

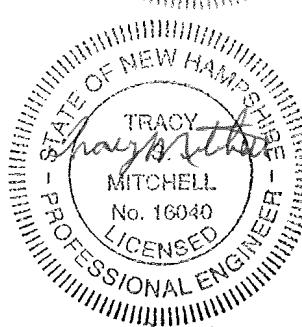
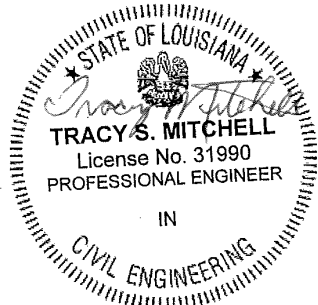
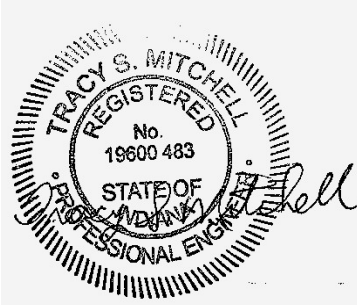
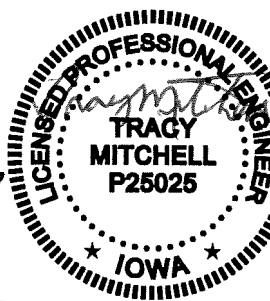
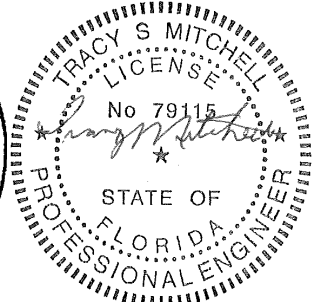
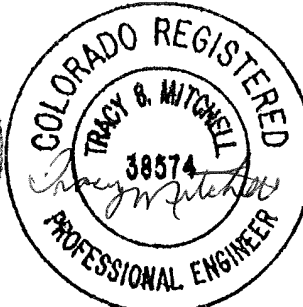
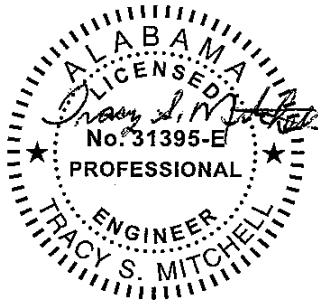
Design Document

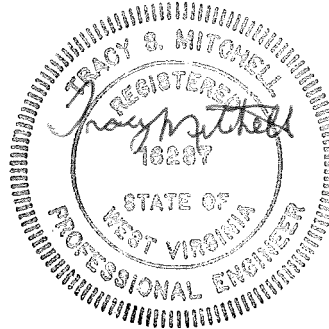
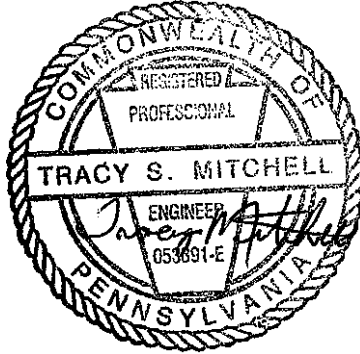
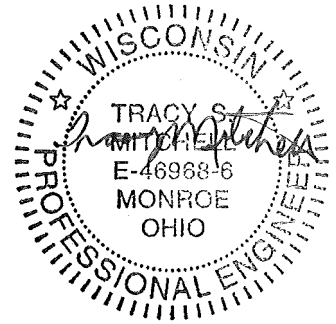
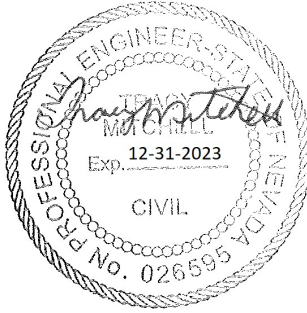
For:

Ground Mount Shade Structure
4 Modules

Exposure Category – C (6.16 ft x 3.42 ft)
ASCE 7-10 & ASCE 7-16

This Document Approved for the below:





EXP. 03/31/2024



02/08/2022



GM SOLAR SHADE - [ARIZONA]

JOB NAME	→ Tyler Wiggins Everest	DATE	→ May 5, 2022
JOB NO.	→ AZ20170	CHECKER	→ SAM

CRITERIA

The system must allow for 4 modules & 5 modules installed in a landscape orientation.

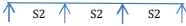
- [A] - **GOVERNING CODE** → IBC 2015, ACI 318-14 & ASCE 7-10 & IBC 2018, ACI 318-14 & ASCE 7-16
- [B] - **WIND SPEED (MPH)** → 90 MPH TO 120 MPH (in increments of 5 mph)
- [C] - **SNOW LOAD (PSF)** → 0 PSF TO 70 PSF (in increments of 10 psf)
- [D] - **TILT ANGLE** → 5 DEGREE TO 25 DEGREE (in increments of 5 Degree)
- [E] - **FOUNDATION** → POLE FOOTING
- HELICAL PILES (GOLIATH TECH Pile Cataloge)

- [F] - **SOIL- ASSUMPTION** → **SOIL BEARING**
 Bottoms of bearing footings shall bear on Undisturbed Native Soil
 4'-6" Below Existing Grade
 Design Soil Pressure 2000 Psf. per Table 1806.2 of IBC

- **CLASS OF MATERIALS**
 Sand, silty sand, clayey sand, silty gravel and clayey gravel
 (SW, SP, SM, SC, GM and GC)

- **LATERAL BEARING (psf/f below natural grade)**

- **Coefficient of friction** 0.25

- [G] - **ASSUMPTION**
- 3" Dia pipe beam → Three span condition 
- 3" Dia pipe column → Base fix & Top Free

