

Date: November 3, 2023

To: Iosco Township Solar Committee

From: Mark A. Eidelson, AICP

RE: Updated Draft Amendments to the Zoning Ordinance – Solar Overlay District

This correspondence presents updated draft amendments addressing the creation of a solar overlay district. The updated amendments are based on the results of the Committee’s meeting on October 11 during which the initial draft amendments (dated 9/5/23) were reviewed. Mike then inserted proposed revisions (additions and deletions) to the original amendments and they were forwarded to the Committee. I also received an email from Mike providing clarification of some of the revision issues in response to questions I had raised.

The only points of departure from the proposed revisions as presented in Mike’s revision document are:

- The replacement of “contemporaneously” with “simultaneously” under Amendment #4 (Footnote 3 of Table 3-1).
- Subsection (E)(1) of Amendment 5 was revised to further clarify that a petition for the overlay district rezoning is to be considered simultaneously with a Large SES special land use/site plan application.
- The requested revision to capitalize all terms defined in the Ordinance was not acted on, after discussing the issue with Mike, to maintain internal consistency in the Zoning Ordinance. The current Ordinance does not format defined terms in this manner.

A map presenting the planned overlay district boundaries is on the last page. The map page also notes that the planned district covers approximately 990 acres exclusive of road rights-of-way.

Please contact me if any questions arise or if further revisions are desired. I am available to attend a Committee or Planning Commission meeting to further assist if so desired. As my evening schedule can fill far in advance, please contact me as soon as possible if my presence at a meeting is desired.

AMENDMENT #1: Revise the “Other Districts” portion of Section 3.1 (Establishment of Districts) as follows (see *italicized* wording):

Other Districts

- | | |
|--------|---|
| PUD | Planned Unit Development District |
| LSESOD | <i>Large Solar Energy System Overlay District</i> |

AMENDMENT #2: Revise Section 3.7 (Special District Provisions) by the insertion of subsection (B), to read as follows:

B. Large Solar Energy System Overlay District

1. The only uses permitted by right in the Large Solar Energy System Overlay District are those uses permitted by right in the underlying district under which the Overlay District is established.
2. The only use authorized as a special land use in the Large Solar Energy System Overlay District is a Large Solar Energy System (Large SES).
3. See Section 13.19 for application and site development requirements and standards for Small, Medium, and Large SES.

AMENDMENT #3: Revise Table 3-1 (Purposes of Zoning Districts) of Article 3 to insert the following purpose statement for the Large Solar Energy System Overlay District under “Other Districts” (see *italicized* wording).

<u>OTHER DISTRICTS</u>	
PUD Planned Unit Development	See Section 4.1, Planned Unit Development (PUD) District.
<i>LSESOD Large Solar Energy System Overlay District</i>	<ol style="list-style-type: none"> 1) <i>Accommodate utility-scale solar energy systems in a manner that maximizes efficient energy production and transmission of energy to the utility grid, maximizes compatibility between such systems and surrounding land uses, and limit the consumption of natural resources and farmland for such energy systems, all in coordination with a reasonable demonstrated need for renewable energy in the Township.</i> 2) <i>Regulate the siting, design, construction, operation, monitoring, modification, and removal of such systems to protect the public health, safety, and welfare, to ensure compatibility of land uses in the vicinity of such systems, and to encourage the preservation of the Township’s farmland resources, agricultural heritage, and rural character.</i> 3) <i>Limit utility-scale solar energy systems to the following portions of the Township deemed most appropriate according to the Township’s assessment of relevant siting factors:</i> <ul style="list-style-type: none"> • <i>Sec. 24, limited to the south 80 acres of the southeast 1/4.</i> • <i>Sec. 25, limited to the north 1/2 excluding the west 80 acres, and the west 80 acres of the southwest 1/4.</i> • <i>Sec. 26, limited to the portion of the southeast 1/4 located east of the westerly north-south drain crossing the southeast 1/4.</i> • <i>Sec. 35, limited to the portion of the east half located east of the westerly north- south drain crossing the east 1/2.</i> • <i>Sec. 36, limited to the west 1/2 of the southeast 1/4, the west 1/2 of the northwest 1/4, and the entire southwest 1/4.</i> 4) <i>See also the “All Districts” purpose statement above.</i>

AMENDMENT #4: Revise Table 3-2 (Permitted Principal Uses) of Article 3 by deleting Line 6 under “Other Uses Not Listed Above” and Footnote 3 of Table 3-2, and the insertion of the following new Line 6 and Footnote 3 in its place:

(suggested insertions in *italics*, suggested deletions with ~~strikethrough~~)

Other Uses Not Listed Above				
		AR	RR	R- MHC
6	Solar Energy Systems (SES), Medium and Large.³	See Article 13		
6	<i>Solar Energy Systems (SES), Large.³</i>	S³	–	–

Footnote 3 of Table 3-2

3. ~~See Section 13.19 regarding authorization of solar energy systems based on type and district.~~ *Large SES are permitted in the AR District only, and only after the rezoning of the subject parcel(s) to establish the Large SES Overlay District above the AR District, and a Large SES application is simultaneously approved.*

AMENDMENT #5: Revise Section 13.19 (Solar Energy Systems) as follows.

