

June 9, 2026

CHAD ROWAN
Valley Premier Properties Solar + Storage
900 Olive Ave, Merced
CA 95348

RE: Structural Assessment – Rooftop Solar PV System
Project: Valley Premier Properties Solar + Storage
Address: 900 Olive Ave, Merced CA 95348

Dear Mr. Chad,

We conducted a structural review of the existing buildings roof structure at the above-referenced location for the purpose of assessing the feasibility of a proposed ballasted rooftop solar photovoltaic (PV) system. This letter presents our assessment of the roof structure's capacity to support the proposed solar installation.

The proposed PV system consists of Sollega FR510 ballasted racking supporting SKT550M10-144S1 modules. The system is non-penetrating and relies on distributed ballast in accordance with the manufacturer's layout and engineering reports prepared specifically for this project.

Per the provided Sollega ballast and wind load reports, the PV system is designed in accordance with ASCE 7-16 with the following governing parameters:

- Basic wind speed: 108 mph
- Risk category: II
- Exposure category: B
- Roof height: 20 ft
- Roof membrane: TPO
- Maximum dead load per FastRack assembly: approximately 193 lbs, distributed over the rack bearing area.

The ballast layout and load distribution were reviewed to verify that imposed loads from the PV system are consistent with typical roof design capacities and are uniformly distributed to avoid localized overstress of the roof deck or supporting structure.



6/9/2026

The Valley Premier Properties Solar + Storage project is a roof top project on a building which can be described as a double-story wood framing structure. The roof framing is assembled with truss joists spaced @24 inches on-center and spanning 54 feet.

The building is generally designed to support 20 psf dead load and 20 psf roof Live Load as per the original plans.

We assessed the above-described framing, assuming same current roof joists “**Truss Joists TJLX 48L-25 @ 24" O.C**” and an additional **10 psf Dead Load** for the roof attached solar array (the maximum weight from the solar arrays on all roofs).

Considering that the solar panels will be installed on the roof and there is no accessibility on the roof at the places where the solar panels will be installed which mean live load at location of solar panels= zero.

Then the total load on the roof will be less or equal the same designed loads applied on the roof at the current situation.

So, the roof framing has sufficient capacity to support for the proposed roof attached solar array.

Based on our review of the provided racking plans and engineering documentation, the loads imposed by the proposed ballasted solar array do not exceed the allowable structural capacity of the existing roof framing, assuming the roof structure was constructed in accordance with applicable building codes and standard construction practices.

Therefore, the existing roof structure has sufficient capacity to support the proposed rooftop ballasted solar PV system, as configured in the referenced plans and reports.

This assessment is based on the engineering documents provided and does not include destructive investigation or verification of concealed conditions. The installing contractor shall verify existing site conditions prior to construction and notify the engineer of record of any discrepancies.

Please let us know if you require any further information or clarifications as you review this revision.

Sincerely,
Robert Myers, P.E.



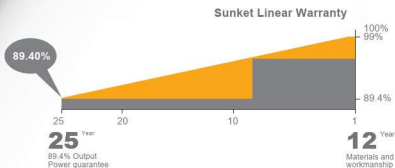
6/9/2026



SKT550M10-144S1

550 Watt

182mm 16BB 144Cells
Mono Half Cell PV Module Series



SMBB Technology
Half Cut Cell



High Energy
Performance



100% Inspection
25years Guarantee



Fire Class A



Strengthened
Mechanical Load



Anti PID



 **SUNKET® - Solar**



FR510 PV Wind Load / Ballast Layout Report

May 18, 2026



For: CHAD ROWAN

Project: Valley Premier Properties Solar + Storage

Address: 900 Olive Ave, Merced CA 95348

System: 70 PANELS, 3 INVERTERS, 12 BATTERIES ON A 3 PHASE 120/208 SYSTEM

Module Tilt Angle: 6 Degrees

Module Specs: 44.5"x89.60"x1.18"

Number of Modules: 70

COMPREHENSIVE PROJECT CHARACTERISTICS

Governing Code:		ASCE 7-16		
Description	Variable	Value	Unit	
Building Characteristics				
Building Width (E/W)	B =	41.07	ft	
Building Length (N/S)	L =	115.07	ft	
Building Height	H =	20.00	ft	
Parapet Height (Average)	Hp =	0.00	ft	
Ground Snow Load		5.00	psf	
PV System Characteristics				
PV Panel Width		45.00	in	
		1134.00	mm	
PV Panel Length		89.5	in	
		2278.00	mm	
PV Panel Height		1.18	in	
		30.00	mm	
PV Module Weight (Each)		60.00	lbs	
Inner Row Spacing (N-S)		8.00	in	
Space Between Adjacent Columns (E-W)		0.38	in	
Tilt angle of Module		6	degrees	
Manufacturer of Module		Sunket		
Module Model		SKT550M10		
Module Wattage		w550.00	watts	
Module Surface Area		3375.01	in	
Roof Material		TPO	sq in	
Membrane Attachment Type		Other		
Friction Coefficient		0.64		
Ballast Configuration	4 panels share 1 bay	Bay Weight:	4.5	lbs
Ballast Block	4x8x16 in (Nominal) 3.625x7.625x15.625 in (Actual) CMU Cap Block	Weight:	32.00	lbs