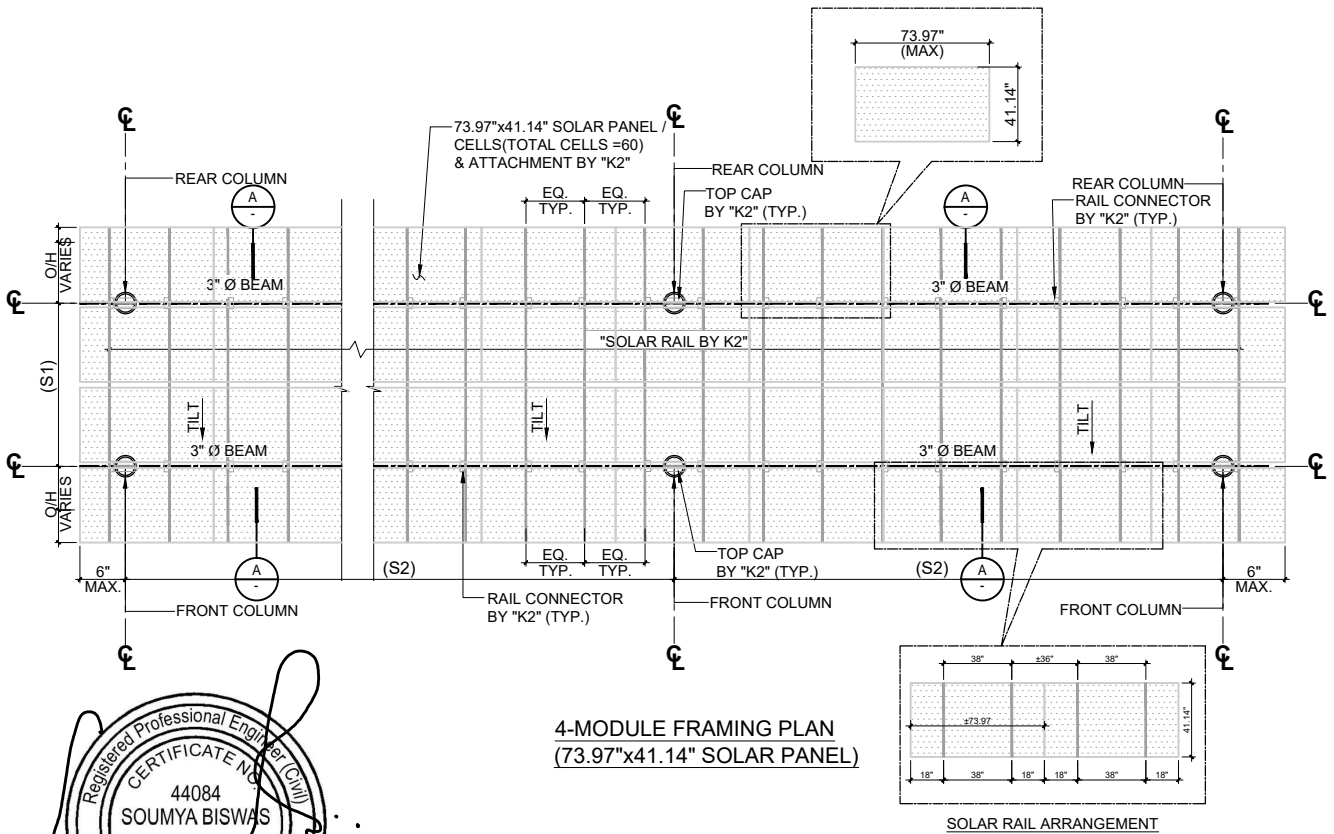
- Beam Deflection → L/120
- Column Deflection → H/120

- Loads are calculated for the Framing members provided & they are checked in bending, shear and deflection. The posts/column are designed as compression members and checked for compressive stresses.
- Structural concrete shall be designed in accordance with the 'Building Code requirements for reinforced concrete (ACI 318-14).
- The reinforcement of ASTM A615 Grade 60 shall be used in all the concrete structures.
- Structural steel shall be designed in accordance with the specification given in steel construction manual - AISC 14th edition - ASD Method.
- **Ground mount shade structure design for 4 - modules (6.16ft x 3.42ft) w/ 60cells/panels.**
- **The Tables below assume the ultimate strength of Steel Top Bracket connectors meet the values and the minimum requirements for loading taken in teh calcs and criteria required to resist the member forces. All spacings between helicals are designed under this assumption. Manufacturer shall verify and certify compliance with these tabulated ultimate strength values to match or exceed the design assumptions in calculations thru adequate testing and lab data.**

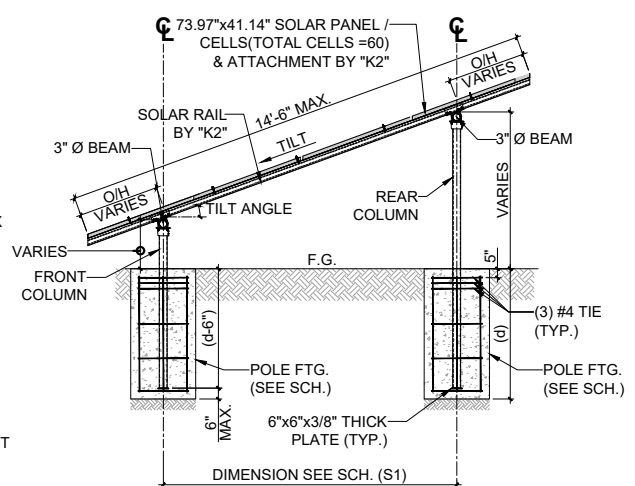
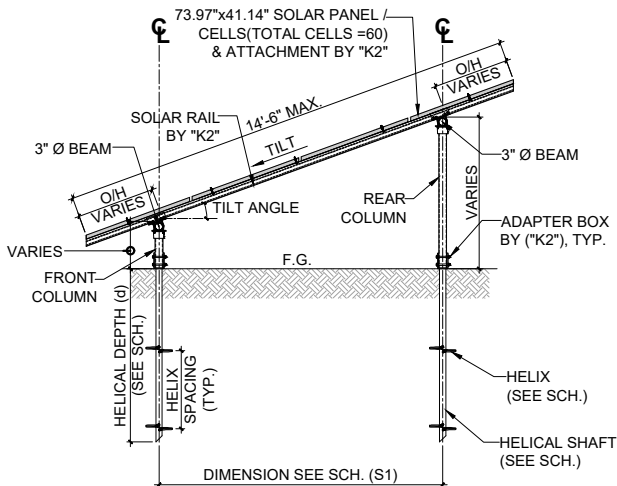
[H] - **Pole foundation Assumptions and Limitations:**

- The references used in the different analysis methods in this program are as follows:-
 International Building Code (IBC) 2015,/2018 Section 1807.3.2.1, pages 403-404
- This program will handle both horizontally as well as vertically applied loads. The vertical load may have an associated eccentricity which results in an additional overturning moment which is always assumed to add directly to the overturning moment produced by the horizontal load.
- This program assumes that the top of the pier is at or above the top of the ground surface level.
- This program assumes that the actual resisting surface is at or below the ground surface level.
- This accounts for any weak soil or any soil which may be removed at the top
- Yield strength of 2-7/8" dia piles - $F_y = 60$ ksi
- Compression values are based on fully laterally supported piles (full embedded in soil), if not, contact engineer department for calculations.
- All Design performed using ASD Method.

DRAWN	A.K.	SCALE	N.T.S
DESIGN	A.D.	DATE	MAY-05-2022
CHECKED	SAM		



EXP. 03/31/2024





2501 N. HAYDEN ROAD STE 101
 SCOTTSDALE, AZ 85257
 P 480 | 580 | 4420
 Web : <http://www.eiffelindustries.com>
 Mail : sam@eiffelindustries.com
 ...providing structural solutions to the world...

