

ORDINANCE NO. 20XX-XX
TOWNSHIP OF HELLAM
YORK COUNTY, PENNSYLVANIA

**AN ORDINANCE OF THE TOWNSHIP OF HELLAM,
YORK COUNTY, PENNSYLVANIA, AMENDING THE
ZONING ORDINANCE OF THE TOWNSHIP OF HELLAM**

BE IT ENACTED AND ORDAINED, by the Board of Supervisors of the Township of Hellam, and it is hereby enacted and ordained, in lawful session assembled, that the Hellam Township Zoning Ordinance is hereby amended as follows:

SECTION 1. The following changes are hereby made to the zoning ordinance of Hellam Township:

§ 490-11

ACCESSORY SOLAR ENERGY SYSTEM

An Accessory Solar Energy System (ASES) is defined as a solar energy system that captures solar energy and converts it to electrical or thermal energy and is primarily used at a residential primary structure and /or accessory structure. The system can be: 1. mounted on a roof and it's output potential is not limited; 2. attached to the wall of the primary or accessory use structure or 3. is ground mounted. The power output for either the wall or ground mounted systems is 25 kW maximum. The solar energy system consists of solar panels, panels mounted in arrays, support structure for the arrays, battery storage or other storage methods to retain the energy captured (not always present), wiring and other related equipment. ASES systems are usually measured in kW.

AGRIVOLTAICS

Agrioltaics (or referred to as Agri-solar) is the co-development of the same area of land for both solar energy power generation and agriculture

BATTERY ENERGY STORAGE SYSTEM

Battery Energy Storage System (BESS) is an electrical energy storage system that includes batteries and battery racking, all connection equipment and wiring, the house structure for the battery storage system including ventilation and safety equipment.

BUILDING-MOUNTED SOLAR ENERGY SYSTEM

A solar energy system attached to any part of a side or roof of a primary or accessory structure, anytime after the structure is completed.

BUILDING-INTEGRATED SOLAR ENERGY SYSTEM

A Solar Energy System that is constructed as an integral part of a primary or accessory building or structure.

CONCENTRATED RADIATION

Focused energy in the form of heat or light (or both) that has the potential to cause or has caused damage.

GLARE

The effect produced by light with an intensity sufficient to cause annoyance, discomfort or loss in visual performance and visibility both onsite and offsite.

GLARE STUDY

A study done by a qualified organization identifying the presence of glare produced by the project.

KILOWATT

A unit of electrical power equal to 1,000 watts, which constitutes the basic unit of electrical demand.

MEGAWATT (MW)

1 megawatt is equal to 1,000 kilowatts.

PRINCIPAL SOLAR ENERGY SYSTEM

Principal Solar Energy System (PSES) are solar energy systems that are more commercially oriented. There are two categories of systems.

The first type is a small system normally referred to as Small Utility Scale System and commonly called a Community Solar Utility Scale System, and its output is normally in the range of .5 MW to 15 MW.

The second type is a Large-Scale Solar System normally referred to as a Utility Grid Scale System and its output is normally 20 MW or higher. Currently 1 MW output requires a solar energy system that covers about 6-8 acres of space. These solar energy systems capture solar energy and convert it to electrical or thermal power intended for off-site use (power sent to a local utility company). The system consists of solar panels in arrays, support structures, battery storage and accessory building, transmission lines and other supporting accessory equipment. This type of system normally can supply power to thousands of customers. PSES systems are usually measured in MW (one million watts or 1000 kilowatts).

SENSITIVE RECEPTORS

Refers to individuals or organisms that have an increased sensitivity to contaminants due to factors such as age, health, existing health conditions, who are at a heightened risk of negative health outcomes from environmental pollutants. Examples of sensitive receptors include, but are not limited to:

Daycare facilities; family; no impact home bases businesses; public parks and playgrounds; public uses; bed and breakfasts; churches and related uses; home occupations; hotel, motels and similar lodging facilities; personal care facilities; personal services; two-family conversions; event venue; photographic, music, art and dance studios; commercial school; continue care retirement communities; boarding houses; two-family side-by-side dwellings; day-care facility, commercial; private clubs; recreation facilities; schools, private and public; accessory dwellings; single family detached dwellings; campgrounds; riding stables; preschools; in-home daycare; adult daycare and hospitals and rehabilitation facilities.

SOLAR EASEMENT

A Solar Easement means a right, expressed as an easement, restriction, covenant or condition contained in any deed, contract or other written instrument executed by or on behalf of any landowner for the purpose of assuring adequate access to direct sunlight for solar energy systems.

SOLAR ENERGY

Radiant energy (direct, diffuse and /or reflective) received from the sun.

SOLAR ENERGY INTERCONNECTION

The practical and technical link between the solar energy system and the grid providing the power to the user.

SOLAR ENERGY SYSTEM

An area used for a solar energy collection system principally to capture solar energy, convert it to electrical or thermal power and supply electrical or thermal power.

