The
AREA PLAN COMMISSION
of Tippecanoe County

Ordinance Committee
Notice of Public Hearing

Date: November 4, 2020
Time: 4:35 PM
Location: Tippecanoe County Office Building
Tippecanoe Room
20 North Third Street
Lafayette, IN

AGENDA

I. **PLEASE NOTE:**

Due to the public health emergency, public comment on agenda items may be submitted prior to the meeting at apc@tippecanoe.in.gov. Comments must include name and address to be heard. Comments may also be made live on the streaming platforms. Members of the public may watch the livestream of the meeting on Facebook or YouTube. Links can be found on the county website at www.tippecanoe.in.gov/apc.

II. **APPROVAL OF MINUTES FROM THE JOINT ORDINANCE /BYLAW COMMITTEE OCTOBER 7TH MEETING**

Documents:

ORD BYLAW 10.07.2020.PDF

III. **SOLAR ENERGY SYSTEMS AMENDMENT:**

Adding requirements and standards regarding accessory solar energy systems; community-scale and large-scale solar energy systems to the Unified Zoning Ordinance - Rabita Foley. (Attachments include the County's WECS Decommissioning Plan Ordinance and the Solar Energy Systems amendment posted last month.)

Documents:

WECS DECOMMISSIONING PLAN.PDF
AMEND 99 SOLAR ENERGY SYSTEM DRAFT.PDF

IV. **CITIZEN COMMENTS**

V. **ADJOURNMENT**

AREA PLAN COMMISSION OF TIPPECANOE COUNTY
JOINT MEETING OF THE ORDINANCE COMMITTEE AND BYLAWS COMMITTEE
MINUTES OF PUBLIC MEETING

DATE..... October 7, 2020
TIME.....4:40 P.M.
PLACE..... COUNTY OFFICE BUILDING
20 N. 3RD STREET
LAFAYETTE, IN 47901

Due to the public health emergency, the meeting was held virtually. Members of the public may watch the livestream of the meeting at https://www.facebook.com/TippecanoeCountyIndiana *or* https://www.youtube.com/channel/UCJleeA9ZQo9E11GdZTdjurQ/featured

ORDINANCE MEMBERS PRESENT	MEMBERS ABSENT	STAFF PRESENT
Jackson Bogan	Greg Jones	Sallie Fahey
Vicki Pearl		Ryan O'Gara
Jerry Reynolds		Rabita Foley
Carl Griffin		Chyna Lynch
Tom Murtaugh		Larry Aukerman
Gary Schroeder		Zach Williams, Atty.
Larry Leverenz		

BYLAW COMMITTEE MEMBERS PRESENT	ABSENT
	Jake Gray
	Lisa Dullum
	Kathy Parker

I. APPROVAL OF MINUTES

Gary Schroeder moved to approve the minutes from the September 2, 2020 Ordinance Committee meeting. Carl Griffin seconded and the motioned carried by unanimous voice vote.

II. TWO BYLAW AMENDMENTS

A. Adding a new fee to the fee schedule for reviews of the Discovery Park District Form-Based Overlay.

Ryan O'Gara said when the form-based overlay was created a couple of years ago, there was reference in the ordinance to a fee but it was not added to the fee schedule. This was brought to light during the Discovery Park District Form-Based Overlay development. The zoning compliance plan is submitted by the developer to APC staff and the Administrative Officer for review. Staff uses this to confirm that the requirements of the form-based overlay have been completed. The APC staff certification is then taken to the AO for the final decision prior to permitting. The content of the form-based overlay is specific to each neighborhood. With Discovery Park, staff wanted to make sure to add this element because there is a good amount of staff time involved. Staff wanted to have a fee to offset this. This is not specifically tied to Discovery Park; this one flat fee is for any form-based overlay. The fee schedule is shown in the packet. The Zoning Compliance Plan is a $500 base fee which is similar to the other base fees. Staff recommended approval.

Gary Schroeder moved to add the new fee to the fee schedule for form-based overlays. Carl Griffin seconded.

Zach Williams conducted a vote by roll call of the joint committees. The motion was approved 7 yes to 0 no.

Yes-Votes	No-Votes
Jackson Bogan	
Carl Griffin	
Vicki Pearl	
Jerry Reynolds	
Larry Leverenz	
Gary Schroeder	
Tom Murtaugh	

B. Changing our newspaper advertisement notice forms to no longer require a metes and bounds legal description for subdivisions

Ryan O'Gara said the Lafayette Leader is no longer accepting paper copies or PDF copies of our legal descriptions. The most time-consuming part of publishing legal ads is the required metes and bounds legal descriptions for subdivision requests. The newspaper would like to avoid having to retype these descriptions. This change will save developers money because legal ads are billed by the length and some legal descriptions can be lengthy. By eliminating this requirement, the process will be made more efficient. The only negative is that this will result in less income for newspapers.

Gary Schroeder asked if the legal ads still needed to be in two publications.

Ryan O'Gara said yes, the legal ads need to be in two publications because of state code.

Zach Williams said there are some mechanisms for when a newspaper fails. The difficulty is usually that staff does not know until the last minute and at that point it is too late to satisfy the statutory provisions. This change will save everyone time and money.

Gary Schroeder moved to adopt the new forms for legal notifications. Vicki Pearl seconded.

Zach Williams conducted a vote by roll call of the joint committees. The motion was approved 7 yes to 0 no.