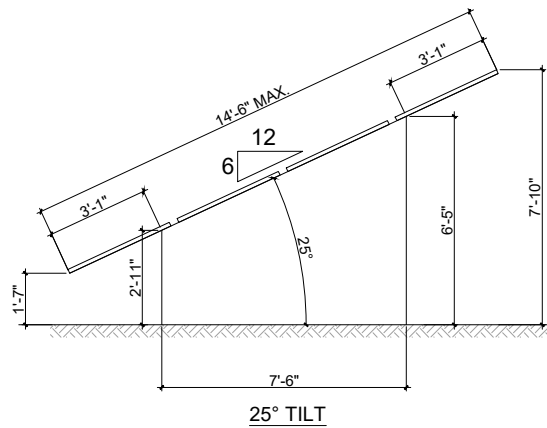
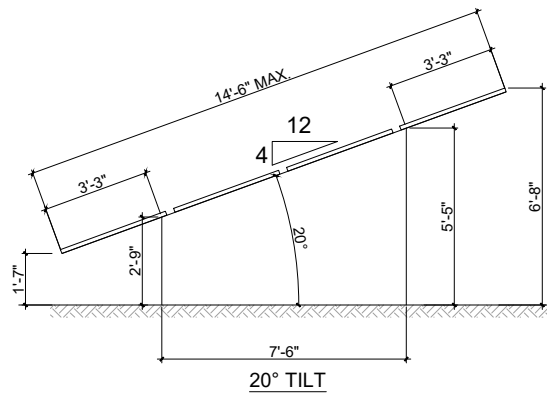
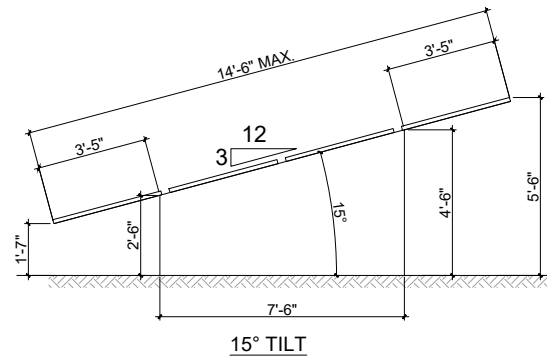
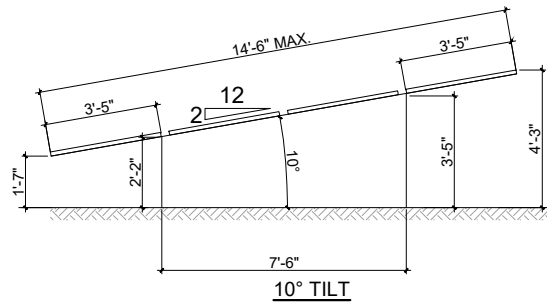
DRAWN	A.K.	SCALE	N.T.S
DESIGN	A.D.	DATE	MAY-05-2022
CHECKED	SAM		

PROJECT
 TYLER WIGGINS EVEREST
 ARIZONA

DRAWING TITLE
 4-MODULE SOLAR
 FRAME LINE DIAGRAM

PROJECT # AZ20170

DRG# SK-2



EXP. 03/31/2024

4-MODULE SOLAR FRAME LINE DIAGRAM
 (73.97"x41.14" SOLAR PANEL)



GM SOLAR SHADE-CHART (ASCE 7-10)- [ARIZONA]

4 - Modules (6.16ft x 3.42ft) w/60cells/panels & 3" dia. SCH 40 Pipe.

JOB NAME: Tyler Wiggins Everest
JOB NO.: AZ20170

DATE CHECKER: →

May 5, 2022
SAM

SR- No's	Wind Speed (mph)	Seismic Category	Exposure Category	Tilt Angle (Deg.)	Roof Snow Load (psf)	Mean Roof Height (ft)	3" Pipe Tie Brace		3" Pipe SCH 40 Column Spacing		Pipe over- hang (OH) (ft- in)	Foundation												Top Bracket Connection by K2 (See note 1,2,3,4,5)						
							Support @ Base Pole footing	Support @ Base Helical Pile	[S1] (ft- in)	[S2] (ft- in)		Pole Footing Size						Helical Size						Welded Ground Screw (Model No.-5)				Average Uplift force- 1950 kg (1625 kg w/ FOS)		
												Front Column	Rear Column	Front Column	Rear Column	Front Column	Rear Column	Front Column	Rear Column	Front Column	Rear Column	Length (in)	Length (in)							
1	0			05-10	0	≤ 5	NO	NO	7'-6"	19'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
2	1-10			05-10	0	≤ 5	NO	NO	7'-6"	18'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
3	11-20			05-10	0	≤ 5	NO	NO	7'-6"	14'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
4	21-30			05-10	0	≤ 5	NO	NO	7'-6"	12'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
5	31-40			05-10	0	≤ 5	NO	NO	7'-6"	10'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
6	41-50			05-10	0	≤ 5	NO	NO	7'-6"	9'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
7	51-60			05-10	0	≤ 5	NO	NO	7'-6"	8'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
8	61-70			05-10	0	≤ 5	NO	NO	7'-6"	8'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
9	0			11-15	0	≤ 5	NO	NO	7'-6"	19'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
10	1-10			11-15	0	≤ 5	NO	NO	7'-6"	18'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
11	11-20			11-15	0	≤ 5	NO	NO	7'-6"	14'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
12	21-30			11-15	0	≤ 5	NO	NO	7'-6"	12'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
13	31-40			11-15	0	≤ 5	NO	NO	7'-6"	10'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
14	41-50			11-15	0	≤ 5	NO	NO	7'-6"	9'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
15	51-60			11-15	0	≤ 5	NO	NO	7'-6"	8'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
16	61-70			11-15	0	≤ 5	NO	NO	7'-6"	8'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
17	0			16-20	0	≥ 5	NO	NO	7'-6"	17'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
18	1-10			16-20	0	≥ 5	NO	NO	7'-6"	16'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
19	11-20			16-20	0	≥ 5	NO	NO	7'-6"	14'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
20	21-30			16-20	0	≥ 5	NO	NO	7'-6"	12'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
21	31-40			16-20	0	≥ 5	NO	NO	7'-6"	10'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
22	41-50			16-20	0	≥ 5	NO	NO	7'-6"	9'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
23	51-60			16-20	0	≥ 5	NO	NO	7'-6"	8'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
24	61-70			16-20	0	≥ 5	NO	NO	7'-6"	8'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
25	0			21-25	0	≥ 5	NO	NO	7'-6"	17'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
26	1-10			21-25	0	≥ 5	NO	NO	7'-6"	16'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
27	11-20			21-25	0	≥ 5	NO	NO	7'-6"	14'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
28	21-30			21-25	0	≥ 5	NO	NO	7'-6"	12'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
29	31-40			21-25	0	≥ 5	NO	NO	7'-6"	10'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
30	41-50			21-25	0	≥ 5	NO	NO	7'-6"	9'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
31	51-60			21-25	0	≥ 5	NO	NO	7'-6"	8'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
32	61-70			21-25	0	≥ 5	NO	NO	7'-6"	8'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES

NOTE:
 1 Top bracket connector design to be provided by K2. Average Force of top bracket = 1950 kg (4299 lbs). Refer to Load test report K2 North America Residential Ground Mount Top Cap 3/8" - 16 UNC x 5/8" set screw
 2 If Actual force is greater than Average force. Please contact K2 For special engineering design of Top bracket connection.
 3 TOP bracket connector is reviewed only for the uplift value provided in Report prepared by K2.
 4 Factor of Safety (FOS) = 1.2
 5 Uplift force of top bracket = 1950 kg uplift force of top bracket with factor of safety = 1950 kg/1.2 = 1625 kg.
 6 Yield Stress of 3" dia pipe - Fy = 35 ksi & Fu = 58 ksi
 7 Yield Stress of 2.7/8" dia Helical pipe - Fy = 60 ksi (refer Galvalith Tech Helical Chart)



GM SOLAR SHADE-CHART (ASCE 7-10)- [ARIZONA]

4 - Modules (6.16ft x 3.42ft) w/60cells/panels & 3" dia. SCH 40 Pipe.

