

TO: ALL BUILDING DIVISION PERSONNEL

**FROM: DOUG WISE
BUILDING DIVISION DIRECTOR**

PREPARED BY: BUILDING DIVISION

**SUBJECT: EXPEDITED SOLAR PHOTOVOLTAIC PERMITS FOR
DETACHED SINGLE-FAMILY DWELLINGS**

PPM #: PB-O-135

ISSUE DATE
November 8, 2019

EFFECTIVE DATE
April 1, 2020

PURPOSE:

To provide procedural guidelines for licensed Solar Contractors (CVC) and Electrical Contractors (EC) to request expedited permitting of FPL *Tier 1* (max 10 kW) Solar Photovoltaic (PV) systems on existing site-built detached Single-Family Dwellings.

UPDATES:

Future updates to this PPM are the responsibility of the Director of the Building Division, Deputy Building Official, Assistant Deputy Building Official, or Codes Product & Training Supervisor, under the authority of the Director of the Building Division.

AUTHORITY:

- Chapter 7 – Florida Building Code-Existing Building (FEBC), as may be amended
- Chapters 15, 16, 31 – Florida Building Code-Building (FBC), as may be amended
- Chapters 3, 9 – Florida Building Code-Residential (FRC), as may be amended
- Chapters 4, 5 – Florida Building Code-Energy Conservation (FECC), as may be amended
- PV System Requirements – National Electrical Code (NEC), NFPA 70, as may be amended
- Chapter 1 – Palm Beach County Amendments (PBCA) to the FBC, as may be amended
- Rule 6C7-8 - Florida Rules governing Photovoltaic System Standards and Certification, Florida Administrative Code (FAC), as may be amended.
- Rule 25-6 - Florida Rules governing Interconnection of site generated Photovoltaic energy with Utility power grid, Florida Administrative Code (FAC), as may be amended.
- Net Metering Guidelines – Florida Power & Light (FPL) regulations for *Tier 1* (up to 10 kW) Grid Interconnected Solar PV systems, as may be amended.

POLICY:

This policy addresses the permitting of small Solar Photovoltaic systems (FPL *Tier 1* - up to 10 kW) on existing site-built detached single-family dwellings. The *Expedited* program will initially offer three (3) day processing times, with the goal of eventually reaching ‘next day’ and ‘walk-thru’ time frames. The Design and Installation of all PV Systems shall comply with the provisions referenced above in effect at the time of permit application (i.e. FBC, NEC, FAC, PBCA-FBC, FPL, etc.).

PROCEDURE:

The following procedures shall be followed for the Submittal, Review, Issuance, and Inspection of Expedited Solar Photovoltaic (PV) Systems proposed for detached Single-Family Dwellings:

Permitting

The following documents shall be provided by a **licensed CVC or EC Contractor**. A CVC is required to subcontract an EC (via No-Fee sub permit) to make the final PV system connection to the house wiring for *Utility Grid-Interactive* systems.

- a. Two (2) completed copies:
 - i. *FORM - Expedited Solar PV Checklist* – (**Attachment A**) initialed by the Qualifier
 - ii. *FORM – Expedited Solar PV Worksheet* (**Attachment B**);
- b. Two (2) copies (Site-Specific):
 - i. Roof Layout Plan – show location of panels/arrays (Installation Only in Zones 1 & 2).
 - ii. Structural Attachment Detail(s) – clearly identify all components including racking, brackets, fasteners, etc. that are integral to wind-load resistance and transfer path;
 - iii. Electrical Plan – clearly show all Wiring, J-Boxes, Combiner Boxes, Inverters, Panels, and Utility Interconnection Point locations; and verify all are listed for location and use.
 - iv. Label Requirements - Specify all Marking and Labeling methods and locations per the National Electrical Code (NEC).

Revisions

1. Office Revisions – Required for significant design modifications such as change of attachment methods or change of interconnection type (line/supply side tap vs load side interconnection)
2. Field Revisions – *May* be accepted by the Inspector for minor modifications in the field

Inspections

1. Provide “**Installation Certification Form**” (**Attachment C**) and **Photos** (Item #3) to Inspector at Final Inspection.
2. Schedule “**Final Electric**” and “**Final Solar PV**” Inspections at same time (**Line/Supply-Side connections require additional “Service Change” Inspection. Schedule by calling 561-233-5170.**)
3. Provide **Photographic evidence** of each phase of the installation (**must be Site-specific**):
 - a. Rack/Bracket mounting attachment to Structural members including Flashing & Sealing
 - b. Module attachment to Rack/Rail/Brackets, as applicable
 - c. Bonding attachments for PV Panels/Modules and Mounting system
 - d. Wiring installation and connections
 - e. Wiring method used through Attic, if applicable
 - f. Connections within each of the following: Combiner(s), Inverter(s), Transfer Switch(s), Panel(s), and the final Utility Interconnection point.



DOUG WISE
BUILDING DIVISION DIRECTOR

Supersession History

1. PPM# PB-O-134, issued 1/10/20
2. PPM# PB-O-134, issued 4/1/20



EXPEDITED SOLAR PV PERMIT APPLICATION

CHECKLIST

INTENDED FOR LICENSED CVC and EC CONTRACTORS ONLY

Qualifier must certify **ALL** the following statements by Initialing each one (otherwise, submit application via normal process):