Yes-Votes	No-Votes
Jackson Bogan	
Carl Griffin	
Vicki Pearl	
Jerry Reynolds	
Larry Leverenz	
Gary Schroeder	
Tom Murtaugh	

III. SOLAR ENERGY SYSTEMS AMENDMENT:
Adding requirements and standards regarding accessory solar energy systems; community-scale and large-scale solar energy systems to the Unified Zoning Ordinance – Rabita Foley

Rabita Foley said she will give a brief overview of the process staff used to design the solar ordinance and what is included in the ordinance. Staff looked at solar ordinances from communities in Indiana to reference how they regulate solar energy systems. Staff also looked at model ordinances from different states. Most recently, staff looked at Indiana's draft model ordinance and incorporated some of their proposals into our own. This background research was done to establish a baseline. Staff also used resources from the American Planning Association. When looking at other ordinances, staff focused on accessory uses and primary uses, building-mounted versus ground-mounted systems as well as the end of life of the solar energy systems. Based on the research, it was discovered that each ordinance discussed lot coverage,

setback, parking, visual buffer, fencing, noise, height and decommissioning the solar energy system so staff included these items in this ordinance.

She presented the draft of the solar ordinance. She said she would like feedback from the Committee and the general public before finalizing the document. The proposal includes two uses; accessory use and primary use. Under accessory use, ground-mounted and building-mounted systems will be allowed on any existing primary use. Under primary use, there is an allowance for two types of systems; community scale solar energy systems and large-scale solar energy systems. The community scale will allow individuals that are interested in generating energy on site to use it on site. Many institutional users can benefit from this. Large scale systems generate energy that can be sold in the wholesale market.

Under accessory uses, the main distinction between systems is if they are building-mounted or ground-mounted. Building-mounted systems are allowed five feet above the existing maximum building height. Ground-mounted systems have a proposed maximum height of 15 feet. For building-mounted systems, the idea behind allowing this up to 3 feet beyond the front or rear of the building is to allow homeowners that have lot size restrictions to be able to benefit from this as well. If the solar system can extend 3 feet beyond the building to the front and rear, homeowners would have more options. The setback for a ground-mounted system would be the same as any accessory structure. Lot coverage is not calculated for ground-mounted systems.

Looking at primary uses, staff is proposing that community scale solar energy systems be permitted in all zones except Flood Plain by right. Large scale solar energy systems, which would primarily be generating energy to be sold in a wholesale market, would be permitted in Industrial zones and by special exception in Office Research and Agricultural zones. Staff's vision for community scale solar is that it can be ground or building-mounted. It is being restricted based on the size of the property. Any property that is less than 10 acres for a ground-mounted system would be categorized as community scale. For building-mounted systems, there is no lot area restriction. Large-scale systems would be allowed on property that is 10 acres or more and can only be ground-mounted.

Most of the standards for community scale and large-scale systems are identical with a few exceptions. Because of the size and volume of large-scale systems, it is required to have a 50-foot setback or a 200-foot setback, measured to the inverter part of the system, when it abuts residential uses. Community scale systems require a 25-foot setback and a 50-foot setback, measured to the inverter part of the system, when it abuts residential uses. Pollinator friendly seed mixes and native plants will be required for large-scale systems and be optional for community scale systems. Height of the systems would be controlled by the underlying zone. The bufferyard will be site specific as determined by the AO's. Regarding parking and lot coverage, it was found during research that these are usually exempt. Regarding glint and glare, there are federal and state regulation that address these concerns. This ordinance will reference those regulations and will include regulations regarding the airport district to cover all bases. A decommissioning plan is required for both primary uses.

The pollinator friendly seed mixes and native plants requirements came from conference and community discussion. Solar energy systems stay for 25-30 years and it is important to make sure that the land survives and can recover from this use. Using pollinator friendly seed mixes and native plants conserves the farmland for future crop production. A requirement included in the ordinance says all solar panels and mounting devices must be a minimum of 36 inches above ground level. This is so a variety of native plants and seed mixes can survive and thrive under the panels. This will also require every proposal that comes to staff for review regarding pollinator friendly solar farms be reviewed by a registered landscape architect, certified ecologist or licensed horticulturist.

A decommissioning plan and removal requirements are necessary to secure funds for safe disposal of solar energy systems at its end of life. Systems and related equipment need to be removed from the site and safely disposed. Landowners can request retention of growing pollinator friendly seed mixes, driveways and fences. This portion of the ordinance asks the developer to provide an itemized cost estimate to decommission the system that has been prepared by a professional engineer or contractor with experience in the removal of solar facilities. This estimate will not include salvage income they could collect. This cost

estimate will include a mechanism for calculating increased removal costs due to inflation. This portion of the ordinance will likely require assistance from experts on this Committee. The cost estimate will need to be recalculated every 5 years and the surety bond updated to reflect the change. The proposed amendment will affect UZO Chapter 1 Words and Terms Defined, Chapter 3 Primary Use Table, and Chapter 4 Accessory Uses, Accessory Structures and Accessory Buildings. The amendment would add Chapter 4 sections Height of the Accessory Solar Energy System, Large Scale Solar Energy System and Community-Scale Solar Energy System.

Vicki Pearl asked regarding county ordinances, if a company puts up windmills, is there a plan in place for decommissioning and the bonds that would be in place.

Rabita Foley said there is a plan in place but it is not as extensive as the plan outlined this evening. Wind ordinance was written around 10 years ago.

Sallie Fahey said it may have been longer than that. Her recollection is that most of the decommissioning activities for wind farms are in the county's ordinance not the zoning ordinance.

Tom Murtaugh said that is correct. He said he was unsure if we required a third-party analysis of what those decommissioning costs would be.

Rabita Foley said the current ordinance requires the applicant to provide an itemized cost estimate that has been prepared by a professional engineer or a contractor. There is not a provision where a third-party review is completed.

Tom Murtaugh said he was wondering about the wind ordinance.