JOB NAME: Tyler Wiggins Everest
 JOB NO.: AZ220170

DATE CHECKER: →

May 5, 2022
 SAM

SR No's	Wind Speed (mph)	Seismic Category	Exposure Category	Tilt Angle (Deg)	Roof Snow Load (psf)	Mean Roof Height (ft)	3" Pipe Tie Brace		3" Pipe SCH 40 Column Spacing		Foundation														Top Bracket Connection by K2 (See note 1,2,3,4,5)					
							Support @ Base Pole Footing	Support @ Base Helical Pile	[S1] (ft-in)	[S2] (ft-in)	Pipe overhang (OH) (ft-in)	Pole Footing Size			Helical Size				Welded Ground Screw (Model No.-5)		Average Uplift force- 1950 kg (1625 kg w/ FOS)									
												Front Column	Rear Column	#5 Reinf. Spacing	Front Column	Rear Column	Front Column	Rear Column	Front Column	Rear Column		Front Column	Rear Column							
							Dia. (D) (ft)	Depth (d) (ft)	#5 Reinf. Spacing	Dia. (D) (ft)	Depth (d) (ft)	#5 Reinf. Spacing	Shaft Dia. (D) (in)	No's Helix	Helix Dia. (in)	Depth (d) (ft-in)	Shaft Dia. (D) (in)	No's Helix	Helix Dia. (in)	Depth (d) (ft-in)	Dia (in)	Length (in)	Dia (in)	Length (in)						
1	105	A & B	C	0	0	≤ 5	NO	NO	7'-6"	17'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
2	105	A & B	C	1-10	1-10	≤ 5	NO	NO	7'-6"	17'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
3	105	A & B	C	11-20	11-20	≥ 5	NO	NO	7'-6"	17'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
4	105	A & B	C	21-30	21-30	≥ 5	NO	NO	7'-6"	17'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
5	105	A & B	C	31-40	31-40	≥ 5	NO	NO	7'-6"	17'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
6	105	A & B	C	41-50	41-50	≥ 5	NO	NO	7'-6"	17'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
7	105	A & B	C	51-60	51-60	≥ 5	NO	NO	7'-6"	17'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
8	105	A & B	C	61-70	61-70	≥ 5	NO	NO	7'-6"	17'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
9	110	A & B	C	0	0	≤ 5	NO	NO	7'-6"	16'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
10	110	A & B	C	1-10	1-10	≤ 5	NO	NO	7'-6"	16'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
11	110	A & B	C	11-20	11-20	≥ 5	NO	NO	7'-6"	16'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
12	110	A & B	C	21-30	21-30	≥ 5	NO	NO	7'-6"	16'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
13	110	A & B	C	31-40	31-40	≥ 5	NO	NO	7'-6"	16'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
14	110	A & B	C	41-50	41-50	≥ 5	NO	NO	7'-6"	16'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
15	110	A & B	C	51-60	51-60	≥ 5	NO	NO	7'-6"	16'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
16	110	A & B	C	61-70	61-70	≥ 5	NO	NO	7'-6"	16'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
17	115	A & B	C	0	0	≤ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
18	115	A & B	C	1-10	1-10	≤ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
19	115	A & B	C	11-20	11-20	≥ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
20	115	A & B	C	21-30	21-30	≥ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
21	115	A & B	C	31-40	31-40	≥ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
22	115	A & B	C	41-50	41-50	≥ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
23	115	A & B	C	51-60	51-60	≥ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
24	115	A & B	C	61-70	61-70	≥ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
25	115	A & B	C	0	0	≥ 5	NO	NO	7'-6"	14'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
26	115	A & B	C	1-10	1-10	≥ 5	NO	NO	7'-6"	14'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
27	115	A & B	C	11-20	11-20	≥ 5	NO	NO	7'-6"	14'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
28	115	A & B	C	21-30	21-30	≥ 5	NO	NO	7'-6"	14'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
29	115	A & B	C	31-40	31-40	≥ 5	NO	NO	7'-6"	14'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
30	115	A & B	C	41-50	41-50	≥ 5	NO	NO	7'-6"	14'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
31	115	A & B	C	51-60	51-60	≥ 5	NO	NO	7'-6"	14'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
32	115	A & B	C	61-70	61-70	≥ 5	NO	NO	7'-6"	14'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES

NOTE:-
 1 Top bracket connector design to be provided by "K2". Average Force of top bracket = 1950 kg (4299 lbs). Refer to load report K2 North America Residential Ground Mount Top Cap 3/8" - 16 UNC x 5/8" set screw
 2 If Actual force is greater than Average force, Please contact K2 For special engineering design of Top bracket connection.
 3 TOP bracket connector is reviewed only for the uplift value provided in Report prepared by "K2".
 4 Factor of Safety (FOS) = 1.2
 5 Uplift force of top bracket = 1950 kg, uplift force of top bracket with factor of safety = 1950 kg 1.2 = 1625 kg.
 6 Yield Stress of 3" dia pipe - Fy = 33 ksi & Fu = 58 ksi
 7 Yield Stress of 2.75" dia Helical pipe - Fy = 60 ksi (refer Galvalith Tech Helical Chart)



GM SOLAR SHADE-CHART (ASCE 7-10)- [ARIZONA]

4 - Modules (6.16ft x 3.42ft) w/60cells/panels & 3" dia. SCH 40 Pipe.

JOB NAME → Tyler Wiggins Everest
 JOB NO. → AZ220170

DATE CHECKER →

May 5, 2022
 SAM

SR- No's	Wind Speed (mph)	Seismic Category	Exposure Category	Tilt Angle (Deg.)	Roof Snow Load (psf)	Mean Roof Height (ft)	3" Pipe Tie Brace		3" Pipe SCH 40 Column Spacing		Foundation												Top Bracket Connection by K2 (See note 1,2,3,4,5)							
							Support @ Base Pole Footing	Support @ Base Helical Pile	[S1] (ft-in)	[S2] (ft-in)	Pipe overhang (OH) (ft-in)	Pole Footing Size						Helical Size						Welded Ground Screw (Model No.-5)				Average Uplift force- 1950 kg (1625 kg w/ FOS)		
												Front Column			Rear Column			Front Column			Rear Column			Front Column		Rear Column				
Dia. (D)	Depth (d) (ft)	#5 Reinf. Spacing	Dia. (D)	Depth (d) (ft)	#5 Reinf. Spacing	Shaft Dia. (D) (in)	No's Helix	Helix Dia. (in)	Depth (d) (ft-in)	Shaft Dia. (D) (in)	No's Helix	Helix Dia. (in)	Depth (d) (ft-in)	Dia (in)	Length (in)	Dia (in)	Length (in)													
1	120	A & B	C	05-10	0	≤ 5	NO	NO	7'-6"	14'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
2										14'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
3										14'-0"	0'-6"	2'-0"	3'-6"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
4										12'-0"	0'-6"	2'-0"	3'-6"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
5										10'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
6										9'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
7										8'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
8										8'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
9										13'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
10										13'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
11										12'-0"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
12										10'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
13										9'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
14										8'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
15										8'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
16										8'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
17				13'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES						
18				13'-0"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES						
19				13'-0"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES						
20				12'-0"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES						
21				10'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES						
22				9'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						
23				8'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						
24				8'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						
25				12'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES						
26				12'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES						
27				12'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES						
28				12'-0"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES						
29				10'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	5'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						
30				9'-6"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						
31				8'-6"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						
32				8'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						

NOTE:-
 1 Top bracket connector design to be provided by "K2". Average Force of top bracket = 1950 kg (4299 lbs). Refer to Load test report K2 North America Residential Ground Mount Top Cap 3/8" - 16 UNC x 5/8" set screw
 2 If Actual force is greater than Average force. Please contact K2 For special engineering design of Top bracket connection.
 3 TOP bracket connector is reviewed only for the uplift value provided in Report prepared by "K2"
 4 Factor of Safety (FOS) = 1.2
 5 Uplift force of top bracket = 1950 kg, uplift force of top bracket with factor of safety = 1950 kg/1.2 = 1625 kg
 6 Yield Stress of 3" dia pipe - Fy = 35 ksi & Fu = 58 ksi
 7 Yield Stress of 2-7/8" dia Helical pipe - Fy = 60 ksi (refer Galvalith Tech Helical Chart)



GM SOLAR SHADE-CHART (ASCE 7-16)- [ARIZONA]

4 - Modules (6.16ft x 3.42ft) w/60cells/panels & 3" dia. SCH 40 Pipe.

