

**BERLIN CHARTER TOWNSHIP
ZONING ORDINANCE AMENDMENT
Ordinance No. 02-17; Date of Adoption: _____**

An Ordinance to amend the Berlin Charter Township Zoning Ordinance by modifying Articles II - Definitions; Article XI – Light Industrial District; Article XII – Heavy Industrial Districts; and Article XV – General Provisions.

THE TOWNSHIP BOARD OF THE TOWNSHIP OF BERLIN HEREBY ORDAINS:

Section 1. Title.

This Ordinance shall be known and referred to as Berlin Charter Township Zoning Ordinance Amendment No. 02-17 revising Articles II - Definitions; Article XI – Light Industrial District; Article XII – Heavy Industrial Districts; and Article XV – General Provisions as they relate to Solar Energy Conversion Systems.

Section 2.

Berlin Charter Township Zoning Ordinance is hereby amended by revising Articles II - Definitions; Article XI – Light Industrial District; Article XII – Heavy Industrial Districts; and Article XV – General Provisions as follows:

Section 18-21. – Interpretation

Photovoltaic Device. A system of components that generates electric energy from incident sunlight by means of the photovoltaic effect, whether or not the device is able to store the electric energy produced for later use.

Solar Array. Any number of Photovoltaic Devices connected together to provide a single output of electric energy or other energy.

Solar Energy Collector. A panel or panels and/or other devices or equipment, or any combination thereof, that collect, store, distribute and/or transform solar, radiant energy into electrical, thermal or chemical energy for the purpose of generating electric power or other form of generated energy for use in or associated with the principal land use on the parcel of the land on which the solar energy collector is located and, if permitted, for the sale and distribution of excess available electricity to an authorized public utility for distribution to other lands.

1. ***Building-Mounted Solar Energy Collector.*** A solar energy collector attached to the roof or wall of a building or which serves as the roof, wall or window or other element, in whole or in part, of a building.

2. **Ground-Mounted Solar Energy Collector.** A solar energy collector that is not attached to and is separate from any building on the parcel of land on which the solar energy collector is located.
3. **Commercial Solar Energy System.** A utility-scale solar energy system where the primary use of the land is to generate electric energy or other energy by converting sunlight, whether by Photovoltaic Devices or other conversion technology, for the sale, delivery or consumption of the generated energy with a capacity greater than one megawatt (MW).

Section 18-218. – I-1 Light Industrial District, Conditional Uses.

- (17) Commercial Solar Energy Systems, subject to the standards of Section 18-324.

Section 18-238. – I-2 Heavy Industrial Districts, Conditional Uses.

- (7) Commercial Solar Energy Systems, subject to the standards of Section 18-324.

Section 18-324. – Solar Energy Collectors.

- A. **Purpose.** It is the intent of the Township to permit these systems by regulating the siting, design, and installation of such systems to protect the public health, safety, and welfare, and to ensure compatibility of land uses in the vicinity of solar energy collectors. Building-mounted and ground-mounted solar energy collectors, as defined in this Ordinance, shall comply with the provisions of this Section.
- B. **Building-Mounted Solar Energy Collector Requirements.** A building-mounted solar energy collector shall be a permitted accessory use in all zoning districts, subject to the following requirements:
1. Solar energy collectors that are mounted on the roof of a building shall not project more than five (5) feet above the highest point of the roof but, in any event, shall not exceed the maximum building height limitation for the zoning district in which it is located, and shall not project beyond the eaves of the roof.
 2. Solar energy collectors mounted on the roof of a building shall be only of such weight as can safely be supported by the roof, and weight of snow and/or ice which they collect. Proof thereof, in the form of certification by a professional engineer or other qualified person, shall be submitted to the Township Building Official prior to installation; such certification shall be subject to the Building Official's approval.
 3. Solar energy collectors that are roof-mounted, wall-mounted or are otherwise attached to a building or structure shall be permanently and safely attached to the

building or structure. Proof of the safety and reliability of the means of such attachment shall be submitted to the Building Official prior to installation; such proof shall be subject to the Building Official's approval.