SOLAR PANEL

The part of a solar energy system containing one or more receptive cells or modules that collect solar energy for conversion to electrical or thermal power.

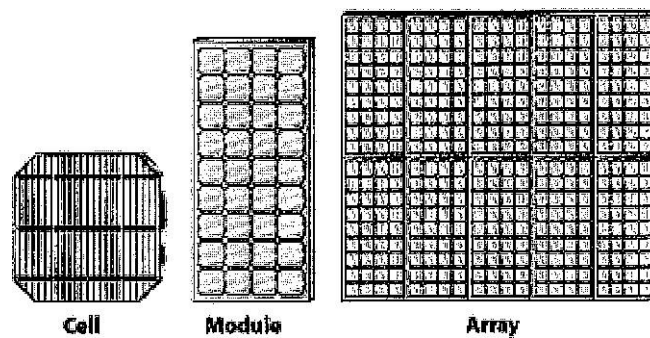
SOLAR PROJECT AREA

The total area used by the solar energy system, battery storage, buildings/structures, transmission equipment, the space between the solar arrays, stormwater management area, perimeter roads, emergency access roads and turnarounds.

SOLAR RELATED EQUIPMENT

Items including a solar photovoltaic cell, module, panel, array, or solar hot air or water collector device panels, lines, pumps, batteries, wiring (above and below ground), mounting brackets, framing and possibly foundations or other structures used for or intended to be used for collection of solar energy.

1. SOLAR CELL: The smallest basic solar electric device which generates electricity when exposed to light.
2. SOLAR MODULE: A grouping of solar cells with the purpose of harvesting solar energy.
3. SOLAR ARRAY: A grouping of multiple solar modules with purpose of harvesting solar energy.



WATT

The metric measurement of power (not energy) and is the rate (not the duration) at which electricity is used.

§ 490-12. Rural Agricultural Zone (RA): To be amended to add:

C. Conditional Uses:
(35) PSES

§ 490-14. Mixed-Use 1 Zone (MU-1): To be amended to add:

C. Conditional Uses:
(21) PSES

§ 490-15. Mixed-Use 2 Zone (MU-2): To be amended to add:

C. Conditional uses.
(45) PSES

§ 490-16. Commercial/Industrial Zone (C/I): To be amended to add:

C. Permitted uses.
(52) PSES

§ 490-17. Interchange Zone (I): To be amended to add:

C. Conditional uses.
(6) PSES

§ 490-17.1 Kreutz Creek Interchange Zone (KCI): To be amended to add:

C. Conditional uses.
(18) PSES

§ 490-18. Quarry Zone (Q): amended to add:

C. Conditional uses.
(4) PSES

§ 490-25. Accessory uses and structures.

L. ~~Small solar energy systems.~~ ASES ~~Small solar energy systems~~ are permitted as an accessory use on primary or accessory ~~and structures~~ in all zoning districts if the following criteria are met:

- (1) ~~ASES~~ No person shall be install or constructed with or after the a small solar energy system until a principal building is constructed/under construction and is in accordance with all applicable zoning and building permits. are issued.
 - (a) ASES are 25kw maximum and the majority of the power generated is used on site. ASES of two (2) kw or smaller are exempt from this ordinance.
 - (b) Roof solar panels do not extend past the roof line.
 - (c) Ground or Wall mounted systems do not exceed ten (10) % of lot area unless already over an area already established impervious surface.
- (2) All owners of property upon which ~~ASES~~ a solar energy system is installed shall be required, as a condition of the issuance of the zoning permit, to acknowledge in writing to the Township that the issuance of a zoning permit for a solar energy system shall not and does not create in the property owner, its, his, her or their successors and assigns in title, or create in the property itself:
 - (a) The right to remain free of shadows and/or obstruction to solar energy caused by development of adjoining or other property or the growth of any trees or vegetation on such property; or
 - (b) The right to prohibit the development on or growth of any trees or vegetation on such property.
- (3) ~~The design and installation of small solar energy system shall conform to applicable industry standards, including those of the ANSI, Underwriters' Laboratories (UL), the ASTM, or other similar certifying organizations and shall comply with the Building Code and with all other applicable fire and life safety requirements. The manufacturer's specifications shall be submitted as part of the application. An ASES constructed prior to the effective date of this ordinance shall not be required to meet the design, layout, installation, terms and conditions of the ordinance.~~
- (4) The manufacturer's specifications shall be submitted as part of the application. Any modification to an existing or approved solar energy system, whether installed or to be installed, that materially alters the system shall require permit re-approval. A permit shall also be required for any upgrades, new technology or capacity increases or relocation of the ASES. Routine maintenance or repairs do not require a permit.
- (5) The ASES layout, design and installation shall conform to applicable industry standards, such as those for the American National Standards Institute (ANSI), Underwriter Laboratories (UL), the American Society for Testing and Materials (ASTM), Institute of Electrical and Electronics Engineers (IWWW), Solar Rating and Certification Corporation (SRCC), Electrical Testing Laboratory (ETL) or other similar certifying organizations and shall comply with the PA Uniform Construction Code as enforced by the Township and will comply with all other applicable fire and life safety requirements.