JOB NAME → Tyler Wiggins Everest
 JOB NO. → AZ220170

DATE CHECKER →

May 5, 2022
 SAM

SR- No's	Wind Speed (mph)	Seismic Category	Exposure Category	Tilt Angle (Deg.)	Roof Snow Load (psf)	Mean Roof Height (ft)	3" Pipe Tie Brace		3" Pipe SCH 40 Column Spacing		Foundation												Top Bracket Connection by K2 (See note 1,2,3,4,5)							
							Support @ Base Pole footing	Support @ Base Helical Pile	[S1] (ft- in)	[S2] (ft- in)	Pole Footing Size			Helical Size			Welded Ground Screw (Model No.-5)		Average Uplift force- 1950 kg (1625 kg w/ FOS)	Length (in)										
											Front Column	Depth (ft)	#5 Reinf. Spacing	Front Column	Depth (ft)	#5 Reinf. Spacing	Front Column	Depth (ft)			Rear Column	Depth (ft)	Rear Column	Length (in)						
1	0				0					19'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
2	1-10				0					18'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
3	11-20				0					14'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
4	21-30				0					12'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
5	31-40				0					10'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
6	41-50				0					9'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
7	51-60				0					8'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
8	61-70				0					8'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
9	0				0					18'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
10	1-10				0					18'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
11	11-20				0					14'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
12	21-30				0					12'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
13	31-40				0					10'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
14	41-50				0					9'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
15	51-60				0					8'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
16	61-70				0					8'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
17	0				0					18'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
18	1-10				0					18'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
19	11-20				0					14'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
20	21-30				0					12'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
21	31-40				0					10'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
22	41-50				0					9'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
23	51-60				0					8'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
24	61-70				0					8'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
25	0				0					17'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
26	1-10				0					16'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
27	11-20				0					14'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
28	21-30				0					12'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
29	31-40				0					10'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
30	41-50				0					9'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
31	51-60				0					8'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
32	61-70				0					8'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES

- NOTE:**
- 1 Top bracket connector design to be provided by K2. Average Force of top bracket = 1950 kg (4299 lbs). Refer to Load test report K2 North America Residential Ground Mount Top Cap 3/8" - 16 UNC x 5/8" set screw
 - 2 If Actual force is greater than Average force. Please contact K2 For special engineering design of Top bracket connection.
 - 3 TOP bracket connector is reviewed only for the uplift value provided in Report prepared by K2.
 - 4 Factor of Safety (FOS) = 1.2
 - 5 Uplift force of top bracket = 1950 kg uplift force of top bracket with factor of safety = 1950 kg/1.2 = 1625 kg.
 - 6 Yield Stns of 3" dia pipe - Fy = 35 ksi & Fu = 58 ksi
 - 7 Yield Stns of 2-7/8" dia Helical pipe - Fy = 60 ksi (refer Galath Tech Helical Chart)



GM SOLAR SHADE-CHART (ASCE 7-16)- [ARIZONA]

4 - Modules (6.16ft x 3.42ft) w/60cells/panels & 3" dia. SCH 40 Pipe.

JOB NAME → Tyler Wiggins Everest
 JOB NO. → AZ220170

DATE CHECKER →

May 5, 2022
 SAM

SR No's	Wind Speed (mph)	Seismic Category	Exposure Category	Tilt Angle (Deg)	Roof Snow Load (psf)	Mean Roof Height (ft)	3" Pipe Tie Brace		3" Pipe SCH 40 Column Spacing		Foundation												Top Bracket Connection by K2 (See note 1,2,3,4,5)							
							Support @ Base Pole Footing	Support @ Base Helical Pile	[S1] (ft-in)	[S2] (ft-in)	Pole Footing Size			Helical Size			Welded Ground Screw (Model No.-5)		Average Uplift force- 1950 kg (1625 kg w/ FOS)											
											Front Column	Depth (d) (ft)	#5 Reinf. Spacing	Front Column	Depth (d) (ft)	#5 Reinf. Spacing	Front Column	Length (in)		Rear Column	Length (in)									
1	105	A & B	C	0	0	≤ 5	NO	NO	7'-6"	17'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
2	105	A & B	C	1-10	11-20	≤ 5	NO	NO	7'-6"	17'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
3	105	A & B	C	21-30	31-40	≥ 5	NO	NO	7'-6"	17'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
4	105	A & B	C	41-50	51-60	≥ 5	NO	NO	7'-6"	17'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
5	105	A & B	C	61-70	8'-0"	≥ 5	NO	NO	7'-6"	17'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
6	110	A & B	C	0	0	≤ 5	NO	NO	7'-6"	16'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
7	110	A & B	C	1-10	11-20	≤ 5	NO	NO	7'-6"	16'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
8	110	A & B	C	21-30	31-40	≥ 5	NO	NO	7'-6"	16'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
9	110	A & B	C	41-50	51-60	≥ 5	NO	NO	7'-6"	16'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
10	110	A & B	C	61-70	8'-0"	≥ 5	NO	NO	7'-6"	16'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
11	115	A & B	C	0	0	≤ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
12	115	A & B	C	1-10	11-20	≤ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
13	115	A & B	C	21-30	31-40	≥ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
14	115	A & B	C	41-50	51-60	≥ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
15	115	A & B	C	61-70	8'-0"	≥ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
16	115	A & B	C	0	0	≤ 5	NO	NO	7'-6"	14'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
17	115	A & B	C	1-10	11-20	≤ 5	NO	NO	7'-6"	14'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
18	115	A & B	C	21-30	31-40	≥ 5	NO	NO	7'-6"	14'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
19	115	A & B	C	41-50	51-60	≥ 5	NO	NO	7'-6"	14'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
20	115	A & B	C	61-70	8'-0"	≥ 5	NO	NO	7'-6"	14'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
21	115	A & B	C	0	0	≤ 5	NO	NO	7'-6"	13'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
22	115	A & B	C	1-10	11-20	≤ 5	NO	NO	7'-6"	13'-0"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
23	115	A & B	C	21-30	31-40	≥ 5	NO	NO	7'-6"	13'-0"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
24	115	A & B	C	41-50	51-60	≥ 5	NO	NO	7'-6"	13'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
25	115	A & B	C	61-70	8'-0"	≥ 5	NO	NO	7'-6"	13'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES

NOTE:-
 1 Top bracket connector design to be provided by "K2". Average Force of top bracket = 1950 kg (4299 lbs). Refer to load report K2 North America Residential Ground Mount Top Cap 3/8" - 16 UNC x 5/8" set screw
 2 If Actual force is greater than Average force, Please contact K2 For special engineering design of Top bracket connection.
 3 TOP bracket connector is reviewed only for the uplift value provided in Report prepared by "K2".
 4 Factor of Safety (FOS) = 1.2
 5 Uplift force of top bracket = 1950 kg, uplift force of top bracket with factor of safety = 1950 kg 1.2 = 1625 kg.
 6 Yield Stress of 3" dia pipe - Fy = 33 ksi & Fu = 58 ksi
 7 Yield Stress of 2-7/8" dia Helical pipe - Fy = 60 ksi (refer Galvalith Tech Helical Chart)



GM SOLAR SHADE-CHART (ASCE 7-16)- [ARIZONA]

4 - Modules (6.16ft x 3.42ft) w/60cells/panels & 3" dia. SCH 40 Pipe.