4. Solar energy collectors that are wall-mounted shall not exceed the height of the building wall to which they are attached.
5. Solar energy collectors shall not be mounted on a building wall that is parallel to an adjacent public right-of-way.
6. The exterior surfaces of solar energy collectors that are mounted on the roof or on a wall of a building, or are otherwise attached to a building or structure, shall be generally neutral in color and substantially non-reflective of light.
7. Solar energy collectors shall be installed, maintained, and used only in accordance with the manufacturer's directions. Upon request, a copy of such directions shall be submitted to the Township Building Official prior to installation. The Building Official may inspect the completed installation to verify compliance with the manufacturer's directions.
8. Solar energy collectors, and the installation and use thereof, shall comply with the Township construction code, the electrical code, and other applicable Township construction codes.

C. **Ground-Mounted Solar Energy Collector Requirements.** A single, ground-mounted solar energy collector may be permitted as an accessory use in the AG, I-1, or I-2 zoning districts only, and subject to the following requirements:

1. Single ground-mounted solar energy collectors may be located in the rear yard and the side yard, but must meet the required side and rear yard setbacks of the district in which they are located.
2. Ground-mounted solar energy collectors shall not exceed fifteen (15) feet in height, measured from the ground at the base of such equipment.
3. Ground-mounted solar energy collectors shall be permanently and safely attached to the ground. Proof of the safety and reliability of the means of such attachment shall be submitted to the Township and shall be subject to the Building Official's approval.
4. Ground-mounted solar energy collectors shall be installed, maintained, and used only in accordance with the manufacturer's directions. A copy of such directions shall be submitted with the building permit application.

5. The exterior surfaces of ground-mounted solar energy collectors shall be neutral in color and substantially non-reflective of light.
6. Ground-mounted solar energy collectors, and the installation and use thereof, shall comply with the Township construction code, the electrical code and other applicable Township construction codes.

D. **Commercial Solar Energy Systems.** The following requirements shall apply to all Commercial Solar Energy Systems:

1. **Purpose and Intent:** The purpose and intent of this Section is to establish standards for the siting, installation, operation, repair, decommissioning, and removal of Commercial Solar Energy Systems within the Light Industrial (I-1) and Heavy Industrial (I-2) districts as a Conditional Land Use.
2. **Site Plan Drawing and Supporting Materials:** All applications for a Commercial Solar Energy System use must be accompanied by detailed site plans, drawing to scale and dimensioned and certified by a registered engineer licensed in the State of Michigan, displaying the following information:
 - (a) All requirements for a site plan contained in Section 18-316 of the Berlin Charter Township Zoning Ordinance.
 - (b) All lot lines and dimensions, including a legal description of each lot or parcel comprising the Commercial Solar Energy System.
 - (c) Names of owners of each lot or parcel within Berlin Charter Township that is proposed to be within the Commercial Solar Energy System.
 - (d) Vicinity map showing the location of all surrounding land uses.
 - (e) Location and height of all proposed solar array(s), buildings, structures, electrical tie lines and transmission lines, security fencing, and all above-ground structures, and utilities associated with the Commercial Solar Energy System.
 - (f) Horizontal and vertical (elevation) to scale drawings with dimensions that show the location of the proposed solar array(s), buildings, structures, electrical tie lines and transmission lines, security fencing, and all above ground structures and utilities on the property.
 - (g) Location of all existing and proposed overhead and underground electrical transmission or distribution lines within the Commercial Solar Energy

System and within one hundred (100) feet of all property lines of the Commercial Solar Energy System.