- (6) All solar energy system installations must be certified by a professional firm. ~~from a list of approved solar electric installers provided on the Pennsylvania Sunshine Program website operated by the Pennsylvania Department of Environmental Protection or from the North American Board of Certified Energy Practitioners.~~
- (7) All structural parts of any ground-mounted small solar energy system shall meet all accessory structure setback requirements for the zone in which it is located, but in no event shall they be closer than 15 feet to any side or rear property line.
- (8) An ASES ~~Small solar energy systems~~ mounted on the roof of any building shall be allowed to exceed the maximum height of the district, provided that they do not exceed the maximum height by more than five feet. ~~If the panels cover more than 50% of the roof area,~~ The owner shall provide evidence, in the form of stamped plans certified by a professional engineer, that the roof is capable of holding the load.
- (9) ASES's ~~Small solar energy systems~~ which are ground-mounted, wall mounted or detached from the principal or accessory structure shall comply with all height restrictions for accessory structures in that zone.
- (10) The determination as to whether or not the system constitutes pervious or impervious coverage shall be undertaken by the Zoning Officer at the time of submission of the application based on the material used for ground cover under the system.
- (11) ~~The owner shall provide evidence, in the form of electric usage data, demonstrating that the sizing of the system does not exceed the needs of the property. Off grid systems shall be exempt from this requirement.~~
- (12) Ground-mounted solar energy systems shall not be placed within any legal easement or right-of-way location or be placed within any stormwater conveyance system or in any other manner that would alter or impede stormwater runoff from collecting in a constructed stormwater conveyance system.
- (13) In the Residential and Rural Agricultural District, roof-mounted systems are preferred; and if the property owner wishes to install a ground-mounted, wall mounted or freestanding system, the owner shall demonstrate that roof-mounted systems are not practical. Ground-mounted, wall mounted and freestanding components of the small solar energy system shall be permitted on prime agricultural land or prime agricultural soils, provided that the total area of prime agricultural land or prime agricultural soils utilized for the ground-mounted, wall mounted or and freestanding components does not exceed the zone's impervious surface requirement. 1/4 ~~aere~~ acre. All underground on-site utility and transmission lines located on prime agricultural land or prime agricultural soils shall be placed at a sufficient depth (consistent with current electrical codes) so as not to interfere with surface agricultural farming activities.
- (14) ASES ~~A solar energy system~~ shall not be used to display advertising, including signage, streamers, pennants, spinners, reflectors, ribbons, tinsel, balloons, flags, banners and similar materials. The manufacturer's or installer's identification and any appropriate warning signs and placards may be displayed on the solar energy system, provided they comply with the Township's sign regulations.
- (15) The ASES ~~solar energy system~~ shall be maintained in good working order in accordance with

the Township and/or industry standards. They system must be kept free of all hazards, including but not limited to faulty/exposed, wiring, loose or missing fastenings, non-functional controls that would cause the ASES to be in an unsafe condition and detrimental to public health, safety or general welfare. kept in good repair and sound condition. Upon abandonment of use, the solar panels and all related structures and equipment shall be dismantled and removed from the lot within 60 days.

(16) Ground Disturbance:

(a) Landscaping required by this or other Township landscaping development ordinances or attached as a condition of approval shall be completed within three (3) months of ASES completion. Any dead vegetation/trees shall be replaced within two (2) months or as soon as weather permits.

(b) If a ground-mounted or wall mounted ASES solar energy system is removed, any earth disturbance as a result of the removal of the ground-mounted or wall mounted ASES solar energy system shall be graded and reseeded within three (3) months or as soon as weather permits..

(17) Multiple ASES solar energy systems. In the event that a property owner seeks to install more than one roof-mounted, wall mounted or ground-mounted solar energy system, the additional systems second or subsequent apparatus shall require approval by the Zoning Officer ~~upon review~~ and certification of the impact of the same by a registered engineer.

(18) ASES that are no longer functioning/repairable and capable of generating power shall be entirely removed and properly disposed of or recycled within six (6) months.

(19) Glare

(a) All ASES's shall be placed such that concentrated solar radiation does not project onto nearby structures or roadways. Exterior surfaces shall have a non-reflective finish.

(b)The applicant has the burden of proving that any glare produced does not have adverse impact on neighboring properties or adjacent uses either through sitting or mitigation.

(20) Noise

(a) Noise level shall not exceed 65 decibels (dBA) at the property line of all adjacent properties.

§ 490-85.1 **Should be changed to read as follows:**

~~Large solar energy production facility.~~ Principal Solar Energy System (PSES)

~~Large solar energy systems~~ PSES's are permitted as provided in Article II provided herein

A. The applicant shall provide the following information:

(1) A plan, prepared by a Pennsylvania-registered professional engineer, indicating the location of all existing and proposed facilities on the subject tract, property limits, required setbacks, utility locations and locations of any ground-mounted equipment. The information shall highlight existing vegetation, topography and other existing natural features.

