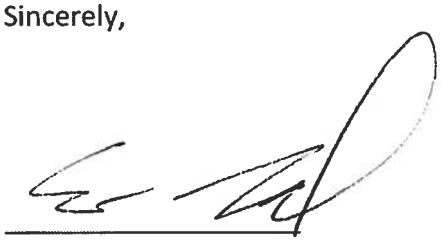
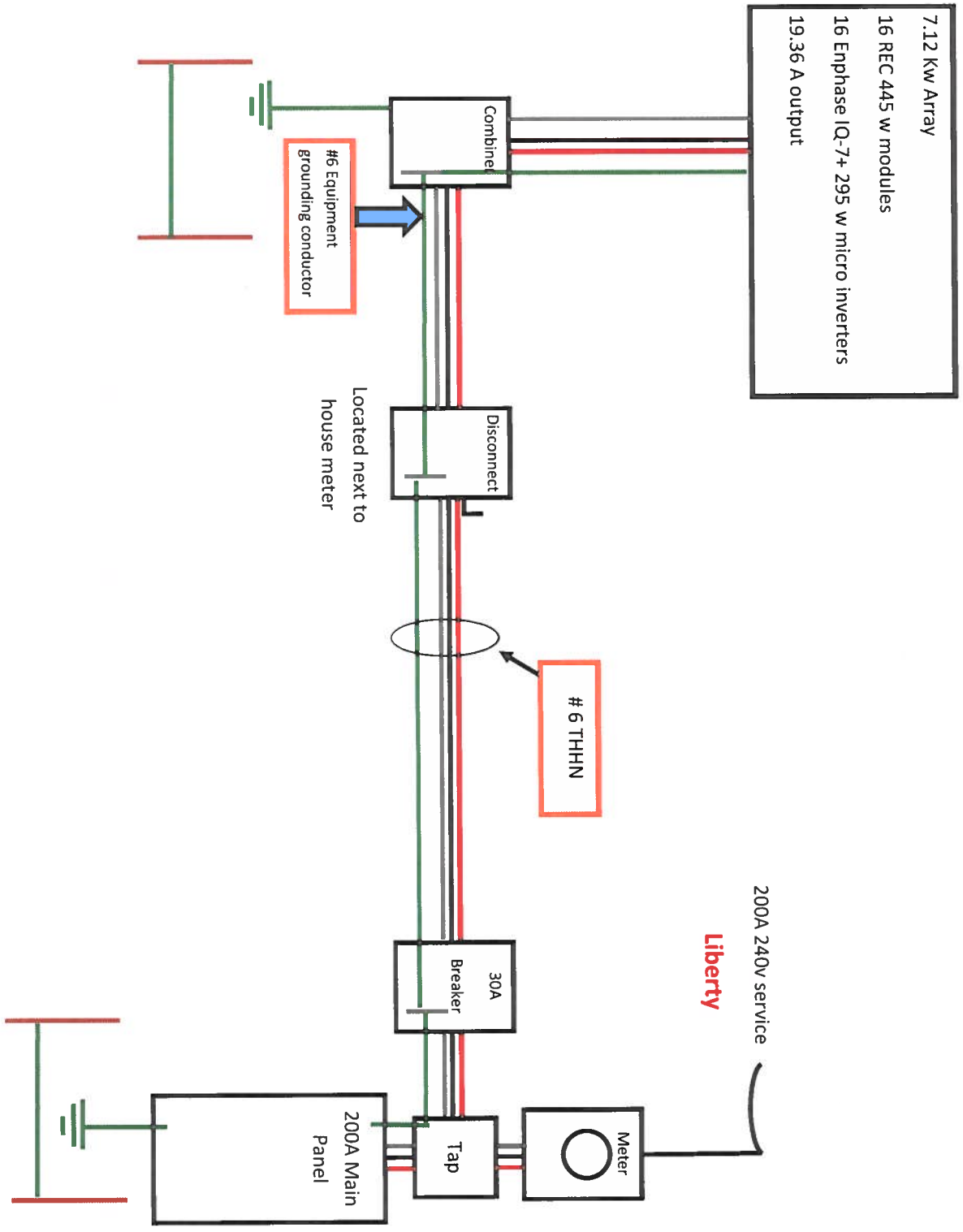
GSS
GRANITE STATE SOLAR

To Whom It May Concern:

I, Eric Labombard, authorize Granite State Solar to act as my agent and sign on my behalf all permits, and other documents related to my solar installation.

Sincerely,





GSS GRANITE STATE SOLAR	**TITLE:** Eric Labombard One Line	**PREPARED BY:** Nick Harris, Master Electrician 14961M
	DATE: 12/16/2021	**ADDRESS:** 302 Bean Road Plainfield, NH 03781

Thomas M. Callery, P.E.

CONSTRUCTION CALC™ We Empower The Building Industry

ProBeam v5.01

Important: Top and bottom must be laterally supported at supports and at 4-ft max. intervals. No wane in laminations nor curved GluLams. Dynamic loading not considered. Compliant with 2009 - 2003 IBC. All designs should be checked by a competent professional. All users shall comply with State Engineering Law. Injury and / or death can result from improper use of this product.