Sallie Fahey said she is unsure if the ordinance required a third-party cost analysis or if there was a flat number per windmill.

Tom Murtaugh said decommissioning is an important piece to get finalized because solar energy systems are in place for 25 years. It is important that the county has the means to remove these.

Sallie Fahey said we want to make sure we do not end up with a situation that we faced but favorably resolved with a gravel pit reclamation that did not get done until APC got tough about it. The amount of bonding that was required for a reclamation 15 years ago would not be enough to finish the reclamation if push came to shove. We are trying to avoid that situation here.

Jackson Bogan asked if a bond would be required for the estimate. He asked how that value would be calculated.

Sallie Fahey said it will be based on the solar developer's professional engineer or hiring a contractor that has experience with removing solar facilities. They will have to provide the estimate. It is the same as with subdivisions when a bond is required for infrastructure. It is the developer's professional engineer that comes up with that cost estimate. That model was used in the solar ordinance for decommissioning.

Jackson Bogan asked if the developers list Tippecanoe County or Board of Commissioners as the obligee.

Sallie Fahey said that is correct.

Vicki Pearl asked if the surety bonds expire annually. If they actively renew annually, how does the county keep track of this.

Sallie Fahey said for a subdivision or a reclamation bond, it is written so that it stays in full force and effect until the County has released it. We do not always have a clear handle on if the developer is making the annual premium payments. The County might be notified by the bonding company if they were not getting the payment. Staff expects that would also happen in this case. A letter of credit is a little trickier because

when they expire, they stay expired. It is easier on the government side of things if there are bonds or a type of cash deposit.

Jackson Bogan said a concern that comes up with a surety bond, because this is for 25 to 30 years, is if someone goes out of business and they stop paying. The bond will expire and will longer be enforced. The county no longer has recourse to go back against them because they didn't pay the premium so the bond cancels. If it is an option for that to happen, staff may want to see them be able to fund the cost of the bond and it sit in escrow for the premium payment for the duration of the project.

Tom Murtaugh said with the wind ordinance, it stated that it needed to be funded up front. It was a 30-year term and had to be paid for by the company up front.

Sallie Fahey said we will take a closer look at the wind turbine decommissioning ordinance and assess if that is what everybody thinks is a good idea.

Vicki Pearl said she agrees with Jackson about the money being collected up front.

Sallie Fahey said we are collecting the premium not the full amount of the bond.

Jackson Bogan said that is correct but the premium would then be used to pay for the policy which would default on removing it so then we would have a claim against the bonding company to remove the decommission plan.

Sallie Fahey said we are either getting through a cash bond or another financial instrument the full cost of the decommissioning or the developer will use a surety bond and what we are holding is the 30 year's worth of premiums. The County can pay the premium if the developer goes default then the county can pay the premium and have the entire amount available to the county for decommissioning.

Jackson Bogan said in theory, that is the way it would work but he is not certain. Staff has used the number of 30 years for the life of the solar energy systems. As time goes on, this will need to be updated because from the limited amount of information that has been given on solar panels, they have already increased in production and panels produce energy longer. It is easy to imagine that they will continue to develop more efficient and effective forms of panels. This will need to be amended throughout the years but it is not clear how often this should be done.

Rabita Foley said this does not have an end date like a mining case. With solar we do not have this provision because we hope that a 5-year review would be able to address any concern with long-term production and will have enough funds to manage decommissioning.

Zach Williams said the key here is going to be the 5-year intervals and making sure the bonds are good at least for 5 years. Arguably, someone could get a bond in perpetuity but the problem is that construction costs will go up. The 5-year review period protects the county as best as possible. If the company were to go out of business, there would need to be a mechanism to notify them a year before and call in the bond to make sure it does not fail. If the county is renewing the bonds and they miss the deadline, they will be in violation of the ordinance. They would be notified to remove the solar array until the bond is brought up to date. The review period is a great idea. All the concerns are good ones considering the scale of the projects so the county needs to have the UZO mechanism to check it every 5 years and internal processes to make certain that bonds are filed and companies are still in business.

Larry Leverenz asked if the bond would include increase costs due to inflation.

Sallie Fahey said yes, the bond amount would have to increase in those instances.

Larry Leverenz asked if this would happen every 5 years that the bond is reconsidered.

Sallie Fahey said there are standard resources for determining what inflation has been. It would need to be

refined for the county by someone that knows how to calculate that. The percent would be applied against the total cost for decommissioning and the new bond would have to be filed for the new amount based on inflation.

Larry Leverenz asked for citizen comments or comments from the Committee.

Liz Solberg, League of Women Voters of Greater Lafayette, said her organization supports the development of renewable resources and commends the Area Plan Commission for developing this ordinance. The League of Women's Voters is not prepared to comment on the specifics of the ordinance today but felt it was important to applaud this important step in helping the community lead the way to a more sustainable future.

Zach Williams said staff wants the Committee to take this home for a month and come back with any comments or questions.

Sallie Fahey said that is our intent and would like for everyone to go through the details of the ordinance having had this overview. Next month, we will go more in depth on the specifics of the ordinance. If that is not finished up next month, we will go another month. But staff wants everyone to feel like they have had an opportunity to discuss those details.

IV. CITIZEN COMMENT

Larry Leverenz said there will be a 30-second pause for citizen comment. There was none. He commended Rabita for working with local students to get their input on this ordinance. They are concerned and have offered great insight on this and other environmental concerns. He encouraged everyone to read the ordinance and be prepared for next month to dive deeper.

Sallie Fahey said for the community scale solar energy systems, staff thinks the application of this may be attractive alternatives at an apartment complex, an industrial park or shopping center.