(a) Solar energy systems constructed prior to the effective date of this Section shall not be required to meet the terms and conditions of this Ordinance. Any physical modification to an existing solar energy system, whether or not existing prior to the effective date of this Section that materially alters the solar energy system shall require approval under this Ordinance. Routine maintenance or like-kind replacements do not require a permit. A permit will be required for any upgrades, new technology or capacity increases.

(b) The Solar energy system layout, design and installation shall conform to applicable industry standards, such as those of the American National Standards Institute (ANSI), Underwriters Laboratories (UL), the American Society for Testing and Materials (ASTM), Institute of Electrical and Electronics Engineers (IEEE), Solar Rating and Certification Corporation (SRCC), Electrical Testing Laboratory (ETL), or other similar certifying organizations, and shall comply with the PA Uniform Construction Code as enforced by the Municipality and with all other applicable fire and life safety requirements. The manufacturer specifications for the key components of the system shall be submitted as part of the application.

(2) Calculations indicating both the existing and proposed building coverage and impervious coverage for the subject tract.

(3) A narrative addressing how the proposed facility's impacts will be minimized for the surrounding properties. This should include, at a minimum, information regarding site selection, facility design or appearance, buffering and screening of ground-mounted equipment.

4) ~~Glare Solar panels shall be placed such that concentrated radiation or glare shall not be directed onto nearby properties or roadways.~~

(a) All PSES's shall be placed such that concentrated solar radiation does not project onto nearby structures or roadways. Exterior surfaces shall have a non-reflective finish.

(b) The applicant has the burden of proving that glare produced does not have an adverse impact on neighboring properties or adjacent uses either through siting or mitigation.

(c) Developer shall submit a Glare Study.

(5) Submission of a landscape plan, prepared by a Pennsylvania-registered landscape architect, indicating appropriate screening for the proposed facility with sufficient information to make a

Conditional Use recommendation.

(6) ~~If applicable,~~ The applicant shall provide to the Township a copy of the agreement between the landowner of the real property on which the solar energy facility is to be located and the facility owner, demonstrating that the facility owner has permission of the landowner to apply for necessary permits or approvals for construction and operation of the solar energy facility.

(7) The PSES Developer/Owner shall provide any additional documentation required by the Township or County for tax purposes.

B. ~~Large-scale solar energy~~ PSES facilities shall be considered land development, however, a roof mounted PSES does not require submission of land development plan unless any structures for the roof mounted system are going to be ground mounted.

C. Dimensional requirements.

(1) ~~Lot coverage. Only the base or foundation of the solar panel that is affixed to the land, rather than the entire solar panel, shall be considered impervious cover, provided that there is adequate space between panels for water to flow off of the collector onto a pervious surface~~

(2) ~~A ground-mounted solar energy system~~ PSES shall not exceed the maximum building height for the zoning district in which it is located.

(3) ~~Ground-mounted solar energy systems~~ PSES shall meet the setback requirements for the underlying zoning district.

(4) When a building is necessary for the storage of cells and/or equipment or components related to the solar energy system, the building must not exceed 400 square feet in area, must not exceed 15 feet in height and be centrally located within the parcel containing the solar facility. must not be located within any side, rear or front yard setback Battery Energy Storage System (BESS) or similar storage system includes the batteries and all connection equipment. The battery storage equipment shall be housed in a ventilated structure capable of limiting flammable gas to 25% of the Lower Flammable Limit (LFL). The structure shall have flat and level concrete floors with acid and impact resistant coating, battery stands coated to withstand acid, rollers that are spark proof, hydrogen gas detectors, aerosol type fire suppression system, eye wash station, area for storage of personnel protective equipment (such as, but not limited to, acid resistant face shields, goggles, aprons and gloves), spill kits, fire extinguishers (ABC, dry chemical, CO2 or foam) and maintenance equipment necessary to maintain battery storage operations. The structure shall meet NFPA 855 standard for the installation of stationary energy storage systems. The structure shall be centrally located in the PSES area. It shall be protected by an eight-foot fence with a locked gate. Noise outside the structure shall not exceed 65 decibels.

D. Permit Requirements

(1) PSES (Ground mounted) shall comply with the municipal subdivision and land development ordinance requirements through submission of a land development plan.

(2) The installation of PSES shall be in compliance with all applicable permit requirements, codes and regulations.

(3) The PSES owner and/or operator shall repair, maintain and replace the PSES and related solar equipment during the life of the system, in a manner consistent with industry standards as needed to keep the PSES in good repair and operating condition.

(4) The PSES owner shall provide evidence a certificate of liability insurance of 1 million dollars naming the township as an additional insured on the policy.

