W CONSULTING
RESIDENCE EXPERIENCE WITH SMALL BUSINESS VALUE

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July 26, 2021

SCOTT E WYSSLING, PE

Digitally signed by SCOTT E WYSSLING, PE
DN: C=US, S=Utah, L=Alpine, O=Wyssling Consulting, OU=Owner, CN=SCOTT E WYSSLING, PE, E=swyssling@wysslingconsulting.com
Reason: I am the author of this document
Location: your signing location here
Date: 2021-07-26 23:33:25
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Sigora Solar
1222 Harris Street
Charlottesville, VA 22903

Re: Engineering Services (Post Installation)
Decker Residence
190 Wood Point Drive, Lillington, NC
11.880 kW System Size

To Whom it May Concern:

Pursuant to your request, a representative from this office, under my supervision, conducted a site inspection at the above referenced home to inspect the solar panel installation. As you are aware, this office initially prepared a structural assessment of the proposed solar panel installation, the adequacy of the connections for this system and identified maximum spacing of the connections. The information from our site visit shows panel support locations and spacing which conform to our structural assessment. Acceptable minor changes to the layout include; the panel positions support spacing less than the maximum, and/or additions or deletions of panels at roof locations.

Based upon the site-specific information provided by Sigora Solar and the site inspection, our office certifies that the structural installation for this roof was in general conformance to our structural assessment report dated June 23, 2021, the SnapNRack product installation criteria, and the layout plan as specified in our report. This letter pertains only to the panel support attachments to the roof framing and not the engineered photovoltaic panel products, components, panel positioning, or electrical related installations/connections.

This certification is based on applicable building codes. The installation is in compliance with the 2018 North Carolina Residential Code Book, professional engineering assessment and judgment and covers this dwellings assessment for solar panel connections and support only.

Should you have any questions regarding the above or if you require additional information do not hesitate to contact me.