Description	Variable	Value	Unit
Wind Characteristics			
Wind Speed	V =	108.00	mph
Site Elevation		993.32	ft
Velocity Pressure Exposure Coefficient	Kz	0.70	
Topographic Factor (assumed to be 1 for level ground)	Kzt	1.0	
Directionality Factor	Kd	0.85	
Elevation Factor	Ke	1	
Velocity Pressure	qz	17.78	psf
Risk Category		II	
Exposure Category		B	

Description	Variable	Value	Unit
Seismic Characteristics			
Building Importance Factor	Ie	1.00	
PV System Importance Factor	Ip	1.00	
Component Amplification Factor	ap	1.00	
Component Response Factor	Rp	1.50	
Array Attachment Height above Ground	z	20.0	ft
Mapped Short-Period Acceleration Parameter	Ss	0.158	g
Mapped Long-Period Acceleration Parameter	S1	0.06	g
Mapped Long-Period Transition Parameter	Tl	12.0	s
Site Classification		D-default	
Site Coefficient	Fa	1.6	
Adjusted Max Spectral Response	Sms	0.252	g
Design Spectral Acceleration Parameter	Sds	0.168	g
Controlling Seismic Design Category	B		

Design to Accommodate Seismic Displacement

MPV Design Seismic Displacement $60 * I_e (S_d - 0.4)^2 = 24.0$ in

Condition	Minimum Separation	
Between separate solar arrays of similar construction	12.0 in	(0.5 * MPV)
Between a solar array and a fixed object on the roof, or solar array of different construction	24.0 in	(MPV)
Between a solar array and a roof edge with a qualifying parapet	24.0 in	(MPV)
Between a solar array and a roof edge without a qualifying parapet	48.0 in	(2 * MPV)

Notes:

- 1.) A parapet is "qualifying" if the top of the parapet is not less than 12 inches.
- 2.) Seismic setbacks are not applicable to buildings that are Risk Category IV, or taller than 6 stories.
- 3.) The minimum allowable friction factor required for use of the prescriptive displacement method is 0.4, which should be measured under wet conditions per ASTM G115. If positive attachments are provided for lateral resistance of seismic forces, then the minimum requirement is waived, as friction is not allowed to contribute in conjunction with attachments (IBC 1604.9).
- 4.) The array is designed to move (displace) when subjected to earthquake forces. Therefore, the design displacement distance is calculated to provide room for the array to move without affecting other rooftop installations. After an earthquake, the array shall be returned to compliance with the separation distances listed above, and damaged anchors (if any) shall be repaired.
- 5.) The contractor shall field verify all dimensions and site conditions before starting work and shall notify Sollega, Inc- drafters, (Sollega, Inc) of any discrepancies.
- 6.) All omissions and conflicts regarding the seismic setback specifications shall be brought to the attention of Sollega, Inc and resolved prior to proceeding with work.

Description	Variable	Value	Unit
Snow Loading Characteristics			
Ground Snow Load	Pg	5.0	psf
Snow Exposure Factor	Ce	1.0	
Snow Thermal Factor	Ct	1.0	
Snow Importance Factor	Is	1.0	
Flat Roof Snow Load, Pf	$C_e \times C_t \times I_s \times P_g$	5.0	psf

Description	Unit	Value	Info
Point Loading Characteristics			
FastRack Bearing Area	sq ft	1.77	
Module Dimensions	in	45.00x90.00x1.18	
Module Weight	lbs	60.0	
E-W on Center Inner Row Spacing for FastRacks	in	75.4	
N-S on Center Spacing for FastRacks	in	52.8	
First/Last Column on Center Spacing for FastRacks (E-W)	in	59.4	
4 CMUs			
Maximum Deadload / FastRack	lbs	192.5	Includes one module, one FastRack, and four ballast blocks
Bearing Pressure on Roof	psf psi	108.8 0.8	Assuming uniform bearing under FastRack. Includes only the bottom surface that is touching the roof
3 CMUs			
Maximum Deadload / FastRack	lbs	160.5	Includes one module, one FastRack, and three ballast blocks
Bearing Pressure on Roof	psf psi	90.7 0.6	Assuming uniform bearing under FastRack. Includes only the bottom surface that is touching the roof
2 CMUs			
Maximum Deadload / FastRack	lbs	128.5	Includes one module, one FastRack, and two ballast blocks
Bearing Pressure on Roof	psf psi	72.6 0.5	Assuming uniform bearing under FastRack. Includes only the bottom surface that is touching the roof
1 CMUs			
Maximum Deadload / FastRack	lbs	96.5	Includes one module, one FastRack, and one ballast block
Bearing Pressure on Roof	psf psi	54.5 0.4	Assuming uniform bearing under FastRack. Includes only the bottom surface that is touching the roof