



October 24, 2006

Chris Simpkins
Bruss Construction, Inc.
P.O. Box 456
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RE: **Green Woodlands Meeting (Oct. 23)**
Ananda Hartzell, Dan Kinney, Chris Simpkins, Scott (Iron Horse), Stu White

DearChris,

Below is a summary of my understanding of the results from the meeting held at Banwell Architects on October 23rd.

1. Schedule for applying PVL module and roofing –

- a. **Nov. 6th** start date – Iron Horse to provide roof pans for the sugarhouse and garage roof. Pans to be in climate/dirt controlled environment (basement). Bruss to provide suitable heating equipment for this space.
- b. **Nov. 7th** and **Nov. 8th** – groSolar to apply PVL modules to pans, allowing the laminates to sit for 24 hours after application.
- c. **Nov. 8th, 9th, 10th** - Iron Horse to install all roofing with groSolar project rep onsite. Each PVL needs to be tested by groSolar before installing the pan on the roof. groSolar to complete the array wiring during roof install and wire to weathertight junction box.
- d. Schedule was confirmed by Chris Simpkins, but not by Scott from Iron Horse.

2. Current proposal from Iron Horse includes 20" nominal site formed roof pans, while the architectural drawings show 16" nominal.



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- a. If 20" pans are used, the PV capacity is reduced by approximately 272 watts on the sugarhouse roof. Roof capacity reduction on the garage not determined.
- b. Stu White suggested that Iron Horse research other options and resubmit proposal to include smaller pans at PVL locations.

formerly Global Resource Options

c. Options include 16" nominal snap lock pans or site formed custom size pans to accommodate the PVL module and proposed kW capacity.

d. Concern over damage to PVLs expressed by Scott. Ananda suggested that we all review the installation manual for the UniSolar PVLs and we all work with care when installing PVL laminated pans. Ananda's concern was raised about hand/machine crimping of the standing seam on PVL laminated pans. Scott said it should not present a problem, but would review the material and application to confirm.

e. groSolar to send PVL sample to Iron Horse.

f. groSolar delivered a copy of the UniSolar installation manual to Scott.

3. Ridge cap details were discussed and will be integrated by Banwell architects.

a. Iron Horse assumes a 9" ridge cap.

b. Iron Horse already uses a Z-channel under the ridge as shown in the UniSolar installation manual.

c. PVL wires to run under the ridge cap along the exposed SIP to a junction box location to be determined by Banwell architects.

d. Banwell architects to identify the location of the PV junction box and Rigid Metal Conduit for PV string wires to inverter location in basement.

4. Inverter and battery location discussed with Stu and Jeremiah.

a. Inverter power panel to be located on the wall between the utility room (03) and the garage - on the utility side.

b. Battery bank location proposed by Ananda to be placed in the garage on the other side of the wall from the inverter bank.

c. Stu questioned the location of the battery bank with concern over the temperature of the garage.

c. Ananda to provide dimensions for the inverter power panel and battery bank and propose alternative location for the battery bank or resolve temperature issues associated with the battery bank in the garage.

5. Seven copies of the submittal documents for the PV system submitted to Stu White. Addendums will be submitted as needed.

Very truly yours,
groSolar

Ananda Hartzell, LEED-AP
Engineering Manager