- (h) Proposed setbacks from the solar array(s) to all existing and proposed structures within the Commercial Solar Energy System.
- (i) Land elevations for the solar array(s) location and the relationship to the land elevations of all existing and proposed structures within the Commercial Solar Energy System at a minimum of five (5)-foot contours.
- (j) Access driveways within and to the Commercial Solar Energy System, together with a detailed narrative regarding dimensions, composition, and maintenance of each proposed driveway. All access driveways shall be subject to Monroe County Road Commission approval, and shall be planned so as to minimize the use of lands for that purpose. Site grading and driveways shall not block the flow of water from adjacent parcels.
- (k) Planned security measures to prevent unauthorized trespass and access during the construction, operation, removal, maintenance or repair of the Commercial Solar Energy System.
- (l) A written description of the maintenance program to be used for the solar array(s) and other components of the Commercial Solar Energy System, including decommissioning and removal. The description shall include maintenance schedules, types of maintenance to be performed, and decommissioning and removal procedures and schedules if the Commercial Solar Energy System is decommissioned.
- (m) Planned lightening protection measures.
- (n) Additional detail(s) and information as required by the Conditional Land Use requirements of the Berlin Charter Township Zoning Ordinance, or as required by the Planning Commission.

3. **Application Escrow Account:** An escrow account shall be deposited with the Township by the Applicant when the Applicant applies for a Conditional Land Use Permit for a Commercial Solar Energy System. The monetary amount deposited by the applicant in escrow with the Township shall be the amount estimated by the Township, to cover all reasonable costs and expenses associated with the Conditional Land Use Permit review and approval process, which costs shall include, but are not limited to, reasonable fees of the Township Attorney, Township Planner, and Township Engineer, as well as costs for any reports or

studies that are reasonably related to the zoning review process for the application. The applicant shall have thirty (30) days to refuse or approve of the amount estimated by the Township. Such escrow amount shall be in addition to any filing or application fees established by resolution. At any point during the Conditional Land Use Permit review process, the Township may require that the applicant place additional funds into escrow with the Township if the existing escrow amount deposit by the applicant is deemed insufficient by the Township. If the escrow account needs replenishing and the applicant refuses to do so within thirty (30) days, the Conditional Land Use Permit process shall cease unless and until the applicant makes the required additional escrow deposit. Any applicable zoning escrow Resolutions or other Ordinances adopted by the Township must also be complied with by the applicant. The Township shall provide a summary of all account activity to the applicant within a timely manner upon request. Any funds remaining within the escrow after approval of the Conditional Land Use Permit shall be returned in a timely manner to the applicant.

4. **Compliance with the Township Building Code and National Electric Safety Code:** Construction of a Commercial Solar Energy System shall comply with the National Electric Safety Code and the Township Building Code as a condition of any Conditional Land Use Permit under this section. In the event of a conflict between the Township Building Code and the National Electric Safety Code (NESC), the NESC shall prevail.
5. **Certified Solar Array Components:** Components of a solar array shall be approved by the Institute of Electrical and Electronics Engineers (“IEEE”), Solar Rating and Certification Corporation (“SRCC”), Electronic Testing Laboratories (“ETL”), or other similar certification organization if the similar certification organization is approved by the Township, which approval shall not be unreasonably withheld.
6. **Height:** Maximum height of a Solar Array, other collection device, components or buildings of the Commercial Solar Energy System, excluding substation and electrical transmission equipment, shall not exceed fifteen (15) feet (as measured from the natural grade at the base of improvements) at any time or location on the property. Substation and electrical transmission equipment shall not exceed one hundred (100) feet.
7. **Lot Size:** A Commercial Solar Energy System shall be located on one or more parcels with an aggregate area of ten (10) acres or greater.
8. **Setbacks:** A minimum setback distance of fifty (50) feet from all exterior property lines of the Commercial Solar Energy System and existing public roads and railroad

rights-of-way shall be required for all buildings and Solar Arrays, provided that a setback of seventy-five (75) feet shall be required adjacent to any residential structure.

