



## Montgomery County Department of Permitting Services

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### **Structural Submittal Requirements for Photovoltaic/Solar Systems**

#### **Required Documents**

All photovoltaic systems shall comply with NFPA 1, Fire Code, for photovoltaic systems.

#### **Photovoltaic Systems on Existing Roofs:**

The County requirement (Executive Regulation 08.00.02.63) of LL=30psf on roofs will NOT apply under photovoltaic panels installed twenty-four (24) inches or less from roof top. The requirements of IBC Section 1607.13.5.1 shall apply. The County requirement of minimum unreducible roof live load of 30psf shall apply outside the photovoltaic panel footprint.

The submittal as a minimum shall include the following:

1. Existing roof framing plan and method of attachment of the solar panel support framing to the roof structure.
2. Structural notes. The notes shall include applicable code and referenced standards. Material properties and grades of materials used. Design dead and live loads including ballast weight (if used).
3. Drawings shall bear a note verifying that the requirements of IBC Sections 1607.13.5 and 1613.3, if applicable, are met.
4. Computations to indicate that stresses in existing structural elements will not increase more than 5% due to photovoltaic panel loads.
5. Structural sections and details.

#### **Photovoltaic Systems -New Construction:**

The minimum unreducible roof live load of 30psf required by the County (Executive Regulation 08.00.02.63), shall apply throughout the roof, even in the areas to be covered by photovoltaic panels installed twenty-four (24) inches or less from roof top. The photovoltaic panels are not permanent structures and can be either removed or replaced with a different system by the building owners.

#### **Photovoltaic Systems Installed as Independent Structures:**

Photovoltaic panels or modules that are designed to span to structural supports and have accessible/occupied space underneath shall be designed for the minimum unreducible roof live load LL=30psf required by the County (Executive Regulation 08.00.02.63) in combination with other applicable loads.

The submittal as a minimum shall include the following:

1. Roof framing plan and method of attachment of the solar panels to the roof structure.
2. Structural notes. The notes shall include applicable code and referenced standards. Material properties and grades of materials used. Design dead and live loads. Wind and earthquake loads utilized in the design of the supporting structure and its foundation.
3. Structural sections and details.
4. Foundation plan and details.
5. Soil assumptions utilized in the foundation design of the structure(s).
6. Notes on the drawings requesting verification of all soil related assumptions, by a geotechnical engineer registered in Maryland, prior to commencement of construction.

**Photovoltaic Systems Installed in an Open Field:**

The applicant shall submit a letter to the County stating that the area under the structures supporting the photovoltaic panel or modules is restricted to the public. The minimum unreducible roof live load LL-30psf required by the County (Executive Regulation 08.00.02.63) will NOT apply. All other loads and combinations in accordance with IBC Section 1605 shall be accommodated.

Drawings to be submitted for the scope of work shall meet the requirements listed under “**Guidelines for Commercial Non Fast Track Permit Submittal Requirement**”.