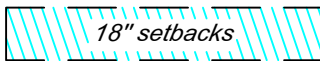
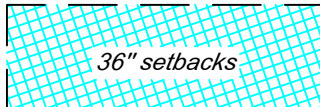


EQUIPMENT INFORMATION	
72 (N) Trina Vertex 620W Modules (TSM-NEG19RC.20) (Page D1)	
72 (N) TIGO TS4-A-O OPTIMIZERS (Page D2)	
1	1 (N) Junction-Box
2	3 (N) Growatt 11.4kW Inverters (MIN 11400TL-XH-US) (Page D3) (120/240V)
3	1 (N) 200A PV Load Center (120/240V)
4	1 (N) 200A Visible Lockable Labeled Fused AC Disconnect within 10 feet from the Utility Meter (120/240V)
5	2 (E) 200A Main Service Panel (120/240V) (Inside The Building)
6	1 (E) 400A AC Fused Disconnect (120/240V)
7	(E) Utility Meter (120/240V)
A	25 (N) Trina Vertex 620W Modules / 25 Tigo Optimizers, Array Pitch14° / Az. 250°
B	14 (N) Trina Vertex 620W Modules / 14 Tigo Optimizers, Array Pitch18° / Az. 250°
C	9 (N) Trina Vertex 620W Modules / 9 Tigo Optimizers, Array Pitch18° / Az. 250°
D	15 (N) Trina Vertex 620W Modules / 15 Tigo Optimizers, Array Pitch10° / Az. 160°
E	9 (N) Trina Vertex 620W Modules / 9 Tigo Optimizers, Array Pitch10° / Az. 160°

PV SOLAR COVERED AREA CALCULATION	
TOTAL SOLAR AREA (sqft)	2088
TOTAL ROOF AREA (sqft)	8200
% OF COVERED AREA	25.5



Roof access is not located in areas that require placement of ground ladders over exterior wall openings CRC R331.4.1.

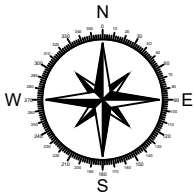
EQUIPMENT ELEVATION	
South West Wall	Inside The Building

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Burbank, CA 91502
(724) 580-1398
new@engineeringinc.io

ENGINEERING INC
Texas Registered Engineering Firm F-23108
Registration Expiration 12/31/2025
303 N. Glenoaks Blvd, Suite 200,
Burbank, CA 91502

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Texas.
License No. 150135, Expiration Date: 09/30/2026

Digitally signed
by David Lee
.Mordan Jr
Date: 2025.12.03
'11:02:58 -08'00



Project Name	Project Address	Project Description	Contractor	Address & Phone Number	Contractor Logo	Signature	NABCEP CERTIFIED	Drawn By: Unique Solar Design	General Notes	
SPCA of Polk County	802 S Houston Ave Livingston, TX 77351	44.64KW DC Roof Mounted PV Electrical System 72-Trina Vertex 620W PV Modules 3 - Growatt 11.4kW Inverters	Sunshine Renewable Solutions TECL: #33531, PV-102117017952 Electrician #500043	4011 Valley Green Ct., Houston, TX 77059 sunshinerenewable.com info@sunshinerenewable.com Phone Number: 832-280-8838					Date NOVEMBER 21, 2025 Scale AS INDICATED Project PV SYSTEM	SHEET SIZE 11" X 17" ANSI B SHEET NUMBER PV1

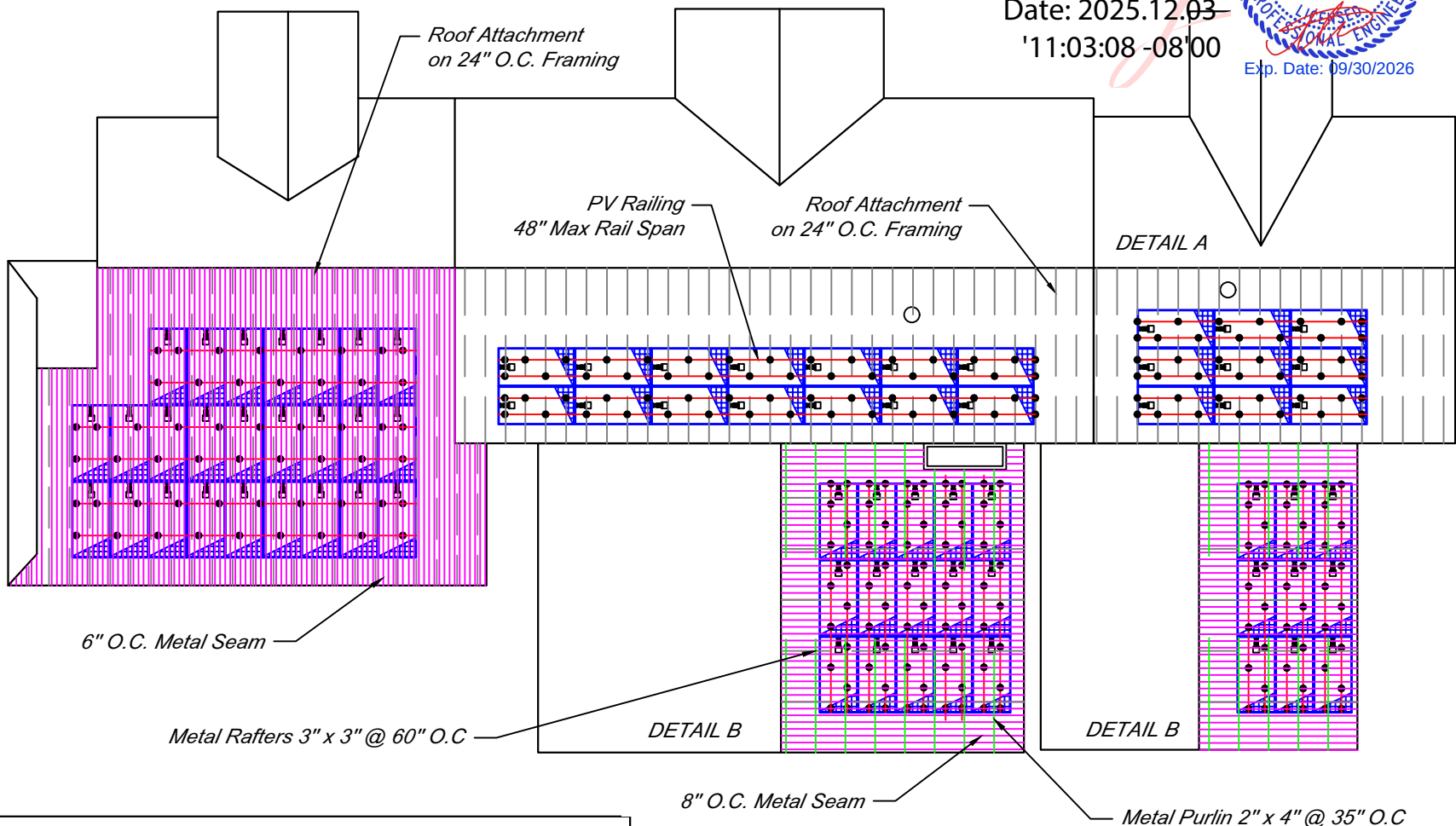
ENGINEERING INC

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Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Texas. License No. 150135, Expiration Date: 09/30/2026

ENGINEERING INC
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Digitally signed
by David Lee
.Mordan Jr
Date: 2025.12.03
'11:03:08 -08'00



DETAIL A

DETAIL B

DETAIL B

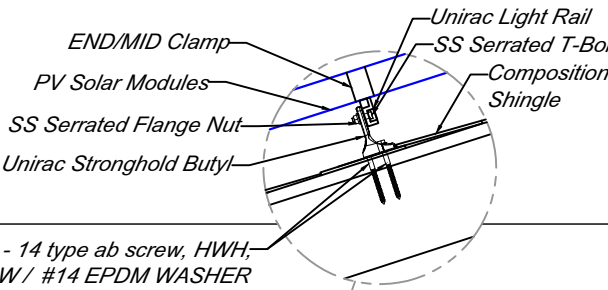
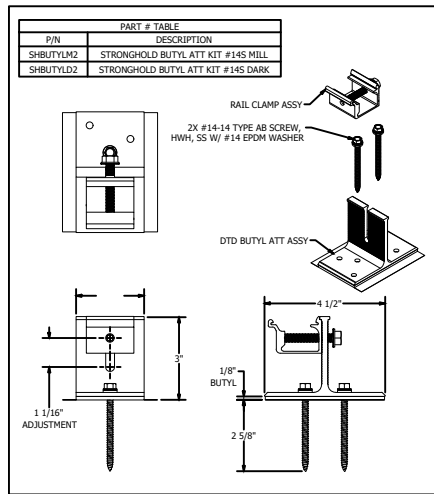
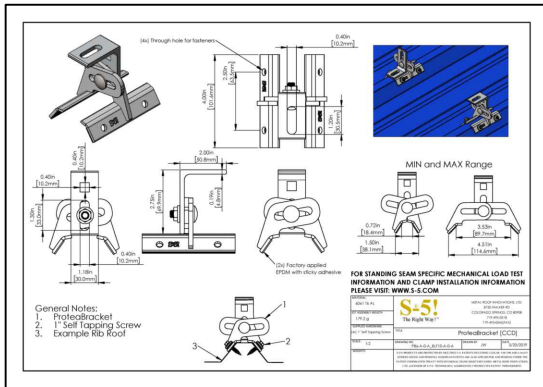
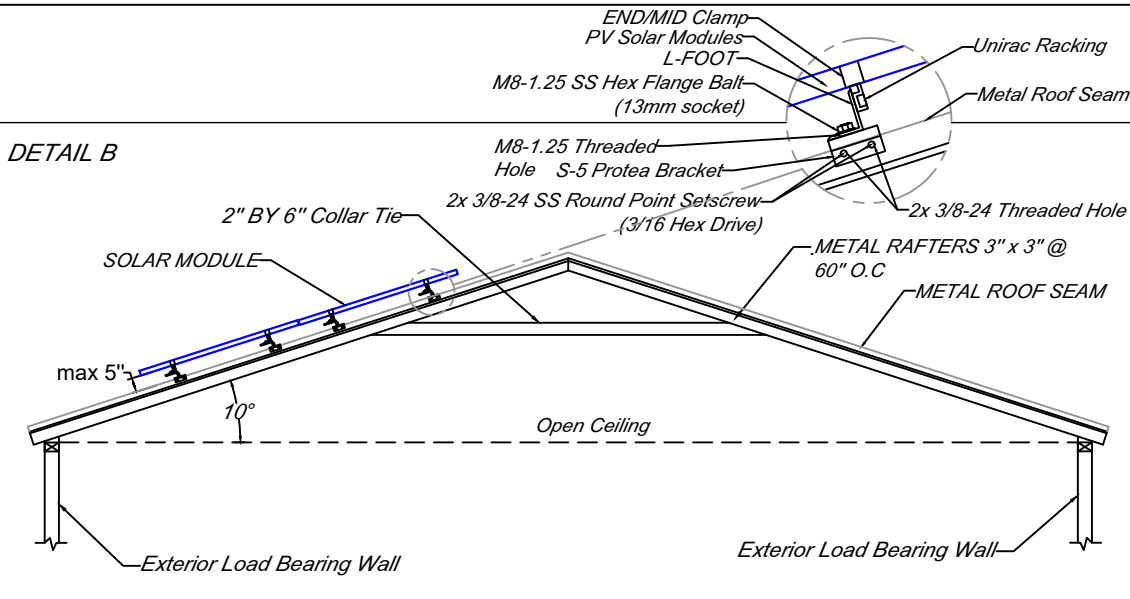
SYSTEM MECHANICAL CALCULATIONS FOR HOUSE

PV SOLAR MODULE WEIGHT (lbs)	74.3
PV SOLAR MODULE QUANTITY	72
PV SOLAR ARRAY WEIGHT (lbs)	5349.6
RSD WEIGHT (lbs)	100.8
PV SOLAR RACKING WEIGHT (lbs)	1069.9
TOTAL SYSTEM WEIGHT (lbs)	6520.3
SOLAR ATTACHMENT QUANTITY	265
PV SOLAR ARRAY WEIGHT PER ATTACHMENT (lbs)	24.6
SOLAR ARRAY DEAD LOAD (lbs/ft ²)	3.12
TOTAL SOLAR AREA (sqft)	2088
TOTAL ROOF AREA (sqft)	8200
% OF COVERED AREA	25.5
WIND SPEED (mph) FOR EXPOSURE C	141
SNOW LOAD (psf)	0

SYSTEM MECHANICAL DETAILS

MOUNTING RAIL TYPE	UNIRAC LIGHT RAIL
ATTACHMENT TYPE	UNIRAC STRONGHOLD BUTYL S-5 PROTEA BRACKET
ROOF FRAMING	RAFTERS 2" x 6" @ 24" O.C RAFTERS 3" x 3" @ 60" O.C
ATTACHMENT SPACING	48" MAX STAGGERED
FINISHED ROOF SURFACE IS ONE LAYER OF	COMPOSITION SHINGLE CORRUGATED METAL
ROOF SHEATHED WITH 1/2" PLYWOOD AND UPPER SURFACE IS FACED WITH FELT PAPER.	

DETAIL B



DETAIL A

Project Name	Project Address	Project Description	Contractor	Address & Phone Number	Contractor Logo	Signature	General Notes
SPCA of Polk County	802 S Houston Ave Livingston, TX 77351	44.64KW DC Roof Mounted PV Electrical System 72-Trina Vertex 620W PV Modules 3 - Growatt 11.4kW Inverters	Sunshine Renewable Solutions TECL: #33531, PV-102117017952 Electrician #500043	4011 Valley Green Ct., Houston, TX 77059 sunshinerenewable.com info@sunshinerenewable.com Phone Number: 832-280-8838			Drawn By: Unique Solar Design Date: NOVEMBER 21, 2025 Scale: AS INDICATED Project: PV SYSTEM SHEET SIZE 11" X 17" ANSI B SHEET NUMBER PV4