



# SOLAR PHOTOVOLTAIC (PV) SYSTEM PERMIT APPLICATION CHECKLIST 2023 NEC and 2021 IFC/IRC/IBC

DATE: \_\_\_\_\_

PROJECT ADDRESS: \_\_\_\_\_

ELECTRIC CONTRACTOR: \_\_\_\_\_

## REQUIRED INFORMATION

### Type of Application

- Residential
- Small Commercial - Small commercial customer - A non-residential retail customer having a peak demand of 1,000 kilowatts (kW) or less as defined by the State of Texas Utility Code as mended.
- Large Commercial  
(See Part 2: Large Commercial Requirements)

### Type of Solar PV System

- Roof Top
- Full Roof Shingle System (Requires additional Reroof permit)
- Ground Mount (Requires engineered footing detail and inspection)
- Shade Structure (Separate building permit for patio cover/roof structure)

Installed in accordance with the National Fire Protection Association National Electrical Code (NFPA 70) as adopted by the State of Texas, applicable ordinances, districts, and/or special use categories (e.g.: zoning or special use, etc.); subject to plan approval. (2023 NEC)

NOTE: The Texas Electrical Safety and Licensing Act requires the Texas Department of Licensing and Regulation (TDLR) to adopt the latest edition of the **National Electrical Code (NEC)** as the electrical code for the state of Texas. TDLR has adopted the 2023 NEC as the electrical code for the state of Texas to establish it as the "minimum standard" for all electrical work in Texas

*Please verify your property owner's association allows the installation of solar panels.*

SITE PLAN	Applicant Check
<i>Include the PV array layout in compliance with the local government design criteria including</i>	
Existing site plan (survey) showing easements, property lines, building setback lines, zoning setbacks	
Cumulative square footage of total solar array system	
Roof plan showing location of equipment and, if required, fire setbacks	
Typical side view detail of the solar PV system mount on the roof showing they conform to the slop of the roof and has a top edge that is parallel to the roofline.	
Location of all existing structures and proposed PV system equipment (including modules, disconnects, inverters, panel boards, combiner boxes, storage batteries, utility meters, etc.)	
Plumbing vent termination: Vent termination is not allowed under solar installations and must be relocated or modified, or an air admittance valve may be utilized in accordance with the International Plumbing Code (IPC) and/or the International Residential Code (IRC). Separate permit may be required	

CONSTRUCTION DOCUMENTS	Applicant Check
<i>Electronic documents shall include, but are not limited to, the following items: List on plans: 2023 NEC, 2021 IFC, 2021 IRC</i>	
Size of System (kW)	
Site specific, stamped engineering drawings, assembly installation plans, manufacturer's installation instructions, and/or equipment manufacturer's data sheets	
Make, model, and quantity of module, inverter, and racking system certified to the UL 2703, UL 62109, or UL 1741	
1741 standard by a Nationally Recognized Testing Laboratory as appropriate	
Structure plans for ground mount system	
Method of sealing/flashing for roof penetrations	
Connection details to building or ground mount	
Structural engineering calculations or load diagram (required only when the PV array weight exceeds 5 lbs./sq. ft)	
Data cut sheets for battery storage if applicable (including type of battery)	
Show the frame, support bracket, or visible piping or wiring is silver, bronze, or black tone.	
If ground mounted system in a fenced yard or patio, show and verify the height which cannot exceed the height of the fence.	

FIRE CODE REQUIREMENTS	Applicant Check
Installation complies with Section 1205 of the 2021 International Fire Code (IFC) for residential roof access, pathways and spacing (Sec 1205.2.1.1, Sec 1205.2.1.2 & Sec 1205.2.1.3.) and 1205.3 for all other occupancies.	

ELECTRICAL PLANS	Applicant Check
In addition to the construction documents, include a three-line diagram, a PV equipment manufacturer's engineered line diagram, or a line diagram that meets the requirements of the 2023 NEC sealed by a Texas engineer. A proper line diagram should include:	
AC and/or DC circuit arc fault protection as required by the NEC	
Inverter listed to the UL 62109 or UL 1741 Safety Standard; photovoltaic module(s) listed to the UL 61730 safety standard. Listings conducted by a Nationally Recognized Testing Laboratory	
Inverter AC output disconnect location, utility disconnect location, and AC output over-current protection device rating.	
Location of combiner box(es), disconnect switch, size of source circuit overcurrent protection	
Service panel bus rating and main circuit breaker/fuse ampere rating	
Circuit diagram with conduit, wire type and sizes, and/or cable type and wire sizes	
Battery disconnects and overcurrent protection, if applicable	
Equipment grounding and bonding conductors and grounding electrode conductor, if applicable	
List of all appropriate labels and marking per NEC and IFC requirements	
Manufacturing spec to have current NEC, IFC, IBC, IRC codes	
All plans to be engineered	

INSPECTION REQUIREMENTS	
Submit a letter from the installer indicating the system was installed per material warranty.	
A final inspection is required after above letter is uploaded to close out the permit.	

**Part 2 - COMMERCIAL BUILDING REQUIREMENTS**

In addition to the above requirement see the list below.

LARGE COMMERCIAL REQUIREMENTS	Applicant Check
<i>Electronic documents shall include, but are not limited to, the following items:</i>	
Occupancy Type; Occupancy Group; Construction Type; Roof Type; Area (Square Feet); Number of Stories; Year Built and Fire Sprinkler System	
<b>Flat Roof Structures:</b> A line of site analysis demonstrates that the system is not visible from any public or private roadway/right of way or any residential zoned or residentially land use plan property within 300 feet of the structure.	
<b>Solar Shingle or Roof Material:</b> Any solar energy system such as a solar shingle that cannot be differentiated from a typical roofing shingle or material.	