

# ARC DESIGN

409 N. MAIN STREET  
ELMER, NJ 08318  
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**Date: August 31, 2021**

**Re: Structural Roof Certification**

**Subj: Vaudrin Residence, 6 Brookview Court, Angier, NC 27501**

We have provided a review of the house roof construction of the above named property in regards to verifying the capacity of the existing roof for installation of a new Solar Panel Array.

We have found the residence to be of wood frame construction bearing walls with a truss framed roof system. The roof is of 2x4 @ 24" o.c. truss and is sheathed with 1/2" ext-ply sheathing and a single layer of asphalt shingle roofing.

The wood framed roof structure bears directly upon the framed exterior wall system. The existing trusses as installed meet the required IRC-2015 design span ratings with sufficient capacity to carry the 3#/sf additional load imposed by the proposed solar array per the details below.

Installation of solar rack systems shall be as follows:

Each panel row shall be supported upon 2 mounting rails. Rails shall be screw anchored through roof and directly to rafters or purlins below. Rail attachment points to trusses shall be staggered each row with exception to the first fastener row from the gable end which is attached to two adjacent trusses with Stainless Steel fasteners.

Rail attachment to roof shall be fastened 24" o.c. at corners and 48" o.c. through the field.

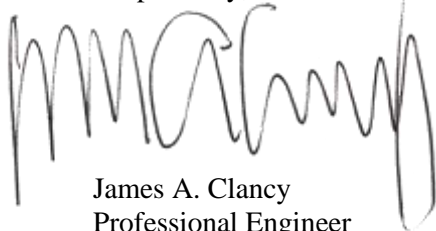
Rails are to be placed at 24-48" o.c. on the roof.

Solar panel mounting systems installed parallel to the plane of a roof shall be no more than 12" above the roof when measured perpendicular to the roof surface.

When installed per the above specifications the system shall meet the required 117 MPH wind load and 15 PSF ground snow load requirements.

Should you have any further question or comment please feel free to contact our office.

Respectfully,



James A. Clancy  
Professional Engineer  
NC License # 32152

