SOLAR-ROOF-CHECK THE RLA A RIGOROUS LOAD ANALYSIS
3000 E. Birch Street, Suite 201 Brea, CA 92821 Ph: 844-783-5483

DATE: 07-21-2022

FOR: YourSolarPlans, Inc.
3000 E. Birch St
Suite 201
Brea, CA 92821
USA

JOB: Petri Brand
111 Clearwater Harbor
Sanford, NC 27332

To Whom It May Concern

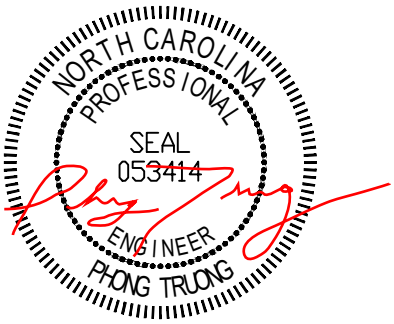
This letter is to certify that we have performed a structural analysis of the existing roof members that are to support photovoltaic panels, as shown on the attached report. The calculations were performed in accordance with the latest editions of IBC, NDS, ASCE/SEI, CBC, and IRC, and the latest edition of the building codes for the state of .

Our analysis was based on the following design criteria:

Ground Snow (psf)	10 psf
Sloped Snow (psf), reduced per ASCE, Sect. 7.4	9.4 psf
Basic Wind Speed (mph):	120 mph
Roof Slope:	20 degrees
The PV module orientation:	Landscape
The maximum horizontal roof mount spacing:	4 ft.
The maximum vertical roof mount spacing:	3.417 ft.
Staggered roof mounts required?	Yes

Based on this analysis, we can certify that the individual existing roof framing members that support the PV panels; and the individual roof members as described in the attached report; are adequate to support the design loads as required by the various codes. This includes Dead Loads (including the weight of the PV panels), Live Loads, Snow Loads, and Wind Loads, on the roof members that support the PV panels, combined as required in the codes.

If you have any questions on this or need further clarification,
please contact us at your convenience.



Sincerely,
Paul Truong, P.E.

NOTE:
1. Prior to commencement of work, the Solar Installer shall verify that the roof framing sizes, spacing, and spans (between supports), are as noted in these plans. The Engineer of Record must be notified if any discrepancies are discovered, before proceeding.
2. These plans are Stamped for Structural Code compliance of the roof members that support the PV solar system only.
3. These plans are not stamped for rain water leakage prevention.
4. As a precaution, old or wet snow should be removed from the roof, if the snow builds up to 18" or more.

Date of Report:	07-21-2022
Data Input by:	Kevin Nguyen
Contact E-mail:	kevin@yoursolarplans.com
Contact Phone:	7148721728

Job Name:	Petri Brand
Job Number:	123
Job Address:	111 Clearwater Harbor Sanford, NC 27332

ABSTRACT

This Report is based on Engineering calculations using the input data supplied by the user, listed under Current Input Data. The user input has not been independently reviewed by a licensed Professional Engineer for appropriateness or accuracy, unless Stamped by a P.E. This Report indicates Compliance/Non-Compliance with the reference Codes listed below. The following items have been checked for Code Compliance:

- Load Combination #1:
Wind Uplift on the Standoff attachment to the Roof Framing members: Wind Uplift - 0.6 * DL Solar

- Load Combination #2:
Supporting Rafter Strength with: DL Rf + DL Solar + Roof Live Load

- Load Combination #3:
Supporting Rafter Strength with: DL Rf + DL Solar + Wind Down

- Load Combination #4: Supporting Rafter Strength with: DL Rf + DL Solar + Snow

- Load Combination #5:
Supporting Rafter Strength with: DL Rf + DL Solar + .75Wind + .75Snow

- Load Combination #6: Check Additional Seismic Load

- Load Combination #7:
Supporting Rafter Strength with: Wind Up - 0.6 * (DL Rf + DL Solar)

Job Information

Data Input By:	Kevin Nguyen
Job Number:	123
Job Name:	Petri Brand
Job Address:	111 Clearwater Harbor
City, State:	Sanford, NC 27332

Current Input Data

Payment Method	Invoice
Roof Type	Truss
Ceiling Type	1/2 gyp. Bd.
Collar Tie Space	0
Coverage %	24.51
Frame Size	2x4@24
Ground Snow (psf)	10
Sloped Roof Snow Load (psf)	9.4
Lag Screw Diam. (in)	5/16
Lag Screw Embed. (in)	2.5
Overall Span (ft)	30
PV Weight (psf)	3
PV Module Orientation	Landscape
Rafter Span (ft)	7.5
Rail System	RailLess
Roof Mean Height (ft)	25
Roof Slope (degrees)	20
Roofing Type	Comp. Shingle
Sloped Ceiling	No
Max. Horizontal Roof Mount(ft)	4
Max. Vertical Roof Mounts (ft)	3.417
Standoff Staggered	Yes
Wind Exposure	C
Wind Speed (mph)	120