(suggested insertions in *italics*, suggested deletions with ~~strikethrough~~)

Section 13.19 Solar Energy Systems

A. Definitions: The following terms, phrases and definitions shall apply for the purpose of this Article.

1. Solar Energy System (SES): A system consisting of a device or combination of devices, structures or parts thereof, that collect, transfer or transform solar radiant energy into thermal, chemical or electrical energy, excluding systems that substantially rely on mirrors or similar technologies to focus solar radiant energy onto a considerably smaller area, and sometimes referred to as “concentrated solar power” systems or “CSP” systems.
2. Small Solar Energy System (Small SES): A solar energy system that relies on roof mounted and/or ground mounted collection systems that ~~have a total cumulative surface area of no more than two thousand (2,000) sq. ft.~~ *occupy no more than two thousand (2,000) sq. ft. of roof area or, separately, land area, including access aisles between solar panels.* A Small SES typically serves a single residential unit, agricultural operation, business, or other singular facility, located on the same lot as the Small SES.
3. Medium Solar Energy System (Medium SES): A solar energy system that relies on roof mounted and/or ground mounted collection systems that ~~have a total cumulative surface area of more than two thousand (2,000) sq. ft. but not more than ten thousand (10,000) sq. ft.~~ *occupy more than two thousand (2,000) sq. ft. but not more than ten thousand (10,000) sq. ft. of roof area or, separately, land area, including access aisles between solar panels* ~~including the area of aisles that may be present between rows of solar panels.~~ A Medium SES commonly serves multiple dwellings, businesses and/or other facilities, all on a single lot on which the system is located and may serve users on other lots.
4. Large Solar Energy System (Large SES): A solar energy system that relies on roof mounted and/or ground mounted collection systems that ~~have a total cumulative surface area of more than ten thousand (10,000) sq. ft. including the area of aisles that may be present between rows of solar panels—~~*occupy more than ten thousand (10,000) sq. ft. of roof area or, separately, land area, including access aisles between solar panels,* and is used principally to provide service to customers not located on the same lot as the Large SES ~~irrespective of the cumulative area of the panels.~~ A Large SES commonly serves ~~multiple dwellings, businesses and/or other facilities, all on a single lot on which the system is located and may serve users on other lots including in association with~~ energy utility providers.
5. Ground Mounted Solar Energy System: *A solar energy system that is attached directly to the ground by means of support poles, bracket systems, and similar support mechanisms.*
6. Non-participating Parcel: *Any parcel within the Township other than a participating parcel.*
7. Participating Parcel: *Any parcel or portion thereof owned or under the control of any person by lease, easement, or any other agreement, and proposed for the placement of a Large SES or portion thereof or is otherwise subject to an agreement in association with the Large SES irrespective of whether any SES equipment is to be placed on the parcel or portion thereof.*
8. Roof Mounted Solar Energy System: *A solar energy system attached to or mounted on a roof or exterior wall of a principal or accessory building but excluding building integrated photovoltaic (BIPV) systems.*
9. Self-Contained Solar Energy Systems: Solar energy systems that do not exceed four (4) square feet in total solar collector panel area and intended to provide energy to operate a device to which such panel is attached such as in the case of a panel powering an exterior light or an attic fan.
10. Solar Collection Panels: Panels and/or tiles comprised of semiconductor devices and typically referred to as photovoltaic cells, which collect and convert solar energy directly into electricity. Ground mounted solar collection panels are panels attached to the ground by a pole, metal frame or other similar support structure.

B. Compliance with Table 3-4: Solar energy systems shall comply with the standards of Table 3-4 except as provided otherwise by this Section.

