

Photovoltaic System Checklist – For Residential/Small Commercial Systems ≤ 25 kW AC

City of Lincoln

Project Location: _____ Contact Name: _____

Contractor Name: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Phone/Cell: _____ Fax: _____ Email: _____

Project Location: _____

Signature: _____ Date: _____

How to complete this checklist:

A | Fill out basic building permit form for the City of Lincoln. Please note the electrical permit is required to be completed by your electrical contractor.

B | Complete Photovoltaic System Checklist.

C | Include site plan showing location of major components on the property. This drawing need not be exactly to scale, but it should represent relative location of components and show elevation. The site plan must also show compliance with International Fire Code minimum access and pathways. *Additionally, include a photo that shows the proposed access point to verify compliance with IFC 605.11.3.1.*

D | Include electrical diagram showing PV array configuration, wiring system, overcurrent protection, inverter, disconnects, required signs, and AC connection to building.

E | Include specification sheets and installation manuals for all manufactured components including, but not limited to PV modules, inverter(s), combiner box, disconnects, and mounting system.

F | Submit three copies of plans for review.

Steps to completing a photovoltaic project:

Step 1 | A. Concurrently submit your building permit application and B. the Net Metering Application for review (to electric utility serving the system). IF Lincoln Electric System (LES): application forms and guidelines are available on line at <http://www.les.com/pdf/net-metering-gen/net-metering-snapshot.pdf> or by calling 402-475-4211.

Step 2 | A. Work can begin after the City of Lincoln building permit is approved and B. you also receive approval to proceed by the utility company serving the project.

Step 3 | Notify City of Lincoln when ready for inspection.

Step 4 | A. Notify electric utility when City of Lincoln inspection is passed and B. submit the Net-Metering Interconnect Agreement.

Step 5 | Electric utility will schedule its inspection and meter exchange.

Step 6 | Once system has passed City of Lincoln and electric utility inspections, electric utility will notify owner that the system may be activated.

(Structural Review of PV Array Mounting System—continued)

Mounting System Information:

This section provides information on how the PV modules will be mounted to the roof. It is very important to have enough attachment points to adequately spread the dead load across as many roof-framing members as needed so that the point loads created at attachment points account for additional snow load (the Lincoln region has a 25 psf ground snow load).

12. Is the mounting structure an engineered product designed to mount PV modules with no more than 18" gap beneath the module frames? Yes No

Need a structural engineer's stamp: If you answered "No" to question #12, a structural engineer's stamp will be required by the local jurisdiction issuing the permit. Must include design for uplift including system to rafter detail as well as a framing plan if strengthening the rafters/trusses is necessary.

13. Fill out information on the mounting system below:

- a. Mounting System Manufacturer _____ Product Name & Model # _____
- b. Total Weight of PV Modules and Rails _____ lbs
- c. Total Number of Attachment Points _____
- d. Weight per Attachment Points ($b \div c$) _____ lbs
- e. Maximum Spacing Between Attachment Points on a Rail _____ inches
See product manual for maximum spacing allowed based on maximum design wind speed. To ensure proper weight distribution: For each successive rail, attachment points should occur on rail ends and then should be staggered based on 16" or 24" on center rafter spacing.
- f. Total Surface Area of PV Modules (square feet) _____ ft²
- g. Distributed Weight of PV Module on Roof ($b \div f$) _____ lbs/ft²
- h. Mounting Frame to Rafter Framing: Self-ballasted Penetrating

If penetrating, please provide for fasteners:

Type: _____ Size: _____ Number: _____ Spacing: _____ inches

14. Additionally, please attach a cross-section detail that shows rafter size, spacing, number of attachment points, span dimensions, and approximate roof slope.

Electrical Review of PV System (Calculations for Electrical Diagram)

In order for a PV system to be processed using this checklist, the following must be true:

1. PV modules, utility-interactive inverters, and combiner boxes are listed for use in PV systems.
2. The PV array is composed of 4 series strings or less per inverter.
3. The AC interconnection point is on the load side of service disconnecting means (690.54 of the 2017 NEC code)
4. A standard electrical diagram can be used to accurately represent the PV system.