(5) Prior to the issuance of a zoning or land use permit, solar energy system applicants must acknowledge in writing that the issuing of said permit shall not and does not create in the property owner, its, his, her or their successors and assigns in title or, create in the property itself;

(a) The right to remain free of shadows and/or obstructions to solar energy caused by development of adjoining or other property or the growth of any trees or vegetation on such property; or

(b) The right to prohibit the development on or growth of any trees or vegetation on such property.

(c) Neighboring property owners can grow any vegetation anywhere on their property, unless there is an easement in place.

(d) This acknowledgment shall be submitted to the Township and placed with the permit.

E. Fees

(1) The applicant shall pay all permit application, plan reviews/approvals and inspection fees related to review and approval of the application.

(2) An annual inspection shall be conducted by the Township Zoning Officer and Building Code Official after the first year and every other year, thereafter. The cost shall be paid by the Owner, per the adopted Annual Fee Schedule Resolution.

(3) All fees are set by resolution.

(4) Any additional costs related to additional reviews or inspections, or legal fees incurred by the Township in resolving identified issues shall be reimbursed by the applicant.

F. Solar Easements for Adjoining Properties

(1) Where a subdivision or land development proposes a solar energy system, solar easements may be provided. Said easements shall be in writing and shall be subject to the same conveyance and instrument recording requirements as other easements.

(2) Any such easements shall be appurtenant, shall run with the land benefited and burdened, and shall be defined and limited by conditions stated in the instrument of conveyance. Instruments creating solar easement shall include but not be limited to:

(a) A description of the dimensions of the easement including vertical and horizontal angles measured in the degrees or the hours of the day, on specified dates, during which direct sunlight to a specified surface or structural design feature may not be obstructed.

- (b) Restrictions on the placement of vegetation, structures, and other objects which may impair or obstruct the passage of sunlight through the easement.
- (c) Enumerate terms and conditions, if any, under which the easement may be revised or terminated;
- (d) Explain the compensation for the owner of the real property subject to the solar easement for maintaining the easement and for the owner of the real property benefiting from the solar easement in the event of interference with the easement.
- (e) If necessary, a solar energy system owner and/or operator must obtain any solar easements necessary to guarantee unobstructed solar access by separate civil agreement(s) with adjacent property owner(s).

G. Stormwater Requirements

- (1) The following components of a solar energy system shall be considered impervious coverage and calculated as part of the impervious surface limitations for the underlying zoning district:
 - (a) Foundation systems (footers)
 - (b) All mechanical equipment including any structure and pads
 - (c) Gravel used in any application shall be considered impermeable unless it has an engineered pervious grid system.
- (2) The applicant shall submit a Stormwater Management Plan that demonstrates compliance with the municipal stormwater management regulations.
- (3) The surface area of the arrays of a solar energy system, regardless of the mounted angle of any solar panels, shall be considered impervious surface and calculated in the lot coverage of the lot on which the system is located, except as described in Section H below.

H. Impervious coverage limitations established in this section and a detailed stormwater analysis including Post Construction Stormwater Management (PCSM) and Pennsylvania Stormwater Best Management Practices (BMPs) Manual requirements are required for all solar energy systems unless the requirements listed below are met:

- (1) Impervious coverage requirements, and a detailed stormwater analysis including PCSM and BMP requirements do not apply to the solar energy systems if:
 - (a) Earth disturbance and grading activities shall be minimized and natural vegetative cover preserved and/or restored using native species as specified in applicable township ordinances.

- (b) The low impact construction techniques must be utilized in accordance with the latest edition of the Pennsylvania Stormwater Best Management Practices Manual.
- (c) Vegetative cover must have a minimum uniform 90% perennial vegetative cover between rows and 80% under panel arrays with a density capable of resisting accelerated erosion and sedimentation.

 - (1) Meadows of native species as specified in applicable township ordinance is required for slopes of 5 to 15%.
 - (2) Vegetative cover shall not be cut or grazed to less than 4 inch average in height.
 - (3) Vegetated areas will not be subject to chemical fertilization or herbicide/pesticides application, except for those applications necessary to establish and maintain the vegetative cover or replace nutrients in accordance with an approved Erosion and Sedimentation Control Plan.
 - (4) Vegetation along the fence lines shall be controlled by mechanical or chemical application.
 - (5) For this section, gravel is considered an impervious surface and is prohibited unless it has an engineered pervious grid system.
- (d) The individual solar modules within an array are arranged in a fashion that:

 - (1) Allows the passage of runoff between each module, minimizing the creation of concentrated runoff.
 - (2) Individual solar panels shall not exceed 6 feet in width to allow for adequate vegetative cover to be established and maintained.
- (e) All panels must be placed on an area with 15% slopes or less.
- (f) The lowest vertical clearance of the solar array shall be 3 feet and the highest vertical height from the surface of the ground allowed by the applicable zoning requirement. The minimum height must be of adequate height to promote vegetative growth below the array.
- (g) A maximum of 5% of the Solar Project Area may be occupied by the support structure/foundations used to support ground mounted solar panels.