9. **Lot Coverage:** A Commercial Solar Energy System is exempt from maximum lot coverage limitations.
10. **Screening/Security:** A Commercial Solar Energy System shall be completely enclosed by perimeter chain-link fencing to restrict unauthorized access. Such fencing shall be secured to the ground to prevent underground access, as well as, six (6) feet in height with a one (1) foot extension arm consisting of a minimum of three (3) strands of barbed-wire placed above the fencing and slanting outward as measured from the natural grade of the fencing perimeter. Failure to install or continuously maintain the required perimeter fencing shall constitute a violation of this Ordinance and any Conditional Use Permit may be subject to revocation.
11. Electric fencing is not permitted. The perimeter of Commercial Solar Energy Systems shall also be screened and buffered by installed evergreen or native vegetative plantings whenever existing natural vegetation does not otherwise reasonably obscure the Commercial Solar Energy System from adjacent residential structures, subject to the following requirements:
 1. The evergreen or native vegetative buffer shall be composed of native or evergreen trees that at planting shall be a minimum of four (4) feet in height and shrubs two (2) feet in height. The evergreen trees shall be spaced no more than fifteen (15) feet apart on center (from the central trunk of one plant to the central trunk of the next plant), native trees shall be placed no more than thirty (30) feet apart on center and shrubs shall be spaced no more than seven (7) feet apart on center. All unhealthy (sixty (60) percent dead or greater) and dead material shall be replaced by the Applicant within one (1) year, or the next appropriate planting period, whichever occurs first.
 2. All plant materials shall be installed between March 15 and November 15. If the Applicant requests a Final Certificate of Occupancy from the Township and the Applicant is unable to plant during the installation period, the Applicant will provide the Township with a letter of credit, surety or corporate guarantee for an amount equal to one and one-half (1.5) times the cost of any planting deficiencies that the Township shall hold until the next planting season. After all plantings have occurred, the Township shall return the financial guarantee.

3. Failure to install or continuously maintain the required vegetative buffer shall constitute a violation of this Ordinance and any Conditional Use Permit may be subject to revocation.

12. **Signage:** No advertising or non-project related graphics shall be on any part of the Solar Arrays or other components of the Commercial Solar Energy System. This exclusion does not apply to entrance gate signage or notifications containing points of contact or any and all other information or warnings that may be required by authorities having jurisdiction for electrical operations and the safety and welfare of the public.

13. **Noise:** No component of any Commercial Solar Energy System shall emit noise exceeding sixty-five (65) dBA as measured at the exterior property boundary or the existing ROW line.

14. **Lighting:** All lighting for parking lots, driveways, external illumination of buildings, or the illumination of signs shall be directed away from and be shielded from adjacent properties and shall be so arranged as to not adversely affect driver visibility on adjacent public roads in accordance with Section 18-312.

15. **Distribution, Transmission and Interconnection:** All collection lines and interconnections from the Solar Array(s) to any electrical substations shall be located and maintained underground inside the Commercial Solar Energy System, except in areas where technical or physical constraints make it preferable to install equipment above ground. This requirement excludes transmission equipment meant to connect the project substation to the local transmission system.

16. **Abandonment and Decommissioning:** Following the operational life of the project, the Applicant shall perform decommissioning and removal of the Commercial Solar Energy System and all its components. The Applicant shall prepare a Decommissioning Plan and submit it to the Planning Commission for review and approval prior to issuance of the Conditional Land Use Permit. Under this plan, all structures, concrete, piping, facilities, and other project related materials above grade and any structures up to three (3) feet below-grade shall be removed offsite for disposal. Any Solar Array or combination of Photovoltaic Devices that is not operated for a continuous period of twelve (12) months shall be considered abandoned and shall be removed under the Decommissioning Plan. The ground must be restored to its original topography within three hundred sixty-five (365) days of abandonment or decommissioning.

17. **General Standards:** The Planning Commission shall not approve any Commercial

Solar Energy System Conditional Land Use Permit unless it finds that all of the general standards for Conditional Land Uses contained in Section 18-338 of this Ordinance are met.