Larry Leverenz asked if this would be the same as when TSC wanted to provide power to the school.

Sallie Fahey said if TSC was doing it for only one school it would be in the accessory range. If they wanted to create energy for multiple schools, they could take property to create a community scale solar energy system.

Ryan O'Gara said there were no citizen comments.

V. ADJOURNMENT

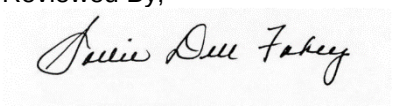
Gary Schroeder moved to adjourn.

The meeting adjourned at 5:31 p.m.

Respectfully Submitted,

Chyna R. Lynch
Recording Secretary

Reviewed By,



Sallie Fahey
Executive Director

MEMORANDUM

TO: APC Ordinance Committee
FROM: Rabita Foley
SUBJECT: Decommissioning Plan (Reference from Wind Energy Conversion Systems)
DATE: October 28, 2020

Staff introduced the draft solar amendment at the ordinance committee meeting on October 7, 2020. Among other topics on the subject, members discussed various financial tools available to ensure the safe removal and disposal of solar energy systems at the end of its serviceable life or abandonment. The county developed and adopted a decommissioning plan for wind energy conversion systems in 2010, which could be useful as we improve the draft solar amendment. The complete document for the wind energy conversion systems can be accessed using the following link.

https://www.tippecanoe.in.gov/DocumentCenter/View/18996/ORD-2010-02-CM-Amend-Co-Code-Wind-Energy-Conversion-Systems?bidId=

Staff has also attached the decommissioning portion from the above document below for further discussion.

mitigate interference with electromagnetic communications, such as radio, telephone, microwaves, or television signals caused by any WECS. In addition, the applicant, owner, and/or operator shall comply with the following:

1. If, after construction of the WECS, the owner or operator receives a written complaint related to interference with the broadcast of residential television, telecommunication, communication or microwave transmissions, the owner or operator shall take reasonable steps to mitigate said interference. Interference with private telecommunications systems such as GPS shall be between the company and the complainant.

2. Failure to remedy a complaint
If the Building Commissioner determines that an owner or operator has failed to remedy verified interference with the broadcast of residential television, telecommunication, communication or microwave transmissions within ninety (90) days after owner or operator received a written complaint related thereto, the Building Commissioner may take appropriate action to rescind the owner's or operator's WECS Inspection Certificate. This does not apply to interference with private telecommunications systems.

C **Complaint Resolution**

1. If, after construction of the WECS, the owner or operator receives a written complaint from a person aggrieved by an alleged failure of the owner or operator to comply with the Safety Design and Installation Standards of this Chapter, the owner or operator shall take reasonable steps to remedy such complaint.

2. Failure to remedy a complaint
If the Building Commissioner determines that an owner or operator has failed to take reasonable steps to remedy a written complaint within ninety (90) days after receipt thereof, the Building Commissioner may take appropriate action to rescind the owner's or operator's WECS Inspection Certificate.

§ 161.11 DECOMMISSIONING PLAN

Prior to receiving a WECS Construction Permit or Improvement Location Permit under this Ordinance and the Unified Zoning Ordinance, the applicant, owner and/or operator shall formulate a decommissioning plan approved by the Board of Commissioners providing for the method and payment of the anticipated cost of removing a WECS at the end of its serviceable life or upon its becoming a discontinued or abandoned use to ensure that the WECS is properly decommissioned.

A. **Content**

A decommissioning plan shall include, at a minimum, the following:

1. Assurance
   Written assurance that the WECS will be properly decommissioned upon the expiration of its servicable life or in the event of its discontinuance or abandonment.

2. Cost estimates
   For all WECS except Micro WECS, an estimate of the costs of decommissioning and removing the WECS upon the expiration of its useful life, or in the event of its discontinuance or abandonment. The cost estimates shall be made by a professional engineer, contractor, or other person with expertise or experience in decommissioning and removal of WECS.

3. Financial assurance
   For all WECS except Micro WECS, applicant will provide financial assurance in an amount not less than the estimated cost of decommissioning and removing the WECS, in the form of a bond, letter of credit or other security acceptable to the Board of Commissioners, for the cost of decommissioning each WECS Tower and related improvements constructed under the permit. Said security will be released when each WECS Tower is properly decommissioned as determined by the Building Commissioner.

4. Abandonment
   Verification under penalties for perjury, that all easements and/or leases for the WECS contain terms that provide financial assurances to the property owners to ensure that the WECS are properly decommissioned within one (1) year of the expiration of its serviceable life or in the event of its discontinuance or abandonment.

B. **Discontinuation and abandonment**

1. Discontinuation
   All WECS shall be considered abandoned and a discontinued use after one (1) year without energy production, unless a plan is developed and approved by the Building Commissioner outlining the steps and schedule for returning the WECS to service.

2. Removal
   An applicant's obligations shall include removal of all physical material pertaining to the project improvements to no less than a depth of four (4)

feet below ground level within three hundred sixty-five (365) days of the discontinuation or abandonment of the WECS or WECS Project, and restoration of the project area to as near as practicable the condition of the site immediately before construction of such improvements. Removal obligations shall be completed by the owner or by Tippecanoe County at the owner's expense.

3. Written notices
Prior to implementing procedures to resolve any alleged failure to comply with the Decommissioning Plan, the appropriate County body 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, to resolve the alleged default(s).

4. Costs incurred by the County
If the County removes a WECS Tower and appurtenant facilities, it may sell the salvage to defray the costs of removal. Each permittee, by virtue of the issuance of its construction permit or Inspection Certificate grants a license to Tippecanoe County to enter the property and to remove all WECS Towers and appurtenant facilities pursuant to the terms of its approved decommissioning plan.