C. Small Solar Energy Systems (Small SES)

1. Small SES Authorization, Review and Approval Procedures: A Small SES is an authorized accessory use/structure *only*, in all districts. Small SES shall be subject to Zoning Administrator approval through the issuance of a zoning permit. An application for a Small SES shall include all information required by Section 2.4(B) including the delineation of all SES structures and facilities, and all structures on adjacent properties within fifty (50) feet of a shared lot line.
2. Small SES General Provisions: Small SES collection panels shall be placed such that concentrated solar radiation or solar glare shall not be directed onto nearby properties and public roads. The applicant shall submit ~~documentation~~ *a drawing showing the location of the Small SES, including distance from property lines and any structure on adjacent property* ~~to verify compliance with this requirement.~~
3. Small SES Roof-Mounted Systems
 - a. No system part of a Small SES roof-mounted system shall extend more than four (4) feet above the roof surface directly below such system part, but in no case shall the total height of the SES, measured to the ground below, exceed the building height restriction of the district in which it is located.
4. Small SES Ground-Mounted Systems
 - a. Small SES ground-mounted collection panel systems and associated equipment are prohibited in a front yard and shall be set back a minimum of fifteen (15) feet from all side and rear lot lines.
 - b. Small SES ground-mounted collection panel systems and associated equipment shall not exceed ten (10) feet in height as measured from the ground below.
 - c. If a ground mounted Small SES ceases to operate or is abandoned for six (6) months, or is deemed by the Building Inspector to be unsafe or not consistent with the building code, the applicant shall repair and restore the system to good working order within thirty (30) days of notification by the Zoning Administrator, or otherwise remove the system in its entirety including posts, equipment, panels, foundations and other features and restore the ground to its preconstruction state.
 - 1) The Zoning Administrator may permit a repair period greater than thirty (30) days if the Zoning Administrator determines a longer period is necessary due to conditions not within the control of the applicant.
 - d. When determining the lot coverage of a lot on which a ground-mounted Small SES is located, as regulated by Table 3-4 of Article 3, fifty percent (50%) of the ~~cumulative surface~~ *panels system* area of the solar panels shall be applied to such calculation.
 - e. Ground-mounted Small SES shall comply with Section 20.8, Accessory Buildings and Structures, except as otherwise provided by this ~~Section~~ *subsection (4)*.

D. Medium Solar Energy Systems (Medium SES)

1. Medium SES Authorization, Review and Approval Procedures: A Medium SES is permitted as an accessory use only, and only in the C-1 and I-1 Districts. A Medium SES shall be subject to site plan approval according to Article 14 of this Ordinance.
2. Medium SES General Provisions
 - a. Medium SES collection panels shall be placed such that concentrated solar radiation or solar glare shall not be directed onto nearby properties and public roads. The applicant shall submit a report to the Planning Commission, prepared by a qualified person with documented training, certification and/or licensing in glare associated with SES including training in the use of computer software designed to assess glare potential, attesting to the glare and radiation impact on nearby properties and public roads and verifying compliance with this section. The Planning Commission may waive the requirement for such report upon finding that site or surrounding conditions significantly lessen the need for the report such as in the case of substantial existing screening that will further minimize glare conditions off-site, the absence of dwellings on adjacent lots, and the distances between the proposed solar panels and dwellings on adjacent lots.
3. Medium SES Roof-Mounted Systems: No part of a Medium SES roof-mounted system shall extend more than six (6) feet above the roof surface directly below such system part but in no case shall the total height of the SES, measured to the ground below, exceed the building height restriction of the district in which it is located.

