

Solar Energy Systems

Issued by: *Eric M Maup, P.E.*

Building Official

Effective: May 06, 2011

Revised: September 01, 2023

Purpose:

This is to establish the plan review, licensing, permitting and inspection guidelines for the installation of Photovoltaic (PV) Solar Energy Systems and Hot Water Solar Energy Systems.

Plan Review Process

1. Residential Roof Mounted Solar Energy System

- A. If the proposed installation complies with the following minimum requirements, please refer to the [Solar Energy Systems Plan Submission and Inspection Guidelines](#) to determine if the proposed installation is eligible to use the County Typical Solar Energy Systems Plans:
 - i. Produces 20 kilowatts or less of electricity
 - ii. Solar panel attachment dead weight will not exceed 45 lb.
 - iii. Distributed weight of the modules will not exceed 5 psf
- B. The plan review for [County Typical Solar Energy Systems Plan Submissions](#) will be expedited (e.g., half the time of a normal plan submission).
- C. If the proposed installation is not eligible to use the County Typical Solar Energy Systems Plans, plans will need to be prepared and submitted by a properly licensed contractor or a Registered Design Professional (RDP).

2. Residential Ground Mounted Solar Energy System

Plans will need to be prepared and submitted by a properly licensed contractor or a Registered Design Professional (RDP). The plans shall include, but are not limited to:

- Zoning Approval – Submit a copy of the “House Location Survey” or “Plat” with the proposed location of the Solar Energy System to the Zoning Division. For information regarding set-back requirements and property line location questions, please contact the Zoning Division at 703-792-6830.
- Structural details and calculations for the mounting structure including: solar energy panel supports, framing members, footing/foundation and method of attachment of the solar energy panel to the mounting structure.
- Provide manufacturer’s installation manual, including product specification.



3. Commercial

Commercial solar energy system installations shall require a RDP to prepare the appropriate drawings for review and approval. The plans shall include, but are not limited to, structural details and calculations for the system's structural supporting members and the method of attachment to the building, structure or foundation. The appropriate electrical drawings and plumbing plans are also required, if applicable.

Licensing and Permits

1. Licensing

- A. An Alternative Energy System (AES) Contractor can obtain the permits for the installation of a PV Solar Energy System and a Solar Hot Water System. However, a licensed Electrical Contractor is required to obtain a separate Electrical Permit to make the final connection of a PV Solar Energy System to the building's electrical system and to install any electrical wiring and/or receptacles associated with a Solar Hot Water System.
 - i. Note: For Solar Hot Water Systems, the final connection to the building's plumbing system is considered incidental work; therefore, the AES Contractor can make the final plumbing connection.
- B. A licensed Electrical Contractor can obtain the permits required for the installation of a PV Solar Energy System.
- C. A licensed Mechanical Contractor or a licensed Plumbing Contractor can obtain the permits for the installation of a Hot Water Solar Energy System with the exception of an Electrical Permit, if required. (Note: For Solar Hot Water Systems, the final connection to the building's plumbing system is considered incidental work; therefore, the Mechanical Contractor can make the final plumbing connection.)
- D. If you are a homeowner and **will be performing the work yourself**, you will need to complete the [Statement of Exemption](#), or you may fill out the Statement of Exemption at the Building Permitting Services Counter.

2. Permits for PV Solar Energy Systems

At a minimum, a Building Permit and an Electrical Permit are required for installation of a PV Solar Energy System. If the AES Contractor is not also a licensed Electrical Contractor, a licensed Electrical Contractor must obtain an Electrical Permit for the final connection to the building's electrical system.

3. Permits for Hot Water Solar Energy Systems

At a minimum, a Building Permit and a Mechanical Permit are required for installation of the Hot Water Solar Energy System. Additionally, if an electrical circuit is added or extended to provide electrical power to the Hot Water Solar Energy System, a licensed Electrical Contractor must obtain an Electrical Permit for the new/extended circuit.

Inspections

Please refer to the [Solar Energy Systems Plan Submission and Inspection Guidelines](#) for the required inspections and the required inspection certification.



County Tax Exemption

In accordance with the Code of Virginia, § 58.1-3661, the [County Ordinance Chapter 26 – Taxation, Article VI. Tax Exemption for Certified Solar Energy Equipment, Facilities or Devices](#) has been adopted. Certified solar energy equipment, facilities or devices means any property, including real or personal property, equipment, facilities or devices certified by the local Building Department to be designed and used primarily for the purpose of providing for the collection and use of incident solar energy for water heating, space heating or cooling or other application which would otherwise require a conventional source of energy, such as petroleum products, natural gas, electricity, wood or coal.

To apply for the County Tax Exemption, please complete and submit the [Solar Energy Systems Certification for Real or Personal Property Tax Exemption Form](#) along with documentation to substantiate the cost to the Building Permits Section in conjunction with or after the issuance of the Building Permit. Once the final inspections have been approved, the Building Permits Section will forward the completed Tax Exemption Form to the County's Finance Department.

Attachments/Hyperlinks

- [Statement of Exemption](#)
- [Solar Energy Systems Certification for Real or Personal Property Tax Exemption Form](#)
- [County Ordinance Chapter 26 – Taxation, Article VI. Tax Exemption for Certified Solar Energy Equipment, Facilities or Devices](#)
- [Solar Energy Systems Plan Submission and Inspection Guidelines](#)