STRUCTURAL Details

- _____ This is a detached **Single Family Dwelling** (SFD), or, is a free-standing Residential Accessory Structure
- _____ This structure is legally permitted, and is compliant with setbacks and height requirements
- _____ *Expedited Solar PV Permit Worksheet (Attachment B)* is completed and attached
- _____ The existing roof assembly and covering are in satisfactory condition for the proposed installation
- _____ The Homeowner has been advised of the impact a rooftop installation might have on existing warranties
- _____ The roof is framed with wood trusses or rafters at no greater than 24" on center
- _____ The Design Wind Speed for the project is 170_{vult} MPH; Exposure B or C
- _____ The Mounting System is Site-Specifically Engineered to 170_{vult} MPH wind-load pressures
- _____ The Array supports are spaced so that no **Point Load** attachment exceeds 50 lbs. (see Worksheet).
- _____ The Array supports are spaced so the **Distributed Load** does not exceed 5 psf. (see Worksheet)
- _____ The Array is set back from all roof edges by at least 3' (feet)
- _____ The Array does not cantilever over the perimeter anchors by more than 6" (inches)
- _____ The gap under the modules to the roof surface does not exceed 12" (inches)
- _____ Anchor-to-roof *Flashing/Sealing* method and product(s) are identified and listed for this use

ELECTRICAL Details

- _____ The Solar PV maximum load to be added to the panel-board/service is based on the rating of the system and is limited to 10 kW (see worksheet for wire, inverter, disconnect, etc. sizing limitations)
- _____ The System is FSEC Certified or is designed by an appropriate licensed professional
- _____ The PV System is composed of 4 series strings, or less, per Inverter
- _____ All modules, inverters, combiner boxes, etc. are identified, listed and labeled for use in PV systems

ADDITIONAL DOCUMENTS REQUIRED

1. Building Permit Application
2. Expedited Solar PV Worksheet (**Attachment B**)
3. Supporting certification and/or listing documents for all equipment and components
4. CVC required to subcontract with an EC (No-Fee sub permit) for final utility-interactive connection
5. *Qualifier's Certification of Installation* form (**Attachment C**) – Submit to Inspector at Final Inspection
6. **Photographic evidence** of each phase of the installation (**must be verifiable as site-specific**)
 - a. Rack/Bracket mount attachments to Structural members
 - b. PV Module attachment to mounting Rack/Rail/Brackets
 - c. Array and Rack bonding attachments
 - d. Connections within Combiner, Inverter, Transfer Switch, Panel, and Utility Interconnection point



EXPEDITED SOLAR PV PERMIT

WORKSHEET

Address: _____

Racking/Mounting/Bracket Manufacturers (include specs): _____

Max Spacing between Brackets or Attachment Points on Rail: _____

_____**Engineered Attachment Detail is Included** showing ALL Components & Attachments within the wind load path
(Initial) [i.e. PV Panel → Bracket(s) → Fastener(s) → Rail and/or Mounting Feet → Fastener(s) → Structure]

SOLAR ARRAY - Weight and Loading Calculations

Point Load Calculation:

Distributed Load Calculation:

1. Number of Panels in Array	
2. Total Weight of PV Modules and Rails	
3. Total Number of Attachment Points	
4. Weight per Attachment Point (#2 ÷ #3) *POINT LOAD* - Must be ≤ 50 lbs.	

5. Solar Panel area (l x w) ft ²	
6. Total Array Area (#1 x #5)	
7. *DISTRIBUTED LOAD* (Must be ≤ 5lb/ft ²) (#2 ÷ #6)	

UTILITY-INTERACTIVE Grid Connection Details:

TOTAL PV Output Ampacity: _____ Output Circuit Conductor Size: _____

• **SUPPLY/LINE Side Connection:**

Service Rating: _____ Splice/Tap Device: _____
Service Conductor Size: _____ Manufacturer: _____

• **LOAD Side Connection:**

Identify (circle) the system design: Wire/ OCPD/ Busbar/ Main Breaker [Table per NEC 705.12(D)]

Inverter Output Maximum Current	Inverter OCPD Required	Inverter Output Conductor Size	Minimum Busbar Ampacity and Main Breaker Size Combinations for LOAD Side Connection
64 Amps	80 Amps	4 AWG	400/ 400 or 200/ 150
56 Amps	70 Amps	4 AWG	225/ 200 or 250/ 225
48 Amps	60 Amps	6 AWG	300/ 300 or 200/ 175
40 Amps	50 Amps	8 AWG	125/ 100 or 150/ 125
32 Amps	40 Amps	8 AWG	225/ 225 or 200/ 200 or 150/ 125
24 Amps	30 Amps	10 AWG	150/ 150
16 Amps	20 Amps	12 AWG	100/ 100 or 70/ 60
12 Amps	15 Amps	14 AWG	80/ 80

I certify that all the foregoing information is accurate and all work performed will comply with all applicable codes & standards regulating construction.

Qualifier's Signature

Print Name

License #



QUALIFIER's Certification of Rooftop PV Installation

(To be provided to Inspector at Final Inspection)

******Certification must be accepted and approved in order to pass the Final Inspection******

Permit# _____

Job Address _____

I _____, licensed as a:
 ___ Contractor (_____)
 ___ Engineer (_____)
 ___ Architect (_____)

Do hereby certify the following:

On ___ / ___ / 20__ || ___ : ____, I did personally inspect all of the Solar PV Array roof mounting system, (Mo/Dy/Yr) (Time) components, connections, and structural attachments at the above address, and did find the complete installation to have been mounted and fastened in compliance with the approved plans, manufacturer's specifications, and structural requirements of the current Florida Building Code.

Based on my inspection, I have determined the completed installation has not compromised the Structural Integrity of the roof assembly, and is in compliance with the Florida Building Code, National Electrical Code and Approved Plans.

 (Print Qualifier's Name) (Qualifier Signature) (Date)

Sworn to or affirmed before me by means of physical presence or online notarization this _____ day of _____, 20____ by _____, who is personally known to me or has produced _____ as identification.

 Notary State of Florida
 _____ Name of Notary (Typed Printed or Stamped)