18. **Approval Time Limit and Extension:** Conditional Use and Site Plan approvals or permits under this Section shall be valid for one year but, if requested by the Applicant prior to that expiration date, shall automatically be extended for an additional one year period.
19. **Conditions and Modifications:** Any conditions and modifications approved by the Planning Commission shall be recorded in the Planning Commissions' meeting minutes. The Planning Commission may, in addition to other reasonable conditions, require landscaping, walls, fences and other improvements that are reasonable in relation to and consistent with the nature of the applicable or adjacent zoning districts. After approval, at least two (2) copies of the final approved Site Plan shall be signed and dated by the Chairman of the Planning Commission and authorized representative of the Applicant. One (1) copy shall be kept on file by the Township Clerk, and one copy shall be returned to the Applicant's authorized representative.
20. **Inspection:** The Township shall have the right at any reasonable time, to provide same-day notice to the Applicant to inspect the premises on which any Commercial Solar Energy System is located. The Township may hire one or more consultants, with approval from the Applicant (which shall not be unreasonably withheld), to assist with inspections at the Applicant's or project owner's expense. Inspections must be coordinated with, and escorted by, the Applicant's operations staff at the Commercial Solar Energy Facility to ensure compliance with the Occupational Safety and Health Administration (OSHA), NESC and all other applicable safety guidelines.
21. **Maintenance and Repair:** Each Commercial Solar Energy System must be kept and maintained in good repair and condition at all times. If the Township Zoning Administrator determines that a Commercial Solar Energy System fails to meet the requirements of this Ordinance and the Conditional Land Use Permit, or that it poses a safety hazard, the Zoning Administrator, or his or her designee, shall provide notice to the Applicant of the safety hazard. If, after a reasonable cure period (not to exceed 7 days), the safety hazards are not corrected, the Applicant is entitled to a hearing before the Township Board. If the Township Board determines that the safety hazard requires that the Commercial Solar Energy System must be shut down, Applicant shall immediately shut down the

Commercial Solar Energy System and not operate, start or restart the Commercial Solar Energy System until the issues have been resolved. Applicant shall keep a maintenance log on the Solar Array(s), which shall be available for the Township's review within 48 hours of such request. Applicant shall keep all sites within the Commercial Solar Energy System neat, clean and free of refuse, waste or unsightly, hazardous or unsanitary conditions, and noxious weeds.

22. **Roads:** Any material damages to a public road located within the Township resulting from the construction, maintenance or operation of a Commercial Solar Energy System shall be repaired at the Applicant's expense. In addition, the Applicant shall submit to the appropriate County agency a description of the routes to be used by construction and delivery vehicles; any road improvements that will be necessary to accommodate construction vehicles, equipment or other deliveries. The Applicant shall abide by all County requirements regarding the use and/or repair of County roads.

23. **Continuing Security:** If any Commercial Solar Energy System is approved for construction under this Section, Applicant shall post decommissioning security prior to the start of construction (in a mutually agreed upon form) for an amount necessary to accomplish the work specified in the decommissioning plan as agreed upon by the Township and Applicant. The amount shall be reasonably sufficient to restore the property to its previous condition prior to construction and operation of the Commercial Solar Energy System. Such financial security shall be kept in full force and effect during the entire time that the Commercial Solar Energy System exists or is in place, and such financial security shall be irrevocable and non-cancelable.
 - (a) **Continuing Obligations:** Failure to keep any required financial security in full force and effect at all times while a Commercial Solar Energy System exists or is in place shall constitute a material and significant violation of the Conditional Land Use Permit and this Ordinance, and will subject the Commercial Solar Energy System Applicant, owner and operator to all remedies available to the Township, including any enforcement action, civil action, request for injunctive relief, and revocation of the Conditional Land Use Permit.

24. **Other Requirements:** Each Commercial Solar Energy System shall also comply with all applicable federal, state and county requirements, in addition to other applicable Township Ordinances.

Section 3. Repeal.

All Ordinances in conflict with this Ordinance are, to the extent of such conflict, hereby repealed.

Section 4. Severability.

This Ordinance and the various parts, sentences, paragraphs, sections, subsections, phrases and clauses thereof are declared to be severable and if any of them are adjudged unconstitutional or invalid, it is hereby provided that the remainder of the Ordinance shall not be affected.

Section 5. Effective Date.

This Ordinance shall become effective seven days after adoption and publication in a newspaper having general circulation in the Charter Township of Berlin, Monroe County, Michigan.