4. Medium SES Ground-Mounted Systems

- a. **Yard and Setback Restrictions:** Ground-mounted collection panel systems and associated equipment are prohibited in a front yard and shall be set back a minimum of seventy-five (75) feet from all side and rear lot lines, but in no case shall such systems and equipment be located within two hundred (200) feet of a dwelling located on ~~another~~ *a non-participating* parcel and this setback shall be increased to four hundred (400) feet in the case of a substation greater than two thousand (2,000) sq. ft. in area. In the absence of a building, the front yard shall be construed as extending seventy-five (75) feet from the front lot line.
- b. **Height Restrictions:** Ground-mounted solar collection panels shall not exceed fifteen (15) feet in height above the ground surface below.
- c. **Screening:** In the case of ground mounted solar panels located on a lot that is adjacent to a lot in an Agricultural or Residential District, including on the opposite side of a public road, screening shall be provided along such shared lot lines. The site plan shall specify the proposed plant material according to common name, botanical name, and minimum planting size. All plant material shall be maintained in a healthy condition to provide the intended screening, shall be permitted to grow according to its natural habit, and shall be replaced upon death or disease.
 - 1) The screening along shared lot lines shall consist of a mixture of evergreen trees, evergreen shrubs, and deciduous shrubs of a comparatively dense branching growth habit. Unless specified otherwise, evergreen trees shall comprise a minimum of fifty percent (50%) of the required plantings.
 - a) Where a dwelling is located within two hundred (200) feet of shared lot line, the screening shall include, at a minimum, a double-row of evergreen trees with such trees to be planted no greater than twenty (20) feet apart from each other and no less than ten (10) feet apart from each other, and the second row of trees shall be planted no greater than twenty (20) feet from the first row as measured perpendicularly between the center line of each row.
 - 2) At the time of planting, all trees shall be a minimum height equal to sixty percent (60%) of the maximum height that the solar panels will extend above the ground, and all shrubs shall be a minimum height equal to thirty percent (30%) of such maximum height. All plant material shall have an overall moderate to fast projected growth rate during the ten (10) years following plant installation. Trees shall have a minimum projected height equal to the maximum height that the solar panels will extend above the ground, and shrubs shall have a minimum projected height equal to seventy-five percent (75%) of such maximum panel height. Berming may be used to contribute to or meet the minimum height requirements specified in this subsection.
 - 3) Proposed screening shall have the effect of ensuring a screen of a minimum sixty percent (60%) opacity within three (3) years following the installation of the plant material, from a height of two (2) feet above ground surface to a height equal to seventy-five percent (75%) of the height of the panels from the ground below, except that the minimum percent opacity shall be seventy-five percent (75%) for screening required under subsection (1)(a). Failure to meet the opacity standards shall require the installation of additional plantings within six (6) months of notification by the Zoning Administrator.
 - 4) Required screening need not be in the immediate area of the panels that the plantings are intended to screen if the planting locations provide for the intended screening effect. No tree shall be located within ten (10) feet of a lot line.
 - 5) The approving body may decrease the number of required plantings, required plant spacing and/or planting height requirements, by a maximum fifty percent (50%) where specific conditions warrant such modifications such as, by example, the adjacent property is vacant and not likely to be developed within the next three (3) years based on nearby development trends during the preceding three (3) years, where natural features are present that serve to assist in the screening of the panels such as topographic or vegetative conditions, or where existing structures will assist in the screening of the panels. In no case shall required screening along a public road right-of-way be reduced.
- d. **Abandonment:** Ground-mounted Medium SES shall comply with the Small SES requirements regarding cessation of operations, abandonment and/or disrepair.
- e. **Fencing:** Fencing that may be installed as part of a ground-mounted Medium SES shall be exempt from the fence height restrictions of this Ordinance including Section 20.9, subject to site plan review, but in no case shall such fencing exceed seven (7) feet in height except upon the approving body finding that the additional fence height shall not be visually conspicuous due to fencing setbacks from property lines, existing screening features, or other conditions. Where fencing is to restrict the free flow of air by more than ten percent (10%) opacity of the fence, ~~the Planning Commission may~~

require additional vegetative screening measures *may be required* to minimize the visual impact of such fencing. If fencing is proposed, fencing details shall be submitted as part of the required site plan.