JOB NAME → Tyler Wiggins Everest
 JOB NO. → AZ220170

DATE CHECKER →

May 5, 2022
 SAM

SR- No's	Wind Speed (mph)	Seismic Category	Exposure Category	Tilt Angle (Deg.)	Roof Snow Load (psf)	Mean Roof Height (ft)	3" Pipe Tie Brace		3" Pipe SCH 40 Column Spacing		Pipe overhang (OH) (ft-in)	Foundation												Top Bracket Connection by K2 (See note 1,2,3,4,5)						
							Support @ Base Pole Footing	Support @ Base Helical Pile	[S1] (ft-in)	[S2] (ft-in)		Pole Footing Size						Helical Size						Welded Ground Screw (Model No.-5)				Average Uplift force- 1950 kg (1625 kg w/ FOS)		
												Front Column			Rear Column			Front Column			Rear Column			Front Column		Rear Column				
Dia. (D) (ft)	Depth (d) (ft)	#5 Reinf. Spacing	Dia. (D) (ft)	Depth (d) (ft)	#5 Reinf. Spacing	Shaft Dia. (D) (in)	No's Helix	Helix Dia. (in)	Depth (d) (ft-in)	Shaft Dia. (D)(in)	No's Helix	Helix Dia. (in)	Depth (d) (ft-in)	Dia (in)	Length (in)	Dia (in)	Length (in)													
1	120	A & B	C	05-10	0	≤ 5	NO	NO	7'-6"	14'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
2										14'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
3										14'-0"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
4										12'-0"	0'-6"	2'-0"	3'-6"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
5										10'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
6										9'-6"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
7										8'-6"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
8										8'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
9										13'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
10										11'-20"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
11										11'-20"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
12										12'-0"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
13										10'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
14										9'-6"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
15										8'-6"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
16										8'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
17				13'-0"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES						
18				11'-20"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES						
19				11'-20"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES						
20				12'-0"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						
21				10'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES						
22				9'-6"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						
23				8'-6"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-0"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES						
24				8'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						
25				12'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES						
26				12'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES						
27				12'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES						
28				12'-0"	0'-6"	2'-0"	3'-6"	8"	2'-0"	5'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						
29				10'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	5'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						
30				9'-6"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						
31				8'-6"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-6"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES						
32				8'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						

NOTE:-
 1 Top bracket connector design to be provided by "K2". Average Force of top bracket = 1950 kg (4299 lbs). Refer to Load test report K2 North America Residential Ground Mount Top Cap 3/8" - 16 UNC x 5.8" set screw
 2 If Actual force is greater than Average force, Please contact K2 For special engineering design of Top bracket connection.
 3 TOP bracket connector is reviewed only for the uplift value provided in Report prepared by "K2"
 4 Factor of Safety (FOS) = 1.2
 5 Uplift force of top bracket = 1950 kg, uplift force of top bracket with factor of safety = 1950 kg/1.2 = 1625 kg
 6 Yield Stress of 3" dia pipe - Fy = 35 ksi & Fu = 58 ksi
 7 Yield Stress of 2-7/8" dia Helical pipe - Fy = 60 ksi (refer Galvalith Tech Helical Chart)



GM SOLAR SHADE-CHART (ASCE 7-10)- [ARIZONA]

4 - Modules (6.16ft x 3.42ft) w/60cells/panels & 3" dia. SCH 40 Pipe.

JOB NAME: Tyler Wiggins Everest
 JOB NO.: AZ20170
 DATE CHECKER: SAM
 May 5, 2022

SR- No's	Wind Speed (mph)	Seismic Category	Exposure Category	Tilt Angle (Deg)	Roof Snow Load (psf)	Mean Roof Height (ft)	3" Pipe Tie Brace		Foundation												Top Bracket Connection by "K2" (see note 1,2,3,4,5)								
							Support @ Base	Support @ Base	Pole Footing Size						Helical Size							Welded Ground Screw (Model No.-5)							
									IS11FR	IS21FR	IS31FR	IS41FR	IS51FR	IS61FR	IS71FR	IS81FR	IS91FR	IS101FR	IS111FR	IS121FR		IS131FR	IS141FR	IS151FR	IS161FR	IS171FR	IS181FR	IS191FR	IS201FR
1	105	A & B	C	05-10	0	≤ 5	NO	NO	7'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
2	105	A & B	C	05-10	1-10	≤ 5	NO	NO	7'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
3	105	A & B	C	05-10	11-20	≤ 5	NO	NO	7'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
4	105	A & B	C	05-10	21-30	≤ 5	NO	NO	7'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
5	105	A & B	C	05-10	31-40	≤ 5	NO	NO	7'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
6	105	A & B	C	05-10	41-50	≤ 5	NO	NO	7'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
7	105	A & B	C	05-10	51-60	≤ 5	NO	NO	7'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
8	105	A & B	C	05-10	61-70	≤ 5	NO	NO	7'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
9	105	A & B	C	05-10	0	≥ 5	NO	NO	7'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
10	105	A & B	C	05-10	1-10	≥ 5	NO	NO	7'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
11	105	A & B	C	05-10	11-20	≥ 5	NO	NO	7'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
12	105	A & B	C	05-10	21-30	≥ 5	NO	NO	7'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
13	105	A & B	C	05-10	31-40	≥ 5	NO	NO	7'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
14	105	A & B	C	05-10	41-50	≥ 5	NO	NO	7'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
15	105	A & B	C	05-10	51-60	≥ 5	NO	NO	7'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
16	105	A & B	C	05-10	61-70	≥ 5	NO	NO	7'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
17	105	A & B	C	05-10	0	≥ 5	NO	NO	7'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
18	105	A & B	C	05-10	1-10	≥ 5	NO	NO	7'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
19	105	A & B	C	05-10	11-20	≥ 5	NO	NO	7'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
20	105	A & B	C	05-10	21-30	≥ 5	NO	NO	7'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
21	105	A & B	C	05-10	31-40	≥ 5	NO	NO	7'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
22	105	A & B	C	05-10	41-50	≥ 5	NO	NO	7'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
23	105	A & B	C	05-10	51-60	≥ 5	NO	NO	7'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
24	105	A & B	C	05-10	61-70	≥ 5	NO	NO	7'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
25	105	A & B	C	05-10	0	≥ 5	NO	NO	7'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
26	105	A & B	C	05-10	1-10	≥ 5	NO	NO	7'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
27	105	A & B	C	05-10	11-20	≥ 5	NO	NO	7'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
28	105	A & B	C	05-10	21-30	≥ 5	NO	NO	7'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
29	105	A & B	C	05-10	31-40	≥ 5	NO	NO	7'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
30	105	A & B	C	05-10	41-50	≥ 5	NO	NO	7'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
31	105	A & B	C	05-10	51-60	≥ 5	NO	NO	7'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
32	105	A & B	C	05-10	61-70	≥ 5	NO	NO	7'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES

NOTE: 1 Top bracket connector design to be provided by "K2". Average Force of top bracket = 1950 kg (4299 lbs). Refer to Load report K2 North America Residential Ground Mount Top Cap 3/8" - 16 UNC x 5/8" set screw
 2 If Actual force is greater than Average force, Please contact K2 For special engineering design of Top bracket connection.
 3 Top bracket connector is reviewed only for the uplift value provided in Report prepared by "K2"
 4 Factor of Safety (FOS) = 1.2
 5 Uplift force of top bracket = 1950 kg, uplift force of top bracket with factor of safety = 1950 kg/1.2 = 1625 kg
 6 Yield Stress of 3" dia pipe - Fy = 35 ksi & Fu = 58 ksi
 7 Yield Stress of 2.75" dia Helical pipe - Fy = 60 ksi (refer Goliath Tech Helical Chart)



GM SOLAR SHADE-CHART (ASCE 7-10)- [ARIZONA]

4 - Modules (6.16ft x 3.42ft) w/60cells/panels & 3" dia. SCH 40 Pipe.

JOB NAME → Tyler Wiggins Everest DATE CHECKER → May 5, 2022
 JOB NO. → AZ20170 SAM

SR. No's	Wind Speed (mph)	Seismic Category	Exposure Category	Tilt Angle (Deg)	Roof Snow Load (psf)	Mean Roof Height (ft)	3" Pipe Tie Brace		3" Pipe SCH 40 Column Spacing		Foundation												Top Bracket Connection by "K2" (see note 1,2,3,4,5)							
							Support @ Base	Support @ Base	IS11 ft	IS21 ft	Pole Footing Size						Helical Size						Welded Ground Screw (Model No.-5)		Average Uplift force- 1950 kg (1625 kg w/ FOS)					
											Front Column	Rear Column	Front Column	Rear Column	Front Column	Rear Column	Front Column	Rear Column	Front Column	Rear Column										
1	120	A & B	C	05-10	0	≤ 5	NO	NO	7'-6"	15'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	9'-0"	2'-7/8"	2	8	9'-0"	4.5	80	4.5	80	YES
2										17'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	9'-0"	2'-7/8"	2	8	9'-0"	4.5	80	4.5	80	YES
3										16'-6"	0'-6"	2'-0"	3'-6"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
4										13'-6"	0'-6"	2'-0"	3'-6"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
5										12'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
6										11'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
7										10'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
8										9'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
9										16'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
10										16'-0"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-0"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
11										16'-0"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-0"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
12										13'-6"	0'-6"	2'-6"	3'-6"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
13										12'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
14										11'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
15										10'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
16										9'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
17										15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
18										15'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
19										15'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
20										13'-6"	0'-6"	2'-6"	3'-6"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
21										12'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
22										11'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
23										10'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
24										9'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
25										14'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
26										14'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
27										14'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
28										13'-6"	0'-6"	2'-6"	3'-6"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
29										12'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
30										11'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
31										10'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
32										9'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES

NOTE:
 1 Top bracket connector design to be provided by "K2". Average Force of top bracket = 1950 kg (4299 lbs). Refer to Load test report K2 North America Residential Ground Mount Top Cap 3/8" - 16 UNC x 5/8" set screw
 2 If Actual force is greater than Average force, Please contact K2 For special engineering design of Top bracket connection.
 3 TOP bracket connector is reviewed only for the uplift value provided in Report prepared by "K2".
 4 Factor of Safety (FOS) = 1.2
 5 Uplift force of top bracket = 1950 kg, uplift force of top bracket with factor of safety = 1950 kg 1.2 = 1625 kg.
 6 Yield Stress of 3" dia pipe - Fy = 33 ksi & Fu = 58 ksi
 7 Yield Stress of 2.7/8" dia Helical pipe - Fy = 60 ksi (refer Galath Tech Helical Chart)



GM SOLAR SHADE-CHART (ASCE 7-16)- [ARIZONA]

4 - Modules (6.16ft x 3.42ft) w /60cells/panels & 3" dia. SCH 40 Pipe.

JOB NAME: Tyler Wiggins Everest
 JOB NO.: AZ220170
 DATE CHECKER: →
 May 5, 2022 SAM

SR- No's	Wind Speed (mph)	Seismic Category	Exposure Category	Tilt Angle (Deg)	Roof Snow Load (psf)	Mean Roof Height (ft)	3" Pipe Tie Brace		3" Pipe SCH 40 Column Spacing		Foundation												Top Bracket Connection by "K2" (see note 1,2,3,4,5)										
							Support @ Base Pole Footing	Support @ Base Helical Pile	[S1] (ft-in)	[S2] (ft-in)	Pole Footing Size			Helical Size						Welded Ground Screw (Model No.-5)													
											Front Column	Rear Column	#5 Reinf. Spacing	Front Column	Rear Column	No's Helix	Helix Dia. (in)	Depth (d) (ft-in)	Shaft Dia. (D)(in)	No's Helix	Helix Dia. (in)	Depth (d) (ft-in)		Front Column	Rear Column	Length (in)							
1	0	A & B	C	05-10	0	≤ 5	NO	NO	7'-6"	21'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-0"	8"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES			
2	20'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-0"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
3	16'-6"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
4	13'-6"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
5	12'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
6	11'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
7	10'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
8	9'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
9	20'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
10	16'-6"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
11	13'-6"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
12	12'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
13	11'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
14	10'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
15	9'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
16	20'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
17	16'-6"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
18	13'-6"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
19	12'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
20	11'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
21	10'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
22	9'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
23	20'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
24	16'-6"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
25	13'-6"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
26	12'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
27	11'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
28	10'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
29	9'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
30	20'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
31	16'-6"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
32	13'-6"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
1	0	A & B	C	11-15	0	≤ 5	NO	NO	7'-6"	21'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-0"	8"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES			
2	20'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-0"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
3	16'-6"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
4	13'-6"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
5	12'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
6	11'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
7	10'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
8	9'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
9	20'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
10	16'-6"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
11	13'-6"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
12	12'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
13	11'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
14	10'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
15	9'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
16	20'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
17	16'-6"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
18	13'-6"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
19	12'-0"									0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"												



GM SOLAR SHADE-CHART (ASCE 7-16)- [ARIZONA]

4 - Modules (6.16ft x 3.42ft) w/60cells/panels & 3" dia. SCH 40 Pipe.