I. Agrivoltaics Requirements:

- (1) Cutting, mowing or grazing is limited to an average height of no less than 4 inches using Best Management Practices (BMP) to maintain ground cover.
- (2) Application of chemical fertilization or herbicides/pesticides is limited to the agronomic needs to the crop(s).

- (3) Written Erosion and Sediment plan is developed and approved to control runoff.
- (4) When grazing, a Manure Management Plan shall be developed and approved.
- (5) Developer will provide a copy of the contract with Agricultural Producer detailing a viable, sellable production Ag product. Contract shall be reviewed by a panel (selected by Board of Supervisors) with a recommendation of approval or disapproval by the panel.

J. PSES Location to Substation/Transmission Lines

- (1) Any proposed PSES shall be located within the following distances of an adequately sized, utility power line, a substation that is capable of accepting solar energy into the electricity grid, or another solar facility.

(a) Utility owned Distribution Line (12-34 ½ KV) - within one third (1/3) mile

K. Decommissioning

- (1) The solar energy system owner is required to notify the Township immediately upon cessation or abandonment of the operation.
- (2) The solar energy system shall be presumed to be discontinued or abandoned if no commercially usable electricity is generated by such system within a period of six (6) continuous months, unless owner/operator notifies Township of maintenance or construction activity.
- (3) The PSES solar energy system owner shall then have six (6) months from abandonment in which to dismantle and remove the entire solar energy system including all solar related equipment or appurtenances related thereto, including but not limited to buildings, cabling, electrical components, roads, foundations and other associated facilities from the property in accordance with good industry practice and agreements (Decommissioning Agreement) with the PSES owner and Township. If the PSES owner fails to dismantle and/or remove the solar energy system within the established timeframe, the Township may complete the decommissioning at the owners expense. Any soil exposed during the removal shall be stabilized in accordance with applicable erosion and sediment control standards and requirements.

L. Decommissioning Costs

- (1) At the time of issuance of the permit for the construction of the PSES, the owner shall provide financial security in the form and amount acceptable to the Township to secure its obligations under this Section.
 - (a) At the time of application, the PSES Developer shall have a Licensed Professional Engineer provide the Township with a cost of performing the decommissioning activities required herein, plus an administrative cost of 1% and inflation factor of 2% per year times service life years. Assume 25-year service life (if the service life increases then the new service life years shall be used in the formula). The Decommissioning Cost formula shall be:

$$\text{Cost of Decommissioning activities} + (\text{Decommissioning Cost} \times 1\%) + (\text{Decommissioning Cost} \times 2\% \times \text{Service Life years}) + \text{cost of permits} = \text{the Decommissioning Cost. The Decommissioning Cost is also the Decommissioning Financial Security cost.}$$

- (b) On every five-year anniversary of the date of providing the Decommissioning Cost, the PSES Owner shall provide an updated Decommission Cost prepared by a Licensed Professional Engineer, utilizing the formula set forth above. If the Decommissioning Cost amount changes, the PSES Owner shall remit the increased Financial Security to the Township within 30 days of the approval of the updated Decommissioning Cost by the Township.
- (c) Decommissioning Security shall be subject to review and approval by the Township and the PSES Developer/ Owner shall be responsible for administrative, legal, and engineering costs incurred by the Township for such review.
- (d) The Decommissioning Security may be in any form which is acceptable to the Township. The security shall be held by the Township.
- (e) Prior to approval of any plan or permit for a PSES, the PSES Developer shall enter into a Decommissioning Agreement with the Township outlining the responsibility of the parties under this Agreement as to the Decommissioning of the PSES and have such agreement recorded with the Recorder of Deeds.

M. Operating Data Reporting

- (1) The PSES solar energy system owner shall submit, on a six (6) month basis (June 30 and December 31) information, including but not limited to, (such as daily generation chart, significant outage incidents summary, significant operational issues, future planned outages and improvements) concerning the amount of energy generated by the solar energy system to the Township. Also report any changes to the estimated service life.
- (2) The PSES owner shall notify the Township within 30 days of any change in ownership or operational control of the solar facility.
- (3) The PSES owner shall notify the Township within 30 days of any incident responded to by Fire, Police, or EMS.

N. Environmental Protection

- (1) All PSES must be set back a minimum distance of (25) feet (as measured from the PSES fence) from any area designated as a wetland, a FEMA Floodplain, or an area containing 15% slope or greater.
- (2) All PSES shall be set back 150 feet (as measured from the PSES fence) from a property listed on, or eligible for listing on the National Register of Historic Places as designated by the State Historic Preservation Office of the National Park Service.
- (3) In Agricultural Districts, defined as Rural Agricultural Zone, the total of all solar project areas shall not be more than 15% for Non-Agrivoltaics projects and 25% for Agrivoltaics projects for Class 1 and Class 2 soils. Solar projects shall not be more than 25% for non-Agrivoltaics projects and 50% for Agrivoltaics projects in Class 3 soils.
- (4) In no case shall the solar project area occupy more than 50 acres of Class I and Class 2 soils within an individual parcel.
- (5) Any future subdivision of parent tract will not permit further solar development beyond original solar installation.

