



DEPARTMENT OF BUILDING INSPECTION

CITY OF MIDDLETON
7426 HUBBARD AVENUE
MIDDLETON, WI 53562-3118

PH 608.821.8370 FAX 608.827.1080
E-MAIL: buildinginspection@cityofmiddleton.us
WEB: www.CityofMiddleton.us

SOLAR PHOTOVOLTAIC SYSTEM CHECKLIST

This checklist is only a basic list of items needed for a solar PV system plan review and is not all inclusive. Having all the items listed on this checklist does not guarantee a permit will be issued and any additional plans, information, and/or requirements may be requested or required by City of Middleton at any time.

PROVIDE ONE COPIES OF ALL ITEMS (PDF's Emailed Required)

- 1. Site plan:** A detailed site plan showing the location of the home and all PV system components on the property is required.
- 2. Provide structural engineering report/evaluation.** Engineering should be site specific and include observations/evaluation of existing materials, design and condition of materials/structure. The purpose of this evaluation is to confirm that the structure has been maintained and alterations have not compromised the original design. The engineering evaluation should confirm that the structure is sound and capable of sustaining the addition/modification. The Engineer of Record for the project needs to stamp approval for the submitted attachment method or provide an alternate method with the calculations, to include live loads, dead loads, wind loads and snow drifting loads.
- 3. Mounting system:** Provide detailed information on the module mounting system and also the weight of all components to be added on the roof. Identify the type of the roof covering (shingles, metal, or tile) and how many layers of coverings there are. Include the details of any additional bracing or reinforcements that are required.
- 4. One-line diagram:** A detailed one-line diagram is required and must show: The type of PV system being installed (a single inverter system with one or more strings of modules connected in series, a micro inverter system, or an AC module system, etc.); the exact number and layout of modules and how they are connected together (in series or in parallel); all wire types, all wire sizes, conduit types and sizes; the locations of all circuits and system components on or in the house; and the ratings of all fuses or breakers. Also note which home electrical panel the PV system will back feed to and give the location and descriptive information for that panel.
- 5. Module spec sheets:** Provide the module manufacturer's specification sheets showing the modules' Maximum Power (Pmax), Max power volts (Vmp), Max Power Current (Imp), Open Circuit Voltage (Voc), and Short Circuit Current (Isc).
- 6. Inverter spec sheets:** Provide the inverter manufacturer's spec sheets showing the amount of watts and volts the inverter can safely handle, and also noting what the inverter's maximum rated AC output amps and voltage is.
- 7. Total array power:** Provide the total amount of watts, amps, volts, open circuit voltage (Voc at the coldest possible outside temperature-see NEC 690.7), and short circuit current that the array can produce.
- 8. System components:** Provide information on the different types of components that will be used in the system and how they are to be installed. Also show that all equipment is listed and rated for the type of voltage (AC or DC), amount of voltage, and the amount of current that it could be subjected to.
- 9. Provide illustrations:** of signage to be used and the sign locations.
- 10. Permit Application:** Please fill out Building Permit Application-Misc. and a Zoning Application with all the above paperwork
- 11. Permitting Process:** After all required paperwork is submitted permit should be issued within 10 days; unless more info is need.