- f. **Lot Coverage:** When determining the lot coverage of a lot on which a ground-mounted Medium SES is located, ~~as regulated by Table 3-4 of Article 3,~~ fifty percent (50%) of the ~~cumulative surface area of the solar panels~~ *area devoted to solar panel rows, substations, inverters, and other equipment* shall be applied to such calculation.
- g. **Lighting:** No exterior lighting shall be erected except upon satisfactory evidence that such lighting is necessary for the proper operation or security of the facility, *and no lighting shall be operational between sunset and sunrise except during emergency repairs or as may be otherwise permitted under the approved permit.* No lighting shall adversely affect ~~adjacent~~ *non-participating* parcels. All lighting shall be shielded from adjoining parcels, and light poles shall be restricted to eight (8) feet in height from the ground except upon satisfactory evidence that a greater height is necessary, no reasonable alternatives are available, and the greater height shall not create nuisance conditions. *No exterior lighting shall be located within one hundred (100) feet of a lot line of a non-participating parcel.*
- h. **Underground Transmission:** *All power transmission or other lines, wires, or conduits from a Medium SES to any building or other structure shall be located underground at a depth that complies with current National Electrical Code standards, except for power switchyards or the area within a substation.*
- i. **Panel Inspections:** *All panels shall be inspected at intervals no less than monthly. Any panel that is cracked or otherwise broken to permit water or moisture within the panel casing, or which permits materials or gasses within the panel to escape into the air or ground, shall be removed or otherwise repaired or replaced within forty-five (45) days of the discovery of the faulty panel.*
- j. **Decommissioning and Reclamation Plan:** A Medium SES application shall include a decommissioning and reclamation plan that shall address, at a minimum, *the following:*
 - 1) Anticipated life of the project, the manner in which all structures and equipment shall be disassembled and removed from the project parcel, and the manner in which the project parcel shall be returned to its pre-existing state including *revegetation with native species or other approved ground cover to stabilize the soil.*
 - 2) When a Medium SES is decommissioned, all items shall be removed from the subject property including electrical components, structure foundation, or other associated components, unless approved otherwise, to a depth not less than five (5) feet below the ground surface.
 - 3) Any material left more than five (5) feet below the ground surface shall be documented and recorded upon a certified survey and recorded within the County Register of Deeds.
- k. **Performance Guarantee Requirements**
 - 1) Prior to the issuance of a Medium SES permit, the applicant shall engage a licensed professional engineer to estimate the total cost of decommissioning the Medium SES and reclamation efforts to return affected land back to its physical condition prior to the Medium SES construction. The applicant shall pay for the costs of obtaining such estimate. Said estimate shall be submitted to the Township for review and if determined satisfactory, accept the estimate.
 - 2) Prior to the issuance of a Medium SES permit, the owner(s) and/or operator of the Medium SES shall post a performance guarantee in ~~a form acceptable to the Township~~ *cash*, equal to ~~one hundred percent (100%)~~ *one hundred twenty-five percent (125%)* of the total estimated decommissioning and reclamation costs. Decommissioning and reclamation costs shall be re-evaluated and the value of the guarantee shall be adjusted accordingly every ~~five (5)~~ *years- three (3) years.* *Additional financial security may be required based on the average inflation rate of the preceding three (3) years.*
 - 3) Said performance guarantee shall be posted and maintained with a bonding company licensed in the State of Michigan or Federal or State chartered lending institution chosen by the owner(s) or operators and acceptable to the Township.
 - 4) An applicant shall maintain the approved performance guarantee for the duration of the Medium SES, until decommissioning and removal is complete. The performance guarantee documents

shall prohibit the applicant from terminating or withholding renewal of the performance guarantee except upon written approval from the Township Clerk. The termination or non-renewal of a performance guarantee without the Township's approval shall be a violation of this Ordinance and the Township may revoke approval of the Medium SES, require its removal, and/or exercise any other authority permitted by law.

- 5) The performance guarantee provisions of Section 2.6 shall apply except where otherwise modified by this subsection.

E. Large Solar Energy Systems (Large SES)

1. Large SES Authorization, Review and Approval Procedures: Large SES are permitted as a special land use only, and only in the AR District. Large SES shall comply with special land use application, review and approval provisions of Article 15 of this Ordinance including site plan review. A Large SES may be the principal or accessory use of a lot. *Action on an application for a Large SES requires the simultaneous submittal of a rezoning petition to the Large SES Overlay District and the submittal of a special land use application including a proposed preliminary or final site plan. See subsection (F) of this Section regarding additional required application information.*
2. Large SES Standards and Requirements: Large SES shall comply with the site development standards and requirements of subsection (D) for Medium SES, including ~~decommissioning and reclamation plans~~ and performance guarantees, except ~~that a Large SES shall not be subject to lot coverage restrictions as provided below.~~
 - a. *Battery Storage: The use of batteries to store generated electricity is prohibited.*
 - b. *Conservation:*
 - 1) *Large SES shall incorporate access corridors for wildlife to navigate through the area. To this end, measures shall be employed to minimize continuous fencing of greater than 1,000' in length.*
 - 2) *A minimum two hundred (200) feet shall be maintained between solar panels, inverters, and substations and any wetland more than ten (10) acres in area, any lake or pond more than ten (10) acres, and any year-round water course in excess of thirty (30) feet in width. Where these setback requirements conflict with Section 11.3 regarding natural resource setbacks, the standards of this subsection shall apply.*
 - 3) *All panels, inverters, substations, and other structures shall be sited and designed to minimize soil disturbances to the greatest extent practical along with the employment of effective measures to minimize soil erosion and sedimentation. Such measures shall be subject to approval by the County Drain Commissioner.*
 - 4) *See also Section 11.2 regarding the protection of natural resources.*
 - c. *Yard and Setback Restrictions: Ground-mounted collection panel systems and associated equipment are prohibited in a front yard and shall be set back a minimum of two hundred fifty (250) feet from all side and rear lot lines, but in no case shall such systems and equipment be located within five hundred (500) feet of a dwelling located on a non-participating parcel. The setback for a substation greater than two thousand (2,000) sq. ft. in area shall be increased to seven hundred fifty (750) feet. In the absence of a building of the lot, the front yard shall be construed as extending seventy-five (75) feet from the front lot line.*
 - d. *Noise.*
 - 1) *The noise levels generated by a Large SES shall not exceed the following limits, measured along the lot line at any instantaneous moment and not averaged over time. Noise levels shall be measured during winter months. If the ambient sound pressure level exceeds the sound pressure standard below, the standard shall be the ambient dB(A) plus 5 dB(A). The standards below apply to all noise sources including inverters and substations but shall not apply during emergency conditions at the facility about which the Zoning Administrator has been notified by the facility operator.*
 - a) *40 dBA Lmax between the hours of 7:00 a.m. and 9:00 p.m.*
 - b) *35 dBA Lmax between the hours of 9:00 p.m. and 7:00 a.m.*