C. **Declaration of public nuisance**
Any WECS, structure or portion thereof declared to be unsafe by the Tippecanoe County Building Inspector by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, damage or abandonment is hereby declared to be a public nuisance and shall be abated by repair, rehabilitation, demolition or removal in accordance with the approved Decommissioning Plan

§ 161.12 LIABILITY INSURANCE

For all WECS except Micro WECS, the owner or operator of any WECS shall maintain a current general liability policy covering bodily injury and property damage naming Tippecanoe County as an additional insured with dollar amount limits of not less than $5,000,000 per occurrence, in the aggregate, and a deductible which is suitable to the County.

§ 161.13 PRE-CONSTRUCTION REQUIRMENTS

In addition to complying with the approved Road Use and Maintenance Agreement, an applicant, owner, or operator proposing to use any county road(s), for the purpose of transporting any component of a Commercial WECS Project and/or equipment for construction, operation or maintenance of a Commercial WECS Project, shall comply with the following pre-construction

requirements.

A. Identification of roads and services Identify all roads and services, to the extent that any proposed routes that will be used for construction and maintenance purposes shall be identified. If the route includes a public road, it shall be approved by the Executive Director of the Tippecanoe County Highway Department upon a determination that use of the proposed route will not be inconsistent with public health, safety or general welfare.

B. Pre-construction survey The applicant shall conduct a pre-construction baseline survey acceptable to the Executive Director of the Tippecanoe County Highway Department to determine existing road 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 facility.

§ 161.14 CONSTRUCTION REQUIREMENTS

During construction, the applicant shall demonstrate that the following requirements are being met:

A. **Dust control**
Dust control measures shall be required by the County during construction of a Commercial WECS Project in accordance with the Road use and Maintenance Agreement developed in conjunction with the Executive Director of the Tippecanoe County Highway Department and approved by the County Commissioners.

B. **Drainage**
Applicant shall comply with the Tippecanoe County Stormwater Management Ordinance, including storm water best management practices, and promptly repair any County-owned regulated drains, drainage tiles or open ditches or privately owned drainage tiles or private drains which are damaged during the course of construction, and remove any obstructions to natural surface drainage which occurs during construction, all in accordance with the approved Drainage Agreement developed in conjunction with the Tippecanoe County Surveyor and the Tippecanoe County Drainage Board.

C. **Road Maintenance**
Applicant shall promptly repair any County roads or related appurtenances, including bridges, culverts, signage, or other road fixtures, which are damaged during the course of construction, all in accordance with the Road Use and Maintenance Agreement developed in conjunction with the Executive Director of the Tippecanoe County Highway Department and approved by the County Commissioners.

MEMORANDUM

TO: APC Ordinance Committee
FROM: Rabita Foley
SUBJECT: Solar Development Ordinance
DATE: October 1, 2020

The increased interest in solar energy systems is generally due to a reduction in installation cost for property owners and the state's voluntary clean energy portfolio standard (CPS) program, which provides Indiana's utilities an incentive to increase the amount of renewable energy sources in their portfolio. Many communities in Indiana have used renewable energy production as an economic development tool. Solar developments meet the triple bottom line framework: social, environmental, and financial, making it an attractive option for Tippecanoe County.

Staff conducted a comprehensive research of the existing solar ordinances from both in and out-of-state communities. The review included communities with extensive experience in large-scale solar energy systems and localities with newly adopted solar ordinances. Various experts affiliated with Duke and Tipmont REMC were consulted to help staff better understand the draft solar ordinance's applicability concerning industry practices, IURC regulations, and net metering. Staff also reviewed the draft Indiana solar ordinance and incorporated applicable components to the attached proposal.

Based on the knowledge gathered from research, community engagement, conference attendance, and conversation with stakeholders, staff prepared the draft solar energy systems amendment for further discussion.

1. Accessory Use

For accessory use solar energy systems, the proposal attempts to make the existing solar installations for residences (and some businesses) conforming. The allowances for building and ground-mounted accessory use is shown in the table below.

Accessory Use SES	
Building-mounted	**Ground-mounted**
Up to 5 feet above the existing maximum allowed building height	Maximum height allowed 15 feet
Up to 3 feet beyond the front or rear of the building	Setbacks same as any other accessory structure
Side setbacks same as any other accessory structure	Not calculated in lot coverage

2. Primary Use

For primary use solar energy systems, the proposal addresses visual buffers and noise concerns by requiring pollinator-friendly plantings, appropriate setbacks, bufferyards and fencing. The compliance with Federal Aviation Authority regulations will address glint and glare concerns. The proposal also includes a decommissioning plan that outlines the requirement to demolish, dispose, and regrade the site when the solar energy system reaches its end and creates a bonding structure to secure finances to ensure decommissioning completion.

The two types of primary solar energy systems proposed are community-scale and large-scale. The significant distinction between the two is shown in the table below.

Primary Use SES	
Community-Scale Solar Energy System	**Large-Scale Solar Energy System**
Less than 10 Acres	10 Acres or more
Ground-mounted and building-mounted	Ground-mounted
Permitted in all zones except Flood Plain	Permitted by right in Industrial zones
No special exception is required	Permitted by special exception in Agricultural and Office Research zones

Attached is the draft solar energy systems ordinance amendment and a list of references and resources.

STAFF RECOMMENDATION:
Approval

ORDINANCE NO._____

AN ORDINANCE AMENDING
ORDINANCE NO._____
BEING THE UNIFIED ZONING ORDINANCE
OF TIPPECANOE COUNTY.