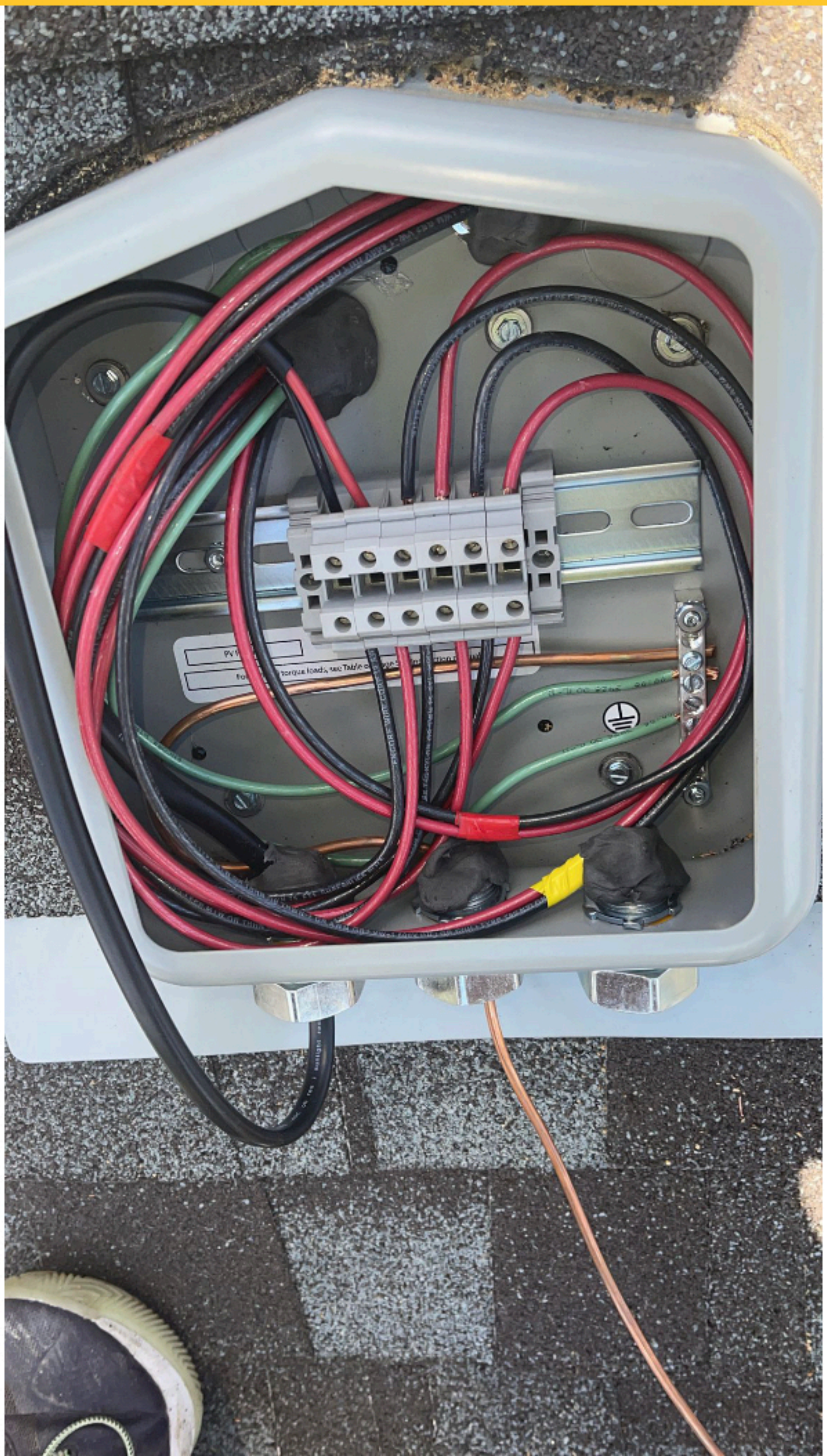
Very truly yours,

Scott E. Wyssling, PE
North Carolina License No. 46546

NORTH CAROLINA PROFESSIONAL SEAL 046546 ENGINEER SCOTT E. WYSSLING

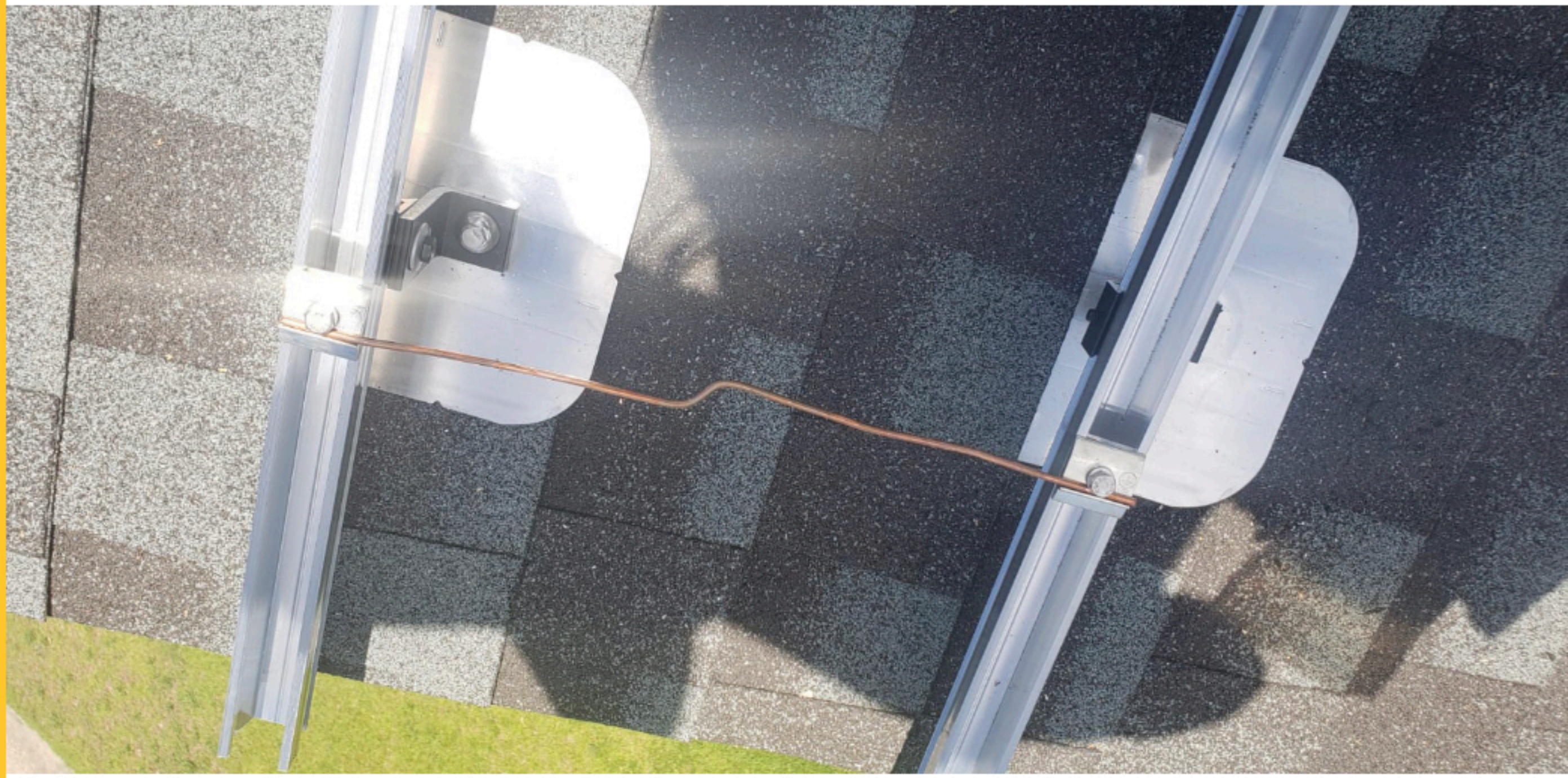
North Carolina Firm License No. 46546


SOLADECK

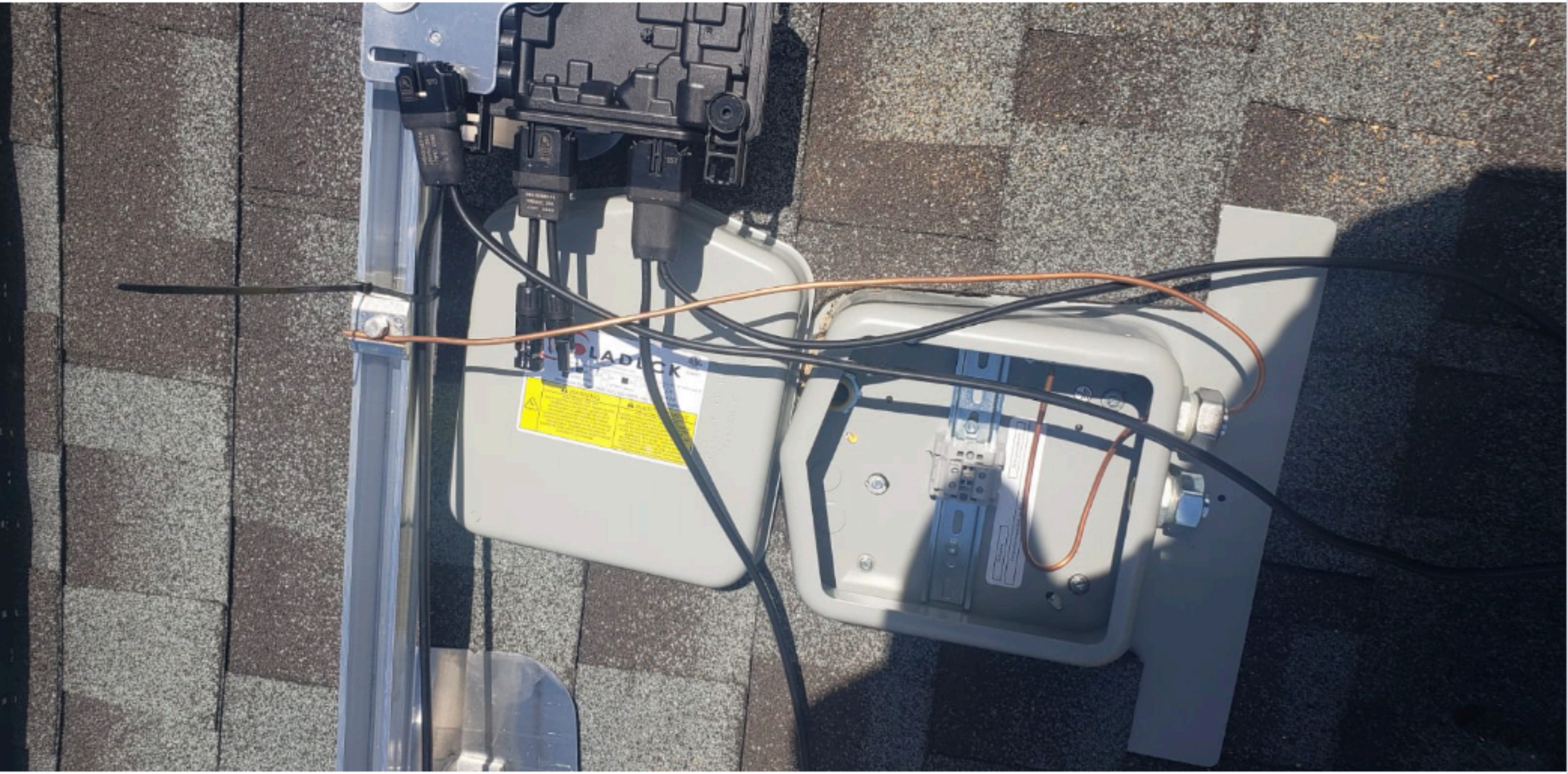


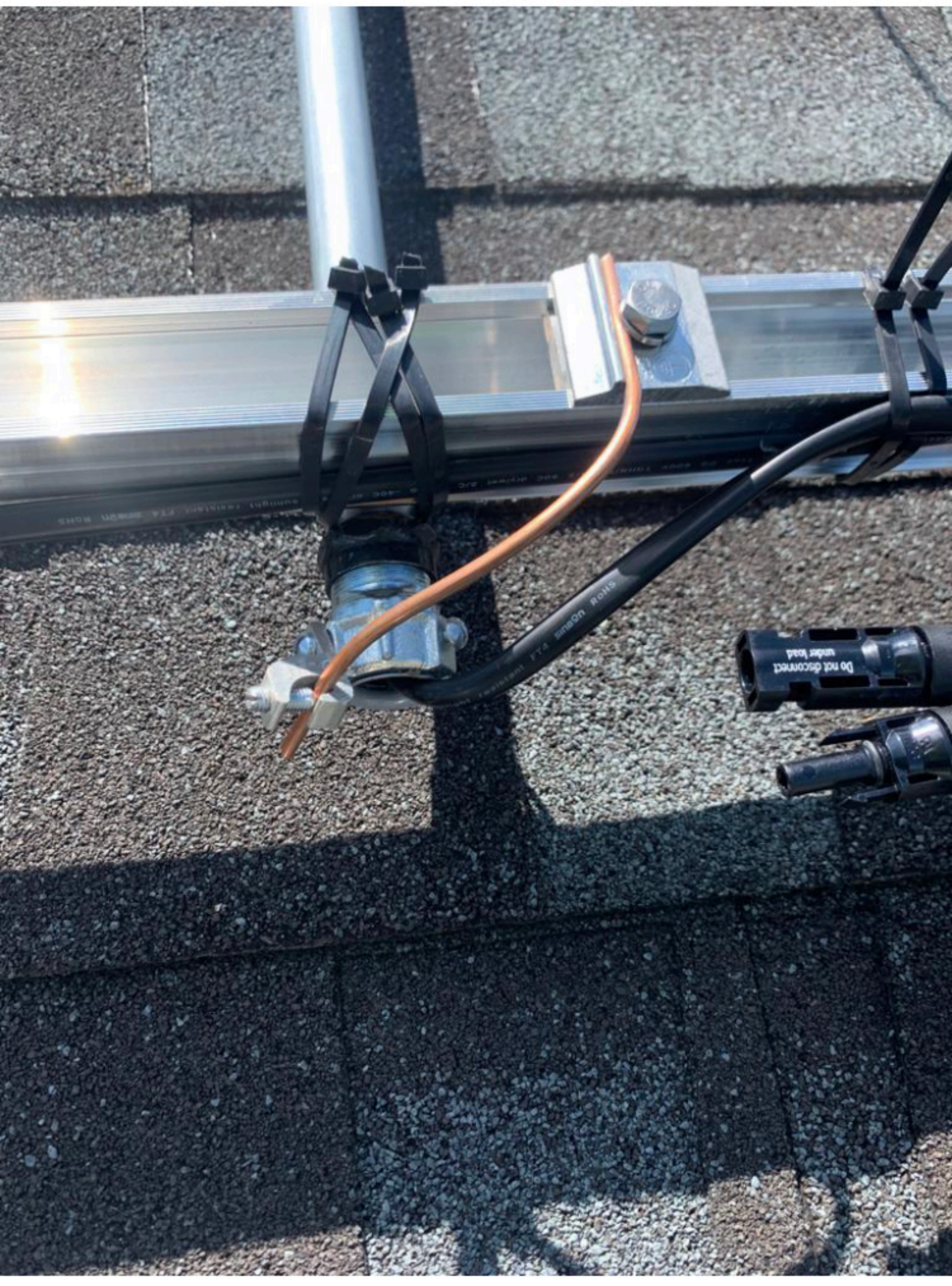

SOLADECK
WARNING
AVERTISSEMENT


PV Positive




SOLADECK




Do not disconnect
under load

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June 23, 2021

Sigora Solar
1222 Harris Street
Charlottesville, VA 22903

SCOTT E WYSSLING,
PE

Re: Engineering Services
Dekker Residence
190 Wood Point Drive, Lillington, NC
11.880 kW System Size

To Whom it May Concern:

Pursuant to your request, we have reviewed the following information regarding solar panel installation on the roof of the above referenced home:

1. Site Visit/Verification Form prepared by a Sigora Solar representative identifying specific site information including size and spacing of rafters for the existing roof structure.
2. Photographs of the interior and exterior of the roof system identifying existing structural members and their conditions.

Based on the above information we have evaluated the structural capacity of the existing roof system to support the additional loads imposed by the solar panels and have the following comments related to our review and evaluation:

Description of Residence:

The existing residence is typical wood framing construction with the roof system consisting of truss system with all chords constructed of 2 x 4 dimensional lumber at 24" on center. The attic space is unfinished and photos indicate that there was free access to visually inspect the size and condition of the roof rafters. All wood material utilized for the roof system is assumed to be Doug-Fir #2 or better with standard construction components. The existing roofing material consists of composite asphalt shingles. Photos of the dwelling also indicate that there is a permanent foundation.

A. Loading Criteria Used

- 125 MPH wind loading based on ASCE 7-10 Exposure Category "C" at a slope of 31 & 33 degrees
- 7 PSF = Dead Load roofing/framing Live Load = 20 PSF Snow Load = 10 PSF
- 3 PSF = Dead Load solar panels/mounting hardware

  Total Dead Load =10 PSF

The above values are within acceptable limits of recognized industry standards for similar structures in accordance with the North Carolina Residential Code (2012). Analysis performed of the existing roof structure utilizing the above loading criteria indicates that the existing rafters will support the additional panel loading without damage, if installed correctly.

B. Solar Panel Anchorage

1. The solar panels shall be mounted in accordance with the most recent "*SnapNrack Installation Manual*", which can be found on the SnapNrack website (*http://snapnrack.com/*). If during solar panel installation, the roof framing members appear unstable or deflect non-uniformly, our office should be notified before proceeding with the installation.