SOLAR TECHNOLOGY

What you should know to start planning.

REVISED 5/22/2024

REQUIRED INFORMATION FOR PERMIT

- Site plan showing location of major components on the property. This drawing does not need to be exactly to scale, but it should represent relative location of components at site. If array is ground mounted, it should show that it conforms, with allowable setbacks, sides, front, & rear.
- Electrical diagram showing PV array configuration, wiring system, overcurrent protection, inverter, disconnects, required signs, and AC connection to the building. All electrical must meet the Michigan Electrical Code requirements.
- Specification sheets and installation manuals (if available) for all manufactured components including but not limited to, PV modules, inverters, combiner box, disconnects, and mounting system. A copy of these must be turned in to the Township to be retained in the building file for the parcel.

STRUCTURAL REVIEW OF PV ARRAY MOUNTING SYSTEM

- Is the array to be mounted on a defined, permitted roof structure? Yes/No (structure meets modern codes)
- If No, the Building Inspector may require an engineer or architect approved drawings with the application.

DO YOUR RESEARCH FIRST

Know the advantages as well as the disadvantages of any construction project.

1. What is the upfront cost.
2. Savings over time.
3. Location of the panels.
4. Battery Storage

PV SYSTEMS AND THE NATIONAL ELECTRIC CODE (NEC)

- Article 690 addresses safety standards for the installation of PV systems.
- Many other articles of the NEC may also apply to most PV installations.

NEC SECTIONS APPLICABLE TO PV SYSTEMS (MAY NOT BE ALL INCLUSIVE)

- Article 110: Requirements for Electrical Installations
- Chapter 2: Wiring and Protection
  - Most of the chapter - especially
  - Article 250: Grounding
- Chapter 3: Wiring Methods and Materials
  - Most of the chapter - especially
  - Article 300: Wiring Methods
  - Article 310: Conductors for General Wiring
- Article 480: Storage Batteries
- Article 690: Solar Photovoltaic Systems

*__See a licensed electrician for more information.__

PV SYSTEM

Calculations for Electrical Diagram

In order for a PV system to be considered for a permit, the following ***must*** apply:

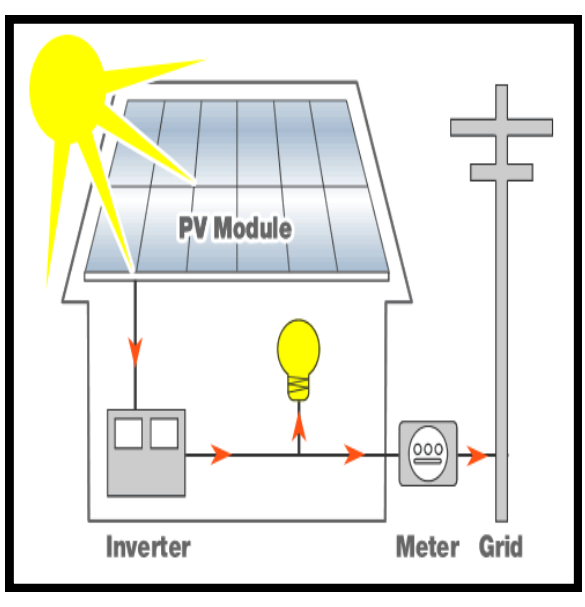
1. PV modules, utility-interactive inverters, and combiner boxes are identified for use in PV systems.
2. The PV array is composed of 4 series strings or less.
3. The Inverter has a continuous power output of 13,440 watts or less.
4. The AC interconnection point is on the load side of service disconnecting, see NEC 690.64.
5. The electrical diagram can be used to accurately represent the PV system.

ROOF INFORMATION

- Is the roofing type lightweight?
- Does the roof have a single roof covering?
- Provide method and type of weatherproofing roof penetrations (e.g. flashing, caulk)

MOUNTING SYSTEM INFORMATION

- The mounting structure is an engineered product designed to mount PV modules? Yes/No
- For manufactured mounting systems, please provide all specification sheets and a complete set of instructions and manual for this system. This is required.



MOUNTING SYSTEM INFORMATION

1. Mounting System Manufacturer
   _____
   _____
2. Product name and model #
   _____
   _____
3. Total weight of PV modules and rails _____lbs. Total number of attachment points_____
4. Weight per attachment point (b divided by c) _____lbs. (if greater than 45lbs see WKS1)
5. Maximum spacing between attachment points on a rail __ inches. (see product manual for maximum spacing allowed based on maximum design wind speed).
6. Total surface area of PV modules _____ square feet.
7. Distributed weight of PV module on roof (b divided by f) _____ lbs./square feet.

If distributed weight of the PV system is greater than 5 lbs./square feet, see WKS1.

For additional information, contact the Thomas Township Community Development Department at (989) 781-0150.