JOB NAME: Tyler Wiggins Everest
 JOB NO.: AZ220170
 DATE CHECKER: →
 May 5, 2022 SAM

SR No's	Wind Speed (mph)	Seismic Category	Exposure Category	Tilt Angle (Deg)	Roof Snow Load (psf)	Mean Roof Height (ft)	3" Pipe Tie Brace		3" Pipe SCH 40 Column Spacing		Foundation														Top Bracket Connection by "K2" (see note 1,2,3,4,5)					
							Support @ Base Pole footing	Support @ Base Helical Pile	[S1] (ft-in)	[S2] (ft-in)	Pole Footing Size						Helical Size													
											Front Column			Rear Column			Front Column				Rear Column					Welded Ground Screw (Model No.-5)				
							Di. (D) (ft)	Depth (d) (ft)	#5 Reinf. Spacing	Di. (D) (ft)	Depth (d) (ft)	#5 Reinf. Spacing	Shaft Dia. (D) (in)	No's Helix	Helix Dia. (in)	Depth (d) (ft-in)	Shaft Dia. (D) (in)	No's Helix	Helix Dia. (in)	Depth (d) (ft-in)	Di. (in)	Length (in)	Di. (in)	Length (in)		Average Uplift force: 1950 kg (1625 kg w/ FOS)				
1	105	A & B	C	0	0	≤ 5	NO	NO	7'-6"	19'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
2	105	A & B	C	1-10	11-20	≤ 5	NO	NO	7'-6"	19'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
3	105	A & B	C	21-30	31-40	≤ 5	NO	NO	7'-6"	19'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
4	105	A & B	C	41-50	51-60	≤ 5	NO	NO	7'-6"	19'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
5	105	A & B	C	61-70	9'-0"	≥ 5	NO	NO	7'-6"	19'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
6	110	A & B	C	0	0	≤ 5	NO	NO	7'-6"	17'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
7	110	A & B	C	1-10	11-20	≤ 5	NO	NO	7'-6"	17'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
8	110	A & B	C	21-30	31-40	≤ 5	NO	NO	7'-6"	17'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
9	110	A & B	C	41-50	51-60	≤ 5	NO	NO	7'-6"	17'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
10	110	A & B	C	61-70	9'-0"	≥ 5	NO	NO	7'-6"	17'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
11	110	A & B	C	0	0	≤ 5	NO	NO	7'-6"	17'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
12	110	A & B	C	1-10	11-20	≤ 5	NO	NO	7'-6"	17'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
13	110	A & B	C	21-30	31-40	≤ 5	NO	NO	7'-6"	17'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
14	110	A & B	C	41-50	51-60	≤ 5	NO	NO	7'-6"	17'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
15	110	A & B	C	61-70	9'-0"	≥ 5	NO	NO	7'-6"	17'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
16	115	A & B	C	0	0	≤ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
17	115	A & B	C	1-10	11-20	≤ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
18	115	A & B	C	21-30	31-40	≤ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
19	115	A & B	C	41-50	51-60	≤ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
20	115	A & B	C	61-70	9'-0"	≥ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
21	115	A & B	C	0	0	≤ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
22	115	A & B	C	1-10	11-20	≤ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
23	115	A & B	C	21-30	31-40	≤ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
24	115	A & B	C	41-50	51-60	≤ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
25	115	A & B	C	61-70	9'-0"	≥ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
26	115	A & B	C	0	0	≤ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
27	115	A & B	C	1-10	11-20	≤ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
28	115	A & B	C	21-30	31-40	≤ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
29	115	A & B	C	41-50	51-60	≤ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
30	115	A & B	C	61-70	9'-0"	≥ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
31	115	A & B	C	0	0	≤ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
32	115	A & B	C	1-10	11-20	≤ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2'-7/8"	1	10	9'-0"	2'-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES
33	115	A & B	C	21-30	31-40	≤ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2'-7/8"	2	8	7'-6"	2'-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
34	115	A & B	C	41-50	51-60	≤ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
35	115	A & B	C	61-70	9'-0"	≥ 5	NO	NO	7'-6"	15'-6"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2'-7/8"	2	10	9'-0"	2'-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES

NOTE:-
 1 Top bracket connector design to be provided by "K2". Average Force of top bracket = 1950 kg (4299 lbs). Refer to Load report K2 North America Residential Ground Mount Top Cap 3/8" - 16 UNC x 5/8" set screw
 2 If Actual force is greater than Average force. Please contact K2 For special engineering design of Top bracket connection.
 3 TOP bracket connector is reviewed only for the uplift value provided in Report prepared by "K2".
 4 Factor of Safety (FOS) = 1.2
 5 Uplift force of top bracket = 1950 kg, uplift force of top bracket with factor of safety = 1950 kg 1.2 = 1625 kg.
 6 Yield Stress of 3" dia pipe - Fy = 33 ksi & Fu = 58 ksi
 7 Yield Stress of 2.7/8" dia Helical pipe - Fy = 60 ksi (refer Galvalith Tech Helical Chart)



GM SOLAR SHADE-CHART (ASCE 7-16)- [ARIZONA]

4 - Modules (6.16ft x 3.42ft) w/60cells/panels & 3" dia. SCH 40 Pipe.

JOB NAME → Tyler Wiggins Everest
JOB NO. → AZ220170

DATE CHECKER →

May 5, 2022
SAM

SR- No's	Wind Speed (mph)	Seismic Category	Exposure Category	Tilt Angle (Deg.)	Roof Snow Load (psf)	Mean Roof Height (ft)	3" Pipe Tie Brace		3" Pipe SCH 40 Column Spacing		Pipe overhang (OH) (ft-in)	Foundation												Top Bracket Connection by "K2" (see note 1,2,3,4,5)										
							Support @ Base Pole footing	Support @ Base Helical Pile	[S1] (ft-in)	[S2] (ft-in)		Pole Footing Size						Helical Size							Welded Ground Screw (Model No.-5)									
												Front Column	Depth (d) (ft)	#5 Reinf. Spacing	Rear Column	Depth (d) (ft)	#5 Reinf. Spacing	Front Column	Helix Dia. (in)	Depth (d) (ft-in)	Shaft Dia. (D) (in)	No's Helix	Helix Dia. (in)		Depth (d) (ft-in)	Front Column	Rear Column	Length (in)	Length (in)					
1	120	A & B	C	05-10	0	≤ 5	NO	NO	7'-6"	17'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	1	10	9'-0"	2-7/8"	1	10	9'-0"	4.5	80	4.5	80	YES				
2										17'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
3										15'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
4										13'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	3'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
5										12'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
6										11'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
7										10'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
8										9'-0"	0'-6"	2'-6"	3'-0"	8"	2'-6"	3'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
9										16'-0"	0'-6"	2'-0"	3'-0"	8"	2'-0"	3'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
10										16'-0"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
11										16'-0"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES
12										13'-6"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
13										12'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
14										11'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
15										10'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
16										9'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES
17				15'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES						
18				15'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	4'-6"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES						
19				13'-6"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						
20				12'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-0"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						
21				11'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						
22				10'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						
23				9'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						
24				14'-6"	0'-6"	2'-0"	3'-0"	8"	2'-0"	4'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES						
25				14'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	5'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES						
26				14'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	5'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES						
27				14'-6"	0'-6"	2'-0"	3'-6"	8"	2'-0"	5'-0"	8"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	2-7/8"	2	8	7'-6"	4.5	80	4.5	80	YES						
28				13'-6"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						
29				12'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						
30				11'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						
31				10'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						
32				9'-0"	0'-6"	2'-6"	3'-6"	8"	2'-6"	4'-6"	8"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	2-7/8"	2	10	9'-0"	4.5	80	4.5	80	YES						

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