shall provide a contractor cost estimate for demolition and removal of the Commercial SECS facility which cost estimate shall include any offsetting effects of salvage value. The cost estimates shall be made by a competent party: such as a professional engineer, a contractor capable of decommissioning or a person with suitable expertise or experience with decommissioning Commercial SECS.
 - iii. Cost adjustments: Terminology shall be included in the decommissioning plan that provides cost estimate adjustments derived from the US Bureau of Labor Statistics Consumer Price Indexes (CPI) to protect against inflation.
- c. Discontinuation and Abandonment
- i. Discontinuation: All Commercial SECS shall be considered a discontinued use after six (6) consecutive months without energy production, unless a plan is developed and submitted to the Director outlining the steps and schedule for returning the Commercial SECS to service within six (6) consecutive months. Commercial SECS shall be subject to decommissioning upon ceasing energy production for more than twelve (12) consecutive months.
 - ii. Abandonment by the owner or operator: To address concerns regarding the potential abandonment by the owner or operator, the applicant shall provide an affidavit to the Director representing that all easements for solar collection shall contain terms that provide financial assurance, including access to the salvage value of the equipment, for the property owners to ensure that facilities are properly decommissioned within one (1) year of expiration or earlier termination of the project.
 - iii. Removal: An SECS owner's obligations shall include, at the SECS owner's expense, removal of all physical material pertaining to the project improvements to no less than a depth of six (6) feet below ground level within three hundred sixty-five (365) days of the discontinuation or abandonment of the SECS, and restoration of the project area to as near as practicable the condition of the site immediately before construction of such SECS improvements, unless otherwise agreed to by the property owner and Johnson County at the time of the discontinuation or abandonment of the SECS.
 - iv. Written Notices: Prior to implementation of the existing procedures for the resolution of a decommissioning default(s), the Director 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, for good faith negotiations to resolve the alleged default(s).

- v. Costs Incurred by the County: If the County removes a SECS and appurtenant facilities, it may sell the salvage to defray the costs of removal. The permittee or grantor shall grant a license to Johnson County to enter the property to remove the SECS pursuant to the terms of an approved decommissioning plan.

L. ACCESSORY DWELLING UNITS