Be it ordained by the (County Commissioners of Tippecanoe County, Indiana; the Common Council of the City of Lafayette, Indiana; the Common Council of the City of West Lafayette, Indiana; the Town Council of the Town of Battle Ground, Indiana; the Town Council of the Town of Dayton, Indiana; and the Town Council of Clarks Hill, Indiana), that Ordinance No._____, being the Unified Zoning Ordinance of Tippecanoe County is hereby amended as follows:

Section 1: Change **UZO Section 1-10-2 Words and Terms Defined** to add the following definitions:

ABANDONED. Regarding ***solar energy systems,*** a ***SES*** that does not generate electricity for a continuous twelve (12) month period, or any solar energy system falling into a state of disrepair for twelve consecutive months shall be deemed abandoned.

ACCESSORY SOLAR ENERGY SYSTEM. The ***ground-mounted or building-mounted SES***, accessory to a ***primary use***.

BUILDING-MOUNTED SOLAR ENERGY SYSTEM. An ***SES*** in which solar panels are structurally mounted to a building.

COMMUNITY-SCALE SOLAR ENERGY SYSTEM. A ***ground-mounted SES*** on less than 10 acres or a ***building- mounted SES*** on any amount of acreage that provides power to residential or commercial or industrial uses located on-site or off-site from the location of the solar energy generation.

CONCENTRATED SOLAR POWER (CSP). A solar energy system that uses mirrors to reflect and concentrate sunlight. CSP is not permitted in any zone.

GROUND-MOUNTED SOLAR ENERGY SYSTEM. An ***SES*** that is directly installed into the ground and is not attached or affixed to an existing building.

INVERTER. A device that converts direct current (DC) to alternating current (AC).

LARGE-SCALE SOLAR ENERGY SYSTEM. A ***ground-mounted solar energy system***, on a tract(s) equal to or more than ten acres, for the purpose of generating

photovoltaic power with the primary purpose of selling wholesale or retail generated electricity.

MEGAWATT (MW). A metric unit measurement of the use of electrical power equal to 1000 Kilowatts (kW).

MOUNTING DEVICES. Racking, frames, or other devices that allow the mounting of a solar energy system onto a roof surface or the ground.

SOLAR ENERGY SYSTEM (SES). A system (including solar collector surface and ancillary solar equipment) either affixed to a permanent primary or accessory building or functioning as a freestanding structure, that collects, stores, and distributes solar energy for uses including but not limited to heating or cooling, generating electricity, or heating water.

Section 2: Change **UZO 3-2 Primary Use Table** by adding the following:

Parking Groups	Special Conditions	Permitted Primary Uses	Residential Zones											Commercial Zones									Ind. Zns.1			Rural Zones				FP
			R1	R1A	R1B	R1U	R1Z	R2	R2U	R3	R3U	R3W	R4W	NB	NBU	OR	MR	MRU	GB	HB	CB	CBW	I1	I2	I3	A	AA	AW	RE	
	4-11-14	"Large-Scale Solar Energy Systems"														S							P	P	P	S	S	S		
	4-11-15	"Community-Scale Solar Energy Systems"	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	

Section 3: Change **UZO 4-1 (b) Accessory Uses, Accessory Structures and Accessory Buildings** (residential) to include:

(30) ***accessory solar energy systems:***

(A) ***Building-mounted solar energy systems*** may project a maximum of three feet beyond the ***front*** or ***rear*** of the building, and as regulated in UZO 4-4-5 below.

(B) ***Building-mounted solar energy systems*** (standard side setback)

(C) ***Ground-mounted solar energy systems setback.*** (standard)

(D) ***Ground-mounted solar energy systems*** shall be exempt from ***lot coverage*** requirements.

Section 4: Change **UZO 4-1 (c) Accessory Uses, Accessory Structures and Accessory Buildings** (non- residential) to include:

(28) ***accessory solar energy system***:

(A) ***Building-mounted solar energy systems*** may project a maximum of three feet beyond the front or rear of the building.

(B) ***Ground-mounted solar energy systems setback*** (standard).

(C) ***Ground-mounted solar energy systems*** shall be exempt from ***lot coverage*** requirements.

Section 5: Add **UZO 4-5-1 (d) Height of the *accessory solar energy system*:**

(1) ***Building-mounted solar energy systems*** may exceed the maximum allowed ***building height*** on which it is located by five feet at the maximum incline (tilt).
(2) ***Ground-mounted solar energy systems*** shall have a maximum height of 15 feet.

Section 6: Add **UZO 4-11-14 Large Scale Solar Energy System** as follows:

(a) A ***large-scale solar energy system*** *is exempt* from UZO 4-6 and ***lot coverage*** requirements.
(b) The site shall be planted and maintained to be free of all invasive species, as listed by the Indiana Invasive Species Council.
(c) The applicant shall submit the following with a ***special exception*** request or an ***improvement location permit*** application.
    (1) A ***large-scale solar energy system site plan*** shall also include the following:
        (A) All solar panels, ***mounting devices***, and ***inverters*** shall be ***setback*** 50 feet from all property lines.
        (B) Solar ***inverters*** shall be ***setback*** a minimum of 200 feet when abutting a residential use property line or residential zone.
        (C) The height shall be calculated as the distance from ground level to the top of the solar panel at its greatest incline (tilt).
        (D) All solar panels, as well as all ***mounting devices***, shall be a minimum of 36 inches above ground level as measured from any ground point to the closest point of any solar panel or ***mounting devices***.
        (E) A security fence at least 6’ high shall be installed around the ***large-scale solar energy system*** with emergency access allowed 24/7.
        (F) Power transmission lines from a ***large-scale solar energy system*** shall be underground and shall be completely shielded against shock hazard. Lines that connect one panel to another or from the system to the main transmission lines are not required to be underground.
        (G) Driveway entrances shall comply with UZO 4-7.
    (2) A stormwater management plan shall be reviewed and approved by the participating jurisdiction.
    (3) All driveway entrances shall be approved by the participating jurisdiction.