- 2) *All elements of the Large SES that produce noise aside from the solar panels, such as in the case of inverters and substations, shall be located toward the central portions of the facility to the greatest extent practical, or otherwise be set back from all lot lines a sufficient distance to comply with the noise restrictions of subsection (1) above.*
- e. *Ground Cover: The lot on which the Large SES is located shall be covered with vegetation until decommissioning. To meet this requirement, the lot shall include one (1) or more of the following:*
 - 1) *A site designed to have vegetation that will enhance pollinator populations, including a diversity of flowering plants and wildflowers, and meets a score of 76 or higher on the Michigan Pollinator Habitat Planning Scorecard for Solar Sites as prepared by the Michigan State University's Department of Entomology.*
 - 2) *A site designed with measures to restore native plants, grasses, and prairie with the aim of protecting specific species or providing specific ecosystem services, such as carbon sequestration or soil health. The site shall be designed in partnership with a conservation organization or approved by the Livingston Conservation District.*
 - 3) *Sites that incorporate rotational livestock grazing and forage production as part of a vegetative maintenance plan.*
 - 4) *Sites that combine raising crops for food, fiber, or fuel, and generating electricity within the project area to maximize land use.*
- f. *Drain Tile Inspections: The applicant or operator shall inspect all underground drain tiles at least once every three years by means of robotic camera, with the first inspection occurring before construction of any part of the Large SES. The applicant or operator shall submit a copy of the video to the Zoning Administrator and Livingston County Drain Commissioner. Any damaged or inoperable tile shall be repaired prior to construction. After the Large SES is operational, the owner or operator must repair any damage or failure of the drain tile within thirty (30) days after discovery and submit proof of the repair to the Zoning Administrator. The Township is entitled, but not required, to have a representative present at each inspection or to conduct an independent inspection, and the Zoning Administrator shall be notified at least five (5) days before an inspection. Documentation of repairs shall be submitted to the property owner, the Zoning Administrator, and the Livingston County Drain Commissioner and shall indicate the location, nature, and satisfactory completion of the repairs.*
- g. *Abandonment: If a ground mounted Large SES ceases to operate or is abandoned for ninety (90) days, or is deemed by the Building Inspector to be unsafe or not consistent with the building code, the applicant shall repair and restore the system to good working order within thirty (30) days of notification by the Zoning Administrator, or otherwise remove the system in its entirety including posts, equipment, panels, foundations and other features and restore the ground to its preconstruction state. A Large SES that received approval but construction for which has not been at least fifty percent (50%) completed within eighteen (18) months following approval shall be deemed to be abandoned. A Large SES shall be subject to the permit expiration provisions of Section 2.5(C) except as otherwise provided by this subsection (c).*
 - 1) *The Zoning Administrator may permit a repair period greater than thirty (30) days if the Zoning Administrator determines a longer period is necessary due to conditions not within the control of the applicant.*
- h. *Performance Guarantee Requirements: Large SES shall be subject to the performance guarantee requirements applicable to Medium SES except for the following additional requirements.*
 - 1) *The performance guarantee amount shall include a line item break down of projected reclamation costs including costs specific to the removal of all underground wiring, the removal of all access roads and the proper revegetation thereof, and the testing of all underground drains to ensure proper functioning. The Zoning Administrator shall be present during testing procedures.*

