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by Taqi Khawaja  
Date:  
2024.09.20  
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9/20/2024

Freedom Forever LLC  
43445 Buisiness Park Dr., Suite 110  
Temecula, CA 92590

Job Number: 496653  
Project Name: Michael Schlink  
Project Address: 485 Southeast Country Club Road, Lake City, FL

**Design Criteria:**

Applicable Code = ASCE 7-22  
Design Wind Speed = 119 mph (3 Second Gust)  
Exposure Category = C  
Ground Snow Load = 0 psf  
Module Type = SILFAB SOLAR: SIL-430QD  
Module Quantity = 18

To whom it may concern,

The above mentioned residential rooftop solar project has been designed to the specifications shown above. The team at Freedom Forever LLC has visited the site to observe the roof and its framing as well as gather other required information for the project. During this observation they did not see any signs of damage or distress to the roof structure which would preclude solar from being installed. Based on that review and the information provided, the calculations on the following pages were completed to determine the adequacy of the roof framing as well as the allowable attachment spacing for the PV panels. The calculations show that the roof can support the proposed PV system without structural modifications.

Mounting Plane	1	2	3	4	5	6	7	8	9	10
Roof Type	Corrugated Metal									
Framing Type	Rafter									
Framing Size	2x4 @ 24									
Upgrade Size	NA									
Attachment Type	S-5 Proteabacket									
Lag Count	N/A									
Embedment Depth	N/A									

Sincerely,

Taqi Khawaja, PE  
Freedom Forever LLC



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**Down Force**

Mounting Plane	1		2		3		4		5	
Module Location	EM	IM	EM	IM	EM	IM	EM	IM	EM	IM
D+S (psf)	2.88	2.88								
D+06W (psf)	9.27	7.14								

Mounting Plane	6		7		8		9		10	
Module Location	EM	IM	EM	IM	EM	IM	EM	IM	EM	IM
D+S (psf)										
D+06W (psf)										

**Lateral Parallel to Roof**

Mounting Plane	1	2	3	4	5
D+S (psf)	0.83				

Mounting Plane	6	7	8	9	10
D+S (psf)					

**Framing Check**

Lumber Species: DF

PV Load = 3 psf

Mounting Plane	1	2	3	4	5
Framing Type	Rafter				
Framing Size	2x4				
Framing Spacing (in)	24				
Span (ft)	5				
Moment (lb-ft)	62				
Shear (lbs)	49				
Upgrade Size	NA				

Mounting Plane	6	7	8	9	10
Framing Type					
Framing Size					
Framing Spacing (in)					
Span (ft)					
Moment (lb-ft)					
Shear (lbs)					
Upgrade Size					



**Array Attachment Spacing**

Module = SILFAB SOLAR: SIL-430QD

Mounting Plane	1	2	3	4	5
Roofing Material	Corrugated Metal				
Attachment Type	S-5 Proteabacket				
Lag Count Per Attachment	N/A				
Min Lag Embedment (in)	N/A				
Landscape	72				
Portrait	72				

Mounting Plane	6	7	8	9	10
Roofing Material					
Attachment Type					
Lag Count Per Attachment					
Min Lag Embedment (in)					
Landscape					
Portrait					