



LEADING THE WAY
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Mr. John Donoghue
Cape Fear Solar Systems, LLC
E-mail: john@capefearsolarsystems.com

August 20, 2025

Subject: Roof mounted solar panels – Nauraine Residence
696 Thomas Gage Drive
Fuquay-Varina, North Carolina 27526

File No.: RB-25738

Dear John:

RB Engineering, Inc. is pleased to provide the following summary engineering letter concerning the subject project. The existing roof system is constructed with timber trusses at 24 inches on center and a composition asphalt shingle roof. We have reviewed the proposed solar layout and have structurally evaluated the additional proposed roof loading with the following conclusions:

- The total surface area of the new proposed solar array (26 PV modules) is approximately 550 SF. The solar panel installation has been evaluated for an ultimate design wind speed of 120 mph.
- The subject roof mounted PV system attachment method is structurally adequate to transfer the design uplift loads in accordance with the 2018 North Carolina residential building code.
- The existing roof system is structurally adequate to transfer the applicable design loads - including the additional or modified design loading (dead, wind and snow loads) due to the proposed solar panel installation - in accordance with the 2018 North Carolina residential building code.

Our services were provided in accordance with the standard of practice for structural engineering and within the limits imposed by scope, schedule, and budget. If you have any questions or if I can be of further assistance to you on this project, please contact me at (919) 677-9662.

Respectfully submitted,

Ron Bittler, PE
President / Structural Engineer
RB Engineering, Inc.