- i. Complaint Resolution: During or after Large SES construction but prior to the initiation of any electrical generation, the applicant shall deposit ten thousand (10,000) dollars into an escrow account established by the Township for the purpose of funding investigations by the Township into complaints of noncompliance with such permit. At no time shall the Township permit the account to drop below a minimum of five thousand (5,000) dollars. The applicant shall bring the account balance to ten thousand (10,000) within ten (10) days of notification by the Township should account funds decrease to less than five thousand (5,000) dollars. Should an aggrieved property owner allege that a Large SES is not in compliance with the requirements of this Ordinance or permit approval, the procedure shall be as follows:
 - 1) Complaints must be submitted to the Zoning Administrator in writing from the affected property owner including their name, address, and contact information.
 - 2) Upon receiving a complaint, the Zoning Administrator shall review it and if the Zoning Administrator deems the complaint sufficient to warrant an investigation, the Zoning Administrator shall advise the Township Board and owner(s) and/or operator of the Large SES of the complaint and shall, at the direction of the Township Board, initiate further investigations if required. All such independent investigations and analyses authorized by the Township Board shall be conducted by qualified professionals acceptable to the Township to determine compliance with the requirements of the permit.
 - 3) Following the conclusion of the investigation, the Zoning Administrator shall review the results of the investigation. Copies of the investigation results shall be provided to the Township Board, complainant, and operator/owner.
 - a) In the event that no violations of the Zoning Ordinance and permit are documented, the Township Board shall be notified and the complainant shall be contacted in writing and informed of no evidence of violations and that no further action is to be taken by the Township regarding the complaint.
 - b) In the event that one (1) or more violations are documented, the Zoning Administrator shall inform the Township Board and the owner/operator of the violations, the measures that must be taken to correct the violations, and the date by which each violation must be corrected.
 - 4) Except as provided by this subsection, the enforcement of the permit provisions shall be subject to Section 2.12.

F. Large Solar Energy Systems – Additional Submittal Requirements: In the case of an application for a Large SES, the following information shall be provided in addition to the information required by Article 14 for site plan review and Article 15 for special land use applications.

1. Project Description and Rationale: A narrative description addressing:
 - a. The name and address of the system manufacturers, the specified models, and a copy of the manufacturers' directions or instruction manual for installing, maintaining, and using the system.
 - b. The type, size, rated power output, performance, safety, and noise characteristics of the system.
 - c. The development phases, project life, likely markets for the generated energy, and how the SES will connect to the power grid.
2. Liability Insurance/Indemnification: Proof of liability insurance including the levels of coverage per incident and cumulatively, and attestation that the applicant will indemnify and hold the Township and its elected and appointed officials harmless from any costs or liability arising from the approval, installation, construction, maintenance, use, repair, or removal of the facility, and name the Township as an additional insured for such indemnity.
3. Parcels/Lease Agreements: Identification of all participating parcels, graphically and by tax identification numbers, irrespective of whether the participating parcel is to include equipment, be used only for buffer purposes, or is otherwise subject to a lease agreement, along with copies of those portions of executed lease agreements for participating parcels that document the landowners granting of authority to establish the SES on said parcel, correlated with the

- respective parcel tax identification number.
4. Locations, Dimensions, and Height: Location, dimensions, and height of all existing and proposed solar arrays, buildings, structures, electrical lines and transmission lines, security fencing, and all above-ground structures and utilities. The illustration of existing features shall extend to at least one hundred (100) feet beyond the lot lines of a participating parcel.
 5. Access Drives: Delineation of access drives within the project including dimensions, construction specifications, grades, and approvals from the County Road Commission for the location of access way intersections with public roads.
 6. Setbacks: Proposed setbacks from all front, side, and rear lot lines of a participating parcel and any systems and equipment.
 7. Lighting: Indicate the extent of exterior lighting to be installed including locations, heights, fixture specifications, light levels along property lines, and the frequency of lights to be illuminated.
 8. Drain Tiles: Graphic depiction of the location and depth of any drain tiles on a participating parcel including points of discharge.
 8. Contact Information: The contact information for the designated office to address public inquiries in a timely manner throughout the life of the facility.
 9. Operator's Agreement: The operator's agreement that shall set forth the operational parameters, the name and contact information of the certified operator, inspection protocol, emergency procedures and general safety documentation.
 10. Traffic Analysis: An assessment of anticipated traffic to the SES during construction phases and once the SES is operational, including the anticipated daily vehicles by frequency and type during and after construction.
 11. Glare Assessment: A report prepared by a qualified person with documented training, certification and/or licensing in glare associated with SES including training in the use of computer software designed to assess glare potential, attesting to the glare and radiation impact on nearby properties and public roads and verifying compliance with this Section.
 12. Visual Impacts Assessment: Illustrations of the projected visual impact of the SES using photos or renditions of the project with consideration given to the tree plantings and setback requirements. The illustrations shall include scaled pictures of the location of the proposed solar arrays, buildings, structures, electrical lines and transmission lines, security fencing, and all above ground structures and utilities on the properties subject to the application.
 13. Groundwater Assessment: Prior to any construction, a ground water analysis shall be conducted for each participating parcel and thereafter every two (2) years, which shall include, in part, the extent and type of any impurities or hazardous or toxic impurities. Copies of all analysis shall be provided to the Township within thirty (30) days.
 14. Public Safety/Security Plan: A description of the public health and safety risks the SES may present and measures to address such risks including lightning protection measures, emergency and standard shutdown procedures, an emergency response plan prepared in consultation with local emergency services that includes all means of shutting down the SES facility and the manner that such measures shall be clearly portrayed, and any security measures that may be employed to manage access to the facility by the general public. The plan shall address the extent to which local public fire emergency services can adequately address large scale fire emergency conditions and shall provide a description of the fire suppression system to be installed including the manufacturer and operational features.
 15. Transportation Plan: A description or travel plan of the routes to be used by construction and delivery vehicles and of any road improvements that may be necessary to accommodate construction vehicles, equipment or other deliveries, and an agreement or bond which guarantees the repair of damage to public roads caused by construction of the SES that is found to be acceptable by the Livingston County Road Department.