(4) Any approval, if required from the Federal Aviation Administration regulations, for installations surrounding airports shall conform to UZO 5-3.
(5) All applicable approvals from federal, state and local agencies.
(6) A ***Bufferyard*** is required except when waived by the ***Administrative Officer***.
(7) Pollinator-friendly seed mixes and native plants plan approved by a Registered Landscape Architect or Certified Ecologist or Licensed Horticulturist, are required around/under a large-scale solar energy system.
(8) The applicant shall provide a redacted version of the executed power purchase agreement.

(d) Decommissioning plan and removal requirements:

(1) A decommissioning plan for a ***large-scale solar energy system*** shall be approved by the ***ABZA*** when ***special exception*** is required or by the ***Administrative Officer*** for systems permitted by right, prior to issuance of the ***improvement location permit.***

(2) A decommissioning plan shall include removal of all solar electric systems, buildings, cabling, electrical components, security fence, driveway entrance, foundations, pilings, and any other associated facilities, pollinator friendly seed mixes and native plants, so that any agricultural ground upon which the facility or system was located is again tillable and suitable for agricultural uses. However, the landowner may request in writing that the existing pollinator friendly seed mixes and native plants, driveway entrance, security fence or other land surface areas not be restored, and this request shall be approved by the ***ABZA*** or the ***Administrative Officer***. Hazardous materials, including ***mounting devices*** from a ***large-scale solar energy system*** shall be disposed of in accordance with federal and state law.

(3) The final decommissioning plan shall be certified by a Professional Engineer, or a Registered Land Surveyor, or a Registered Landscape Architect.

(4) The applicant shall provide an itemized cost estimate to decommission the ***large-scale solar energy system*** prepared by a Professional Engineer or contractor who has expertise in the removal of solar facilities to the ***ABZA*** or the ***Administrative Officer***. The cost estimate shall not include any estimates or offsets for the resale or salvage values of the ***large-scale solar energy system*** equipment and materials.

(5) The applicant shall be required to file a surety bond, for the estimated amount, approved by the ***ABZA*** *when* ***special exception*** is required or by ***the Administrative Officer*** for systems permitted by right, prior to the issuance of an ***improvement location permit***.

(6) The decommissioning cost estimate shall include a mechanism for calculating increased removal costs due to inflation. This cost estimate shall be recalculated every five years and the surety bond shall be updated to reflect the change. Failure to renew the cost estimate and update the bond every five years shall void the grant of special exception.

(7) The applicant shall file and receive an approval for a demolition permit before decommissioning begins.

(8) When the decommissioning is complete, the applicant shall submit the final report outlining the completion of the decommissioning plan to the ***ABZA*** or the ***Administrative Officer*** for approval. The ***ABZA*** or the ***Administrative Officer*** shall then release the applicant from the conditions of approval and the surety bond.

(9) If the applicant fails to meet the requirements set in the decommissioning plan or the ***large-scale solar energy system*** is ***abandoned,*** the ***ABZA*** or the ***Administrative Officer*** may request the county to declare the bond in default and use the proceeds to complete the decommissioning plan.

Section 7: Add **UZO 4-11-15 Community-Scale Solar Energy System** as follows:

(a) A ***community-scale solar energy system*** is exempt from UZO 4-6 and ***lot coverage*** requirements.

(b) ***Ground-mounted:***

(1) The applicant shall submit the following with an ***improvement location permit*** application:

(A) All solar panels, ***mounting devices***, and ***inverters*** shall be ***setback*** 25 feet from all property lines.

(B) Solar inverters shall be ***setback*** a minimum of 50 feet when abutting a residential use property line or residential zone.

(C) The height shall be calculated as the distance from ground level to the top of the solar panel at its greatest incline (tilt).

(D) A security fence at least 6' high shall be installed around the ***community-scale solar energy system*** with emergency access allowed 24/7.

(E) Power transmission lines from ***ground-mounted community-scale solar energy system*** shall be underground and shall be completely shielded against shock hazard. Lines that connect one panel to another or from the system to the main transmission lines are not required to be underground.

(F) Driveway entrances shall comply with UZO 4-7.

(2) A stormwater management plan shall be reviewed and approved by the participating jurisdiction.
(3) All driveway entrances shall be approved by the participating jurisdiction.
(4) Any approval, if required from the Federal Aviation Administration regulations, for installations surrounding airports shall conform to UZO 5-3.
(5) All applicable approvals from federal, state and local agencies.
(6) A ***Bufferyard*** is required except when waived by the Administrative Officer.
(7) Decommissioning plan and removal requirements:
    (A) A decommissioning plan for a ***community-scale solar energy system*** shall be approved by the ***Administrative Officer*** prior to issuance of the ***improvement location permit.***
    (B) A decommissioning plan shall include removal of all solar electric systems, buildings, cabling, electrical components, security fence, driveway entrance, foundations, pilings, and any other associated facilities. However, the landowner may request in writing that the existing driveway entrance, security fence or other land surface areas not be restored, and this request shall be approved by the ***Administrative Officer***. Hazardous materials, including ***mounting devices*** from a ***community-scale solar energy system*** shall be disposed of in accordance with federal, state and local laws.
    (C) The final decommissioning plan shall be certified by a Professional Engineer.
    (D) The applicant shall provide an itemized cost estimate to decommission the ***community-scale solar energy system*** prepared by a Certified Engineer or contractor who has expertise in the removal of solar facilities to the ***Administrative Officer***. The cost estimate shall not include any estimates or offsets for the resale or salvage values of the ***community-scale solar energy system*** equipment and materials.
    (E) The decommissioning cost estimate shall include a mechanism for calculating increased removal costs due to inflation. This cost estimate shall be recalculated every five years and the bond shall be updated to reflect the change. Failure to renew the cost estimate and update the bond every five years shall void the grant of special exception.
    (F) The applicant shall be required to file a surety bond, for the estimated amount, approved by the ***Administrative Officer*** prior to the issuance of an ***improvement location permit***.