Job Name:	LaBombard, Plainfield, NH
Beam I.D.:	2"x6" rafters @ 24" OC
Other Info.:	Exist. Rafters

Main Span, L = 8.00 ft

Main Span Max. Allowed Live Defl: L / 180 = 0.53 in

Main Span Max. Allowed Total Defl: L / 120 = 0.80 in

Cantilever (Overhang) Exists? No

Pitch if Sloped: 12.0 :12

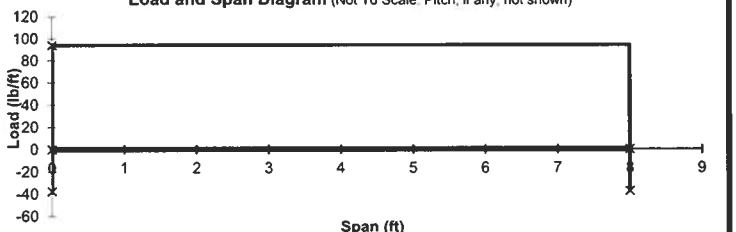
Load Duration: Snow: 1.15

Continuous Member? No

Add Self Wt.? ○ Yes ◉ No

Repetitive Use? Yes

Load and Span Diagram (Not To Scale. Pitch, if any, not shown)



For Wood and GluLams Only: Press Treated? Not press treated | Wet Cond? Dry | Temp Cond. 100 deg F & less

STATE OF NEW HAMPSHIRE – THOMAS M. CALLERY No. 6763 LICENSED PROFESSIONAL ENGINEER

Length of Member	Live, psf	Dead, psf	Tributary Width, ft	Uniform Live Load, plf	Reduced Live Load, plf.	Uniform Dead Load, plf.
Roof Loads (not including snow)	16 psf	12 psf	2.00 ft	-	-	33.9 lb/ft
Roof Snow (only)	27 psf		2.00 ft	54.0 lb/ft	54.0 lb/ft	(Adj'd for pitch)
Floor 3 Loads				-	-	-
Floor 2 Loads				-	-	-
Floor Loads				-	-	-
Wall Dead Load						-
Other 'psf' load and trib. width	3 psf		2.00 ft	6.0 lb/ft	6.0 lb/ft	-
Additional 'plf' Unif. Live Loads.	Descrip'n, opt'l:					
Additional 'plf' Unif. Dead Loads.	Descrip'n, opt'l:					
Load Subtotals				60.0 lb/ft	60.0 lb/ft	33.9 lb/ft
Total Adjusted Uniform Loads			w_L =	60.0 lb/ft	w_D =	33.9 lb/ft
Combined Total Uniform Load			w_U =	93.9 lb/ft		

Roof pitch for LL Red'n: 12.0 :12

Beam type for LL Red'n: All other beams

4x And Smaller (Lumber)

Lumber Material: Spruce-Pine-Fir

Lumber Grade: No. 1 / No. 2

Acceptable Solutions

2 x 6	(4) 2 x 4
(2) 2 x 5	3 x 5
(3) 2 x 4	4 x 4

List properties for what size lumber? 2 x 6

Fb=1505 Fv=156 Fcp=425 E=1400000 Slf Wt=0

An asterisk * indicates a non-acceptable sol'n.

5x And Larger (Timbers)

Timber Material: Spruce - Pine - Fir

Timber Grade: Scroll Up

Acceptable Solutions

-	-	-
-	-	-
-	-	-
-	-	

List properties for what size? 8 x 14 * Fb=0 Fv=0 Fcp=0 E=0 Slf Wt=0

Final Member Sawn Wood

Material Library Choose From All Sizes Of Beam Type

Final Size: 2 x 6

Min. Bearing Lengths : = 1.50 in. (Left) : = 1.50 in. (Right)

Vert Diff (approx): 8.00 ft True Len (approx): 11.31 ft

Actual Member Size: 1.50" x 5.50"

Final Member: 2 x 6, Spruce-Pine-Fir, No. 1 / No. 2

Use Conditions Selected: Rept'v Mem.

Final Member Results

Bending Overdesign: **26.1%**

Shear Overdesign: **156.6%**

Deflection Overdesign: **90.2%**

Bearing / Buckling Overdsgn: **N/A**

Final member OK by: 26.1%

Controlling criteria is: **Bending**

Reactions

Maximums	R_1 - Left	R_2 - Right
Live Load:	240 lb	240 lb
Dead Load:	136 lb	136 lb
Total Load:	**376 lb**	**376 lb**
Live Case Causing Max	N/A	N/A
Minimums	R_1 - Left	R_2 - Right
Live Load:	0 lb	0 lb
0.6 or 1.0 Dead :	81 lb	81 lb
Net Reaction	**81 lb**	**81 lb**
Live Case Causing Min	N/A	N/A

Final Member Additional Information

		Location	Live Case
Max. Positive Moment:	752 ft-lb	4.00 ft	Main Span
Max. Negative Moment:	0 ft-lb	0.00 ft	Main Span
Max Design Shear:	333 lb	0.00 ft	Main Span
Main Span Max. Downward Deflection (Live / Total)	0.269" / 0.421"	4.00' / 4.00'	Main / Main
Main Span Max. Upward Deflection (Live / Total)	0.000" / 0.000"	0.00' / 0.00'	Main / Main
Cant. Down. Defl. (Live / Tot):	N/A	N/A	N/A
Cant. Up. Defl. (Live / Tot):	N/A	N/A	N/A
Req'd EI, Not Incl. Self Wt.:	1.530E+07	Actual EI:	2.91E+07
Approx. Self Weight:	N/A	Approx. Tot. Wt.:	N/A
Min. Calc'd Bearing Lengths:	= 0.59 in (Left)	= 0.59 in (Right)	

Bracing Req'd For Full Strength: Lateral bracing required at supports and at 7.9-ft, max, along member

W/O Mid-Bracing: *Bending Red'n:* 21% *Allowed Moment:* 748 ft-lb