16. Maintenance Plan: Description of how the SES shall be maintained and kept in a safe working condition including daily, weekly, and monthly procedures. The plan shall identify how native vegetation shall be employed to prohibit erosion and the proliferation of weeds and other nuisance vegetation, and how the native vegetation will be maintained. The maintenance plan shall address measures to be employed to minimize dust generation including during and after construction and in association with unpaved access roads.
17. Decommissioning and Reclamation Plan: A decommissioning and reclamation plan that addresses the removal of the SES and the restoration of the site to its same condition as it existed prior to SES construction. The plan shall address and provide for the following minimum elements:
 - a. The anticipated life of the project.
 - b. The complete removal of all components comprising the SES including equipment, conduit, structures, fencing, and solar panels and supports, to a depth of a minimum of five (5) feet below grade, and including a description of the removal process for each of the elements comprising the SES. Any material left more than five (5) feet below the ground surface shall be documented and recorded upon a certified survey and recorded within the County Register of Deeds.
 - c. The complete removal of all SES access roads and regrading of such areas to their pre-construction condition, unless the property owner requests, in writing, a desire to maintain an access road and the Township Board finds the access road's continuation is acceptable. Nothing in this subsection shall be construed as an expectation that the Township shall take ownership of any access road or that such access road shall be considered a public or private road.
 - d. The site shall be returned to its pre-existing state, including revegetation with native species or other approved ground cover to stabilize the soil, unless the property owner specifies in writing that agricultural crops are to be planted over restored areas of the site within six (6) months of the removal of the SES components.
 - e. The estimated decommissioning costs exclusive of the value of any salvaged materials, in current dollars, including the basis for the cost assigned to each element of the decommissioning plan including the components referenced in subsection (b).
18. Environmental Impact Report: A report that documents the extent of adverse effects on area avian, bat and other wildlife and wildlife habitats including wetlands and nesting, migratory and feeding patterns, and shall identify all proposed mitigation measures to minimize potential impacts. The report shall be a separately bound document prepared by a certified wildlife biologist and the report shall document such certification and pertinent expertise of all persons contributing to the report and the procedures followed for documenting nesting, migratory and feeding patterns. The report shall include documentation regarding the proposal's compliance with the federal Endangered Species Act of 1973 and the Michigan Natural Resources and Environmental Protection Act (1994 PA 451, MCL 324.101 et seq.), including but not limited to:
 - a. Part 31 Water Resources Protection (MCL 324.3101 et seq.).
 - b. Part 91 Soil Erosion and Sedimentation Control (MCL 324.9101 et seq.).
 - c. Part 301 Inland Lakes and Streams (MCL 324.30101 et seq.).
 - d. Part 303 Wetlands (MCL 324.3030 1 et seq.).
 - e. Part 365 Michigan Endangered Species Protection (MCL. 324.36501 et seq.).

G. Self-Contained SES: Self-Contained SES are permitted in all districts and may be erected without the issuance of a zoning permit, subject to the restrictions of this Section.

1. Heights: Self-contained solar energy systems shall not exceed four (4) feet in height above the structure to which it is attached. In the case of roof-mounted self-contained SES, no system part of the SES shall extend more than four (4) feet above the roof surface directly below such system part, but in no case shall the total height of the SES, measured to the ground below, exceed the building height restriction of the district in which it is located.

Planned Boundaries of the Large SES Overlay District (LSESOD)

DRAFT
November 3, 2023

The yellow-shaded area identifies the planned limits of the Large SES Overlay District and covers approximately 990 acres exclusive of road rights-of-way. The map covers only the southeast portion of the township of which a smaller part is to comprise the planned boundaries of the District (parts of Sections 24, 25, 26, 35, and 36).