(G) The applicant shall file and receive an approval for a demolition permit before decommissioning begins.

(H) When the decommissioning is complete, the applicant shall submit the final report outlining the completion of the decommissioning plan to the ***Administrative Officer*** for approval. The ***Administrative Officer*** shall then release the applicant from the surety bond.

(I) If the applicant fails to meet the requirements set in the decommissioning plan or a ***community-scale solar energy system*** is ***abandoned,*** the ***Administrative Officer*** may request the county to declare the bond in default and use the proceed to complete the decommissioning plan.

(c) ***Building-mounted***:

(1) A ***community-scale solar energy system*** may exceed the maximum allowed ***building height*** on which it is located by ten feet at the maximum incline (tilt).

(2) A ***community-scale solar energy system*** may project up to three feet beyond the ***front*** or ***rear*** of the building, and as regulated in UZO 4-4-5 below.

(3) A ***community-scale solar energy system*** shall comply with all applicable federal, state and local laws and ordinances, including but not limited to building codes, fire codes, and historic preservation districts.

This ordinance shall be in full force and effect from and after its passage.

References and Resources

Are You Solar Ready? Seven steps to successfully manage large-scale solar development.
https://www.planning.org/planning/2020/mar/are-you-solar-ready/

Bloomington, Indiana (Ordinance)
https://bloomington.in.gov/planning/udo

Elkhart County, Indiana (Ordinance)
http://www.elkhartcountyplanninganddevelopment.com/

Fulton County, Indiana (Ordinance)
https://www.co.fulton.in.us/department/index.php?structureid=14

Henry County, Indiana (Ordinance)
http://www.henryco.net/attachments/Henry%20County%20Draft%20Solar%20Ordinance.pdf

Henry County REMC
https://www.hoosierenergy.com/my-solar-henry/

Indiana Office of Energy Development (OED)
https://www.in.gov/oed/2650.htm

Logansport, Indiana (Ordinance)
http://www.cityoflogansport.org/departments/planning-zoning-department/

Michiana Area Council of Governments
http://macog.com/solar_energy.html

Monroe County, Indiana (Ordinance)
https://www.co.monroe.in.us/egov/documents/1579205918_0969.pdf

National Conference of State Legislatures
https://www.ncsl.org/research/energy/renewable-portfolio-standards.aspx#:~:text=The%20state's%20two%20investor%2Downed,megawatts%20(MW)%20or%20less.

Planning for Solar Energy (PAS REPORT 575)
https://www.planning.org/publications/report/9117592/

Planning for Utility-Scale Solar Energy Facilities PAS Memo
https://www.planning.org/pas/memo/2019/sep/

Randolph, Indiana (Ordinance)
https://randolphcounty.us/form/randolph-county-unified-zoning-ordinance-1

Renewable Energy Used in State Renewable Portfolio Standards Yielded Sizable Benefits and Other Impacts in 2013
https://www.nrel.gov/news/press/2016/21615.html

Shelby County, Indiana (Ordinance)
https://ag.purdue.edu/Documents/ordinance/Shelby.pdf

Solar Energy Industries Association
https://www.seia.org/state-solar-policy/indiana-solar
https://www.seia.org/sites/default/files/2020-09/Indiana.pdf

Solar Powering Your Community: A Guide for Local Governments
https://www.epa.gov/repowertoolbox/solar-powering-your-community-guide-local-governments

Solarize Indiana
https://solarizeindiana.org/

St. Joseph County, Indiana (Ordinance)
https://www.sjcindiana.com/352/Zoning-Ordinances

Tribal Energy Efficiency and Renewable Energy Development on Tribal Lands (Brochure)- 2010

White County, Indiana (Ordinance)
http://www.whitecountyin.us/index.php/home/area-plan

Recent articles related to large-scale solar energy systems in Indiana.

NIPSCO announces 100-megawatt solar farm for Henry County, 200M W one for Boone County, both with plans for 2023 completion
https://indianaeconomicdigest.com/Content/Default/Also-In-The-News/Article/NIPSCO-announces-100-megawatt-solar-farm-for-Henry-County-200M-W-one-for-Boone-County-both-with-plans-for-2023-completion/-3/5307/100831

IURC says solar farm project should be under local jurisdiction
https://www.wishtv.com/news/iurc-says-solar-farm-project-should-be-under-local-jurisdiction/

Indiana county adopts new solar energy ordinance requiring pollinator-friendly groundcover
https://www.solarpowerworldonline.com/2020/07/indiana-county-adopts-first-ever-solar-energy-ordinance-requiring-pollinator-friendly-groundcover/

Tax break given to $175 million Shelby County solar panel project
https://indianaeconomicdigest.com/MobileContent/Most-Recent/Region-1/Article/Tax-break-given-to-175-million-Shelby-County-solar-panel-project/31/79/95603

Bloomington, Indiana diversifies its energy supply with residential and municipal solar
https://eri.iu.edu/erit/case-studies/bloomington-solar-initiatives.html

The Push For Solar Energy In Indiana
https://www.wfyi.org/programs/all-in/radio/The-Push-For-Solar-Energy-In-Indiana-Repeat