(6) No more than 10% of existing tree canopy in the PSES area shall be removed during construction. Landscaping required by the Township Land Development Ordinances or attached as a condition of approval of any plan, application, or permit shall be completed prior to the start of commercial power generation. Landscaping (existing or added) shall be maintained with replacement of any dead or dying items within two (2) months (or as soon as weather or growing season permits).

O. PSES shall not be placed in any legal easement or right-of-way.

P. Ground mounted PSES shall be screened per the applicable zoning district.

Q. PSES shall not be placed within any stormwater conveyance system or in any other manner that would alter or impede stormwater runoff from collecting in a constructed stormwater conveyance system.

R. All on-site (inside the perimeter fence) transmission and plumbing lines shall be placed underground.

S. Security

(1) All ground-mounted PSES shall be completely enclosed by a minimum 8 foot high fence with a locked gate at each entrance point (people or vehicle). The fence shall meet setback requirements noted in Section N.

(2) The Owner or Facility Operator shall post a sign stating the name(s) and phone number(s) of the contact person(s) for all inquiries, emergencies and complaints. The contact list must cover a 24/7 schedule. The sign shall be posted on each entrance gate and be lit at night. The contact information shall also be given to the Township.

(3) The Owner or Facility Operator shall develop, provide training and update within 30 days of any change, in conjunction with the Township's Emergency Management Coordinator, an Emergency Response plan to cover industry known issues. A copy shall be kept on site and given to the Township.

(4) There shall a lock box with a combination lock at each entrance gate (the combination lock at each gate shall have the same combination). Each lock box shall contain the applicable gate key, the battery storage lock key, and the Emergency Response Plan. The lock combination shall be given to the Township prior to facility startup.

(5) Each gate and contact sign shall have downfacing motion activated lighting.

T. Access

(1) At a minimum, a 25' wide access road must be provided from a state or municipal roadway into the site.

- a. Each access road from a street shall be connected to the emergency access openings between the solar array system.
- b. Between every eight (8) solar arrays rows or 250 feet (whichever is less), a 20' wide emergency access opening shall be provided to allow access for maintenance vehicles and emergency management.
- c. Access width is the distance between the bottom edge of a solar panel to the top edge of the

- solar panel directly across from it.
- d. There shall be one (1) perpendicular access opening up the center of the array rows.
 - e. At each end of these access openings shall be a Dead-End Fire Apparatus Access Road Turnaround. This turnaround shall be in accordance with the "Acceptable Alternative to 120 foot Hammerhead" in Figure D103.1 of the 2021 International Fire Code (or an equivalent approved by the Township and the Fire/Police/Emergency Services servicing the Township).
 - f. All roads, access openings and turnarounds shall be capable of supporting police/fire/emergency services vehicles (approximate maximum weight 80,000 pounds) and have a traveling grade of no more than 10 %.

(2) If the PSES is exempt from stormwater requirements as specified in this Ordinance, vegetation must be maintained or replaced after maintenance and/or emergency use.

(3) The interior area (inside the gate and fencing) of the PSES shall not be artificially lighted except to the extent required for safety or applicable federal, state, or local authority.

U. The owner of a PSES shall provide the Township written confirmation that the public utility company to which the PSES will be connected has been informed of the PSES owners intent to install a grid connected system. The written confirmation shall include a statement of capacity and approval of the proposed connection.

V. Noise Study

(1) A noise study shall be conducted, during normal operations, at any Battery building and at the property line of all adjacent properties. A copy of all reports shall be provided to the Township. Noise level requirement shall not exceed 65 decibels (dBA) outside the battery building or at any of the property lines.

a) Decibel readings must be conducted with calibrated device.

W. Roof and Wall Mounted Principal Solar Energy Systems:

(1) For roof and wall mounted systems, the applicant shall provide evidence that the plans comply with the Uniform Construction Code and adopted building code of the township that the roof or wall is capable of holding the load imposed on the structure.

(2) PSES mounted on the roof or wall of any building shall be subject to the maximum height regulations of the underlying zoning district.

(3) Plans and installation shall be approved by a Pennsylvania registered Professional Engineer.

X S Signage.

(1) Clearly visible warning signs (no smaller than one (1) square foot) shall be placed at the base of all pad-mounted transformers and substations, and on the fence surrounding the PSES, at intervals of 100 feet, informing ~~barrier or perimeter of large-scale solar energy systems, to inform~~ individuals of potential voltage hazards.

(2) A solar energy system shall not be used to display advertising, including signage, streamers, pennants, spinners, reflectors, ribbons, tinsel, balloons, flags, banners or similar materials. The manufacturers and equipment information, warning, or indication of ownership shall be allowed on any equipment of the solar energy system, provided they comply with the prevailing sign regulations.

Y Sensitive Receptor Requirements:

- (1) Buffer Strip as listed in 280-11
 - (2) Buffer Strip width must be 30 feet wide
 - (3) A fence of 8 feet high with no more than 2" openings
 - (4) All plantings must be at 75% growth at planting
 - (5) The buffer strip and the fence shall be for the total length of the adjacent parcel. If the PSES property line adjacent to the sensitive receptor parcel is longer in any direction then the buffer strip shall continue a minimum of 50 feet unless the PSES property line ends at a shorter distance.
- ~~E. All ground-mounted large solar energy facilities shall be enclosed by a fence, barrier or other appropriate means to prevent or restrict unauthorized persons or vehicles from entering the property.~~
- ~~F. Proof that the design of the large solar energy system conforms to the applicable industry standards, including those of the ANSI, Underwriters' Laboratories (UL), the ASTM, or other similar certifying organizations, and shall comply with the Building Code and with all other applicable fire and life safety requirements. The manufacturer's specifications shall be submitted as part of the application.~~
- ~~G. All solar energy system installations must be certified by a professional firm from a list of approved solar electric installers provided on the Pennsylvania Sunshine Program website operated by the Pennsylvania Department of Environmental Protection or from the North American Board of Certified Energy Practitioners.~~
- ~~H. On-site transmission and power lines shall, to the maximum extent practicable, be placed underground.~~
- ~~I. Ground-mounted solar energy systems shall not be placed within any legal easement or right-of-way location, or be placed within any stormwater conveyance system or in any other manner that would alter or impede stormwater runoff from collecting in a constructed stormwater conveyance system.~~
- ~~J. The owner of the large solar energy production facility shall be required to provide a certificate of insurance to the Township providing evidence of liability insurance of not less than \$1,000,000 and naming the Township as an additional insured on the policy or policies of the owner and/or lessee.~~
- ~~K. At the time of issuance of the permit for the construction of the large solar energy production facility, the owner shall provide financial security in form and amount acceptable to the Township to secure the expense of dismantling and removing said structures.~~
- ~~L. Any change in ownership of the property shall be registered with the Township within 30 days of said change in ownership.~~
- ~~M. Vegetative screening.~~
- ~~(1) All materials used for screening shall be six feet at initial planting or shall reach a minimum height of six feet above the finished grade of the land at the site of planting within two years of planting.~~

- ~~(2) Planting materials shall be permanently maintained in order to ensure effective screening and shall be replaced when necessary.~~
- ~~(3) All required trees, shrubs and yard ground cover shall be native trees and shrubs from a list developed by the Hellam Township Environmental Advisory Council (EAC). The list of acceptable native trees and shrubs for buffer planting, screening and landscaping shall be maintained by Hellam Township and provided to anyone by the Zoning Officer upon request.~~
- ~~(4) Vegetative screen must be comprised of plant material that will provide a minimum capacity of 80% in winter and 80% in summer. One of the following arrangements shall be utilized:~~
 - ~~(a) Screen planting shall contain three staggered rows of vegetative material. This screen planting shall consist of one row of fast growing needled evergreens spaced not more than 12 feet on center and two rows of deciduous trees, with a minimum height potential of 20 feet, spaced not more than 25 feet on center.~~
 - ~~(b) Screen plantings shall contain two staggered rows of vegetative material. Seventy five percent shall be fast growing needled evergreens planted 10 feet on center and staggered for effective screening. The remaining 25% shall be deciduous trees planted in staggered clusters, with 25 feet being the maximum spacing between trees.~~
 - ~~(c) Screen planting shall contain two staggered rows of vegetative material. Seventy five percent shall be fast growing needled evergreens planted 10 feet on center and staggered for effective screening. Fifteen percent shall be deciduous trees planted in staggered clusters 25 feet on center. The remaining 10% shall be staggered shrub masses used as understory plants and in combination with deciduous tree clusters. The maximum spacing for shrubs shall be four feet on center. The deciduous trees and shrubs are suggested to break up the straight line planting of one type of planting material.~~

~~N. Decommissioning.~~

- ~~(1) The large solar energy production facility owner is required to notify the Township immediately upon cessation or abandonment of the operation. The large solar energy production facility owner shall then have 12 months in which to dismantle and remove the large solar energy production facility from the property.~~
- ~~(2) If a ground-mounted solar energy system is removed, any earth disturbance as a result of the removal of the ground-mounted solar energy system shall be graded and reseeded.~~
- ~~(3) If a ground-mounted solar energy system has been abandoned (meaning not having been in operation for a period of six months) or is defective or is deemed to be unsafe by the Hellam Township Building Code Official, the solar energy system shall be required to be repaired by the owner to meet federal, state and local safety standards, or be removed by the property owner within the time period allowed by the Hellam Township Building Code Official. If the owner fails to remove or repair the defective or abandoned solar energy system, the Township may pursue a legal action to have the system removed at the owner's expense.~~