



Solar Photovoltaic Systems

Electrical Plans:

- A. Provide one-line diagram showing number of modules, wattage of modules, conductor sizes, wire lengths, insulation types, conduit sizes, fuses, circuit breaker ratings, inverter ratings, AC & DC disconnect rating and ground fault protection device.
- B. Must use Generic P.V. Diagram for submittal (see the sample provided on our website).
- C. Specify the PV module's nameplate short circuit current and open circuit voltage relative to the work performed.
- D. Provide calculations used to determine wire sizes, fuse/breakers; which include temperature derating factors per NEC Table 690.31(C). For the purposes of wire sizing, the 75 degree column must be used per art. 110.14(C). Roof mounted systems should use **worse case** ambient temperature of 56-60 degrees C.
- E. Provide calculations to show that the PV system voltage does not exceed the maximum rated dc inverter input voltage or connected equipment.
- F. Plans shall include all grounding on one-line diagram. Show calculations used to size equipment grounding conductor per NEC 690.43 & 690.45.
- G. Plans shall show location of all disconnecting means. Installation of equipment and panels with reference to house and service equipment. Clearly identify if wiring run on interior or exterior of house. The PV system disconnecting means shall be grouped together per NEC 690.14 (C) (5).
- H. Provide manufacturer's cut sheets and listing information for PV equipment.
- I. Provide a **signed approval** from utility provider or utility provider's solar rewards contract.

Structural:

- A. Plans shall show means of attachment if installed on roof for 80 mph exposure C wind load or 105 mph 3 second wind gust.

Inspections:

A. Rough Frame & Rough Electric

- Must submit a series of pictures showing rail system, junction boxes, and bonding. Please email to: bldgfx@erieco.gov (Attn: Inspectors)

B. Final Building & Final Electric

- Onsite inspection with rapid shutdown test. Plans/Permit/Access all required at the time of inspection.
- **(NEW)** Certification letter- Written on company letterhead stating that the system has been installed per plans and manufacturer specification. Must be signed by the licensed electrical contractor.