NEW PV SYSTEM: 149.060 kW DC, 100.000 kW AC
PROPERTY OWNER: 25-0355 PUYALLUP PUBLIC LIBRARY
324 S MERIDIAN, PUYALLUP, WA 98371

GENERAL NOTES

1.1.1 **PROJECT NOTES:**

1.1.2 THIS PHOTOVOLTAIC (PV) SYSTEM SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE (NEC) ARTICLE 690, ALL MANUFACTURERS'S LISTING AND INSTALLATION INSTRUCTIONS, AND THE RELEVANT CODES AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION'S (AHJ) APPLICABLE CODES.

1.1.3 THE UTILITY INTERCONNECTION APPLICATION MUST BE APPROVED AND PV SYSTEM INSPECTED PRIOR TO PARALLEL OPERATION

1.1.4 ALL PV SYSTEM COMPONENTS; MODULES, UTILITY-INTERACTIVE INVERTERS, AND SOURCE CIRCUIT COMBINER BOXES ARE IDENTIFIED AND LISTED FOR USE IN PHOTOVOLTAIC SYSTEMS AS REQUIRED BY NEC 690.4: **PV MODULES:** UL1703, IEC61730, AND IEC61215, AND NFPA 70 CLASS C FIRE **INVERTERS:** UL 1741 CERTIFIED, IEEE 1547, 929, 519 **COMBINER BOX(ES):** UL 1703 OR UL 1741 ACCESSORY

1.1.5 MAX DC VOLTAGE CALCULATED USING MANUFACTURER PROVIDED TEMP COEFFICIENT FOR VOC. IF UNAVAILABLE, MAX DC VOLTAGE CALCULATED ACCORDING TO NEC 690.7.

1.1.6 ALL INVERTERS, PHOTOVOLTAIC MODULES, PHOTOVOLTAIC PANELS, AND SOURCE CIRCUIT COMBINERS INTENDED FOR USE IN A PHOTOVOLTAIC POWER SYSTEM WILL BE IDENTIFIED AND LISTED FOR THE APPLICATION PER 690.4 (D). SHALL BE INSTALLED ACCORDING TO ANY INSTRUCTIONS FROM LISTING OR LABELING [NEC 110.3].

1.1.7 ALL SIGNAGE TO BE PLACED IN ACCORDANCE WITH LOCAL BUILDING CODE. IF EXPOSED TO SUNLIGHT, IT SHALL BE UV RESISTANT. ALL PLAQUES AND SIGNAGE WILL BE INSTALLED AS REQUIRED BY THE NEC AND AHJ.

1.2.1 **SCOPE OF WORK:**

1.2.2 PRIME CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND SPECIFICATIONS OF THE GRID-TIED PHOTOVOLTAIC SYSTEM RETROFIT. PRIME CONTRACTOR WILL BE RESPONSIBLE FOR COLLECTING EXISTING ONSITE REQUIREMENTS TO DESIGN, SPECIFY, AND INSTALL THE EXTERIOR ROOF-MOUNTED PORTION OF THE PHOTOVOLTAIC SYSTEMS DETAILED IN THIS DOCUMENT.

1.3.1 **WORK INCLUDES:**

1.3.2 PV ROOF ATTACHMENTS - S-5!: S-5-U

1.3.3 PV RACKING SYSTEM INSTALLATION - SUNMODO: HR150

1.3.4 PV MODULE AND INVERTER INSTALLATION - SIL-580 XM+/SE100KUS (480V)

1.3.5 PV EQUIPMENT GROUNDING - EXISTING GROUND ROD, ARRAY FRAME TO #6 AWG SOLID CU

1.3.6 PV SYSTEM WIRING

1.3.7 PV LOAD CENTERS (IF INCLUDED)

1.3.8 PV METERING/MONITORING (IF INCLUDED)

1.3.9 PV DISCONNECTS (IF INCLUDED)

1.3.10 PV FINAL COMMISSIONING

1.3.11 (E) ELECTRICAL EQUIPMENT RETROFIT FOR PV

1.3.12 SIGNAGE PLACED IN ACCORDANCE WITH LOCAL BUILDING CODE

SYSTEM SPECIFICATIONS

SYSTEM SIZE:	149.060 kW DC, 100.000 kW AC
	(257) SILFAB: SIL-580 XM+, 580W
	(1) SOLAREDGE: SE100KUS (480V) INVERTER
	(257) ENPHASE C651U
ATTACHMENT TYPE:	S-5!: S-5-U
MSP UPGRADE:	NO
MCB DOWNSIZE:	NO

PROJECT INFORMATION

CUSTOMER INFO

PROPERTY OWNER:	25-0355 PUYALLUP PUBLIC LIBRARY
ACCOUNT HOLDER:	25-0355 PUYALLUP PUBLIC LIBRARY

PROJECT MANAGER

NAME:	SAM ELLINGER
PHONE:	509-312-1617

CONTRACTOR

NAME:	ELLENSBURG SOLAR LLC
PHONE:	509-929-2728

AUTHORITIES HAVING JURISDICTION

BUILDING:	CITY OF PUYALLUP
ZONING:	CITY OF PUYALLUP

DESIGN SPECIFICATIONS

RISK CATEGORY:	II
CONSTRUCTION:	COMMERCIAL
ZONING:	COMMERCIAL
GROUND SNOW LOAD:	20 PSF
WIND EXPOSURE:	B
WIND SPEED:	115 MPH

APPLICABLE CODES & STANDARDS

BUILDING:	2021 IBC
ELECTRICAL:	NEC 2023

Separate Electrical Permit is required with the Washington State Department of Labor & Industries.
https://lni.wa.gov/licensing-permits/electrical/electrical-permits-fees-and-inspections
or call for Licensing Information:
1-800-647-0982

AERIAL PHOTO

SHEET CATALOG

Approval of submitted plans is not an approval of omissions or oversights by this office or non compliance with any applicable regulations of local government. The contractor is responsible for making sure that the building complies with all applicable codes and regulations of the local government.

The approved construction plans, documents, and all engineering must be posted on the job at all inspections in a visible and readily accessible location.

Full sized legible color plans are required to be provided by the permitee on site for inspection.

City of Puyallup
Building
REVIEWED FOR COMPLIANCE
SKinnear
08/06/2026
4:26:43 PM

CONTRACTOR
ELLENSBURG SOLAR LLC
PHONE: 509-929-2728
ADDRESS: 961 STRANDE ROAD
ELLENSBURG, WA 98926
LIC. NO.: ELLENSL864RR

NEW PV SYSTEM:
149.060 kW DC
100.000 kW AC
PROPERTY OWNER:
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324 S MERIDIAN
PUYALLUP, WA 98371
APN:5745001180, 5745001190, 5745001200, 5745001210, 5745001220

ENGINEER OF RECORD

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

PRSOL20261128

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www.baruncorp.com

DATE: 7/12/2026
DESIGN BY: OM
CHECKED BY: EV

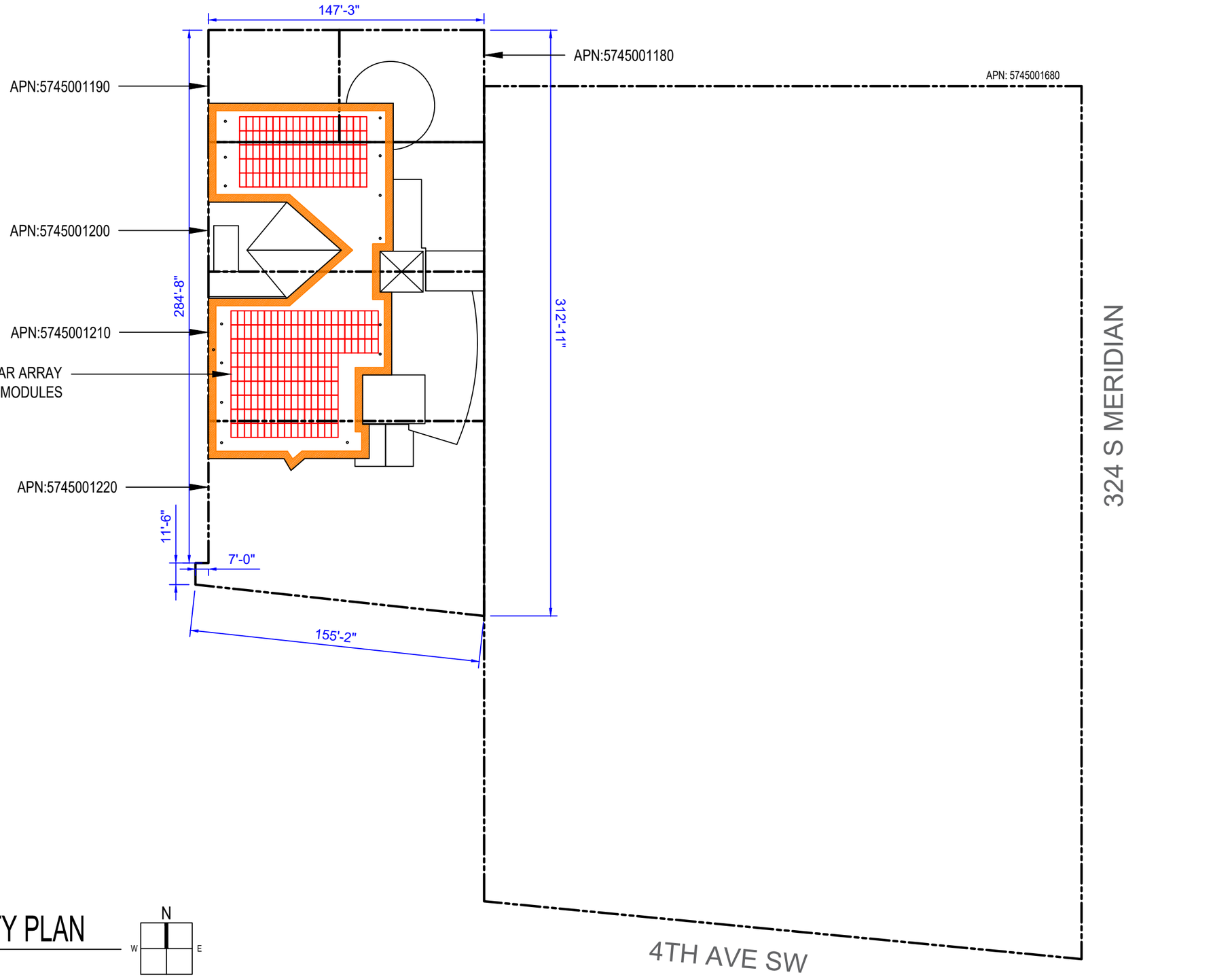
COVER SHEET
(PAGE T-001)

GENERAL NOTES

1. FIELD VERIFY ALL MEASUREMENTS
2. ITEMS BELOW MAY NOT BE ON THIS PAGE

LEGEND

- PROPERTY LINE
- PROPERTY DIMENSIONS
- PV MODULE
- ROOF OBSTRUCTION
- FIRE SETBACK



01 PROPERTY PLAN

SCALE: 1/50" = 1'-0"

N / W / E / S

NOTE: ADDITIONAL NEIGHBORING PARCELS NOT DEPICTED

SOLAR

CONTRACTOR

ELLENSBURG SOLAR LLC

PHONE: 509-929-2728

ADDRESS: 961 STRANDE ROAD
ELLENSBURG, WA 98926

LIC. NO.: ELLENSL864RR

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