JVC

ENGINEERING

JVC Engineering
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June 17, 2016

Re: NSG Colusa Solar Project
1017 Bridge St, Colusa, CA 95932

The buildings located at the above referenced address are currently being considered for use to hold a solar panel array of 132 modules, 110 modules and 220 modules on the roofs of buildings A, B and C respectively as indicated in the layout. The solar panels to be placed on the roof in accordance to "S1.0 Roof Racking Detail" are 2.3 psf for the panels and about 1.5 psf for the racking and associated equipment. The panels will be oriented with a 10 degree angle off of the roof. At an angel of 10 degrees the panels have a profile of about 1.25 feet. As the panels cannot be walked on the presence of the panels removes the ability for live load on the roof. Minimum roof design live load is 16 psf. The addition of the panels will not overstress the gravity capacity of the roof members.

The building is concrete and very heavy in nature and as such is governed by seismic load for lateral force resistance instead of wind loading. The lateral force on building A is currently about 89,522 lbs, building B is about 46,440 lbs and building C is about 52,764 lbs. The added lateral loading of the weight of the solar panels will add about 840 lbs 700 lbs and 1400 lbs respectively. The increase in loading from the solar panels would result in a 1%, 1.5% and 2.6% increase. Under California Building Code 3404.4 any alteration which does not affect the lateral load carrying structural element by 10% or more can be done without altering the lateral load carrying system.

If I can be of any assistance please feel free to contact me at your convenience.

Sincerely,

Jessyca Cochran, PE
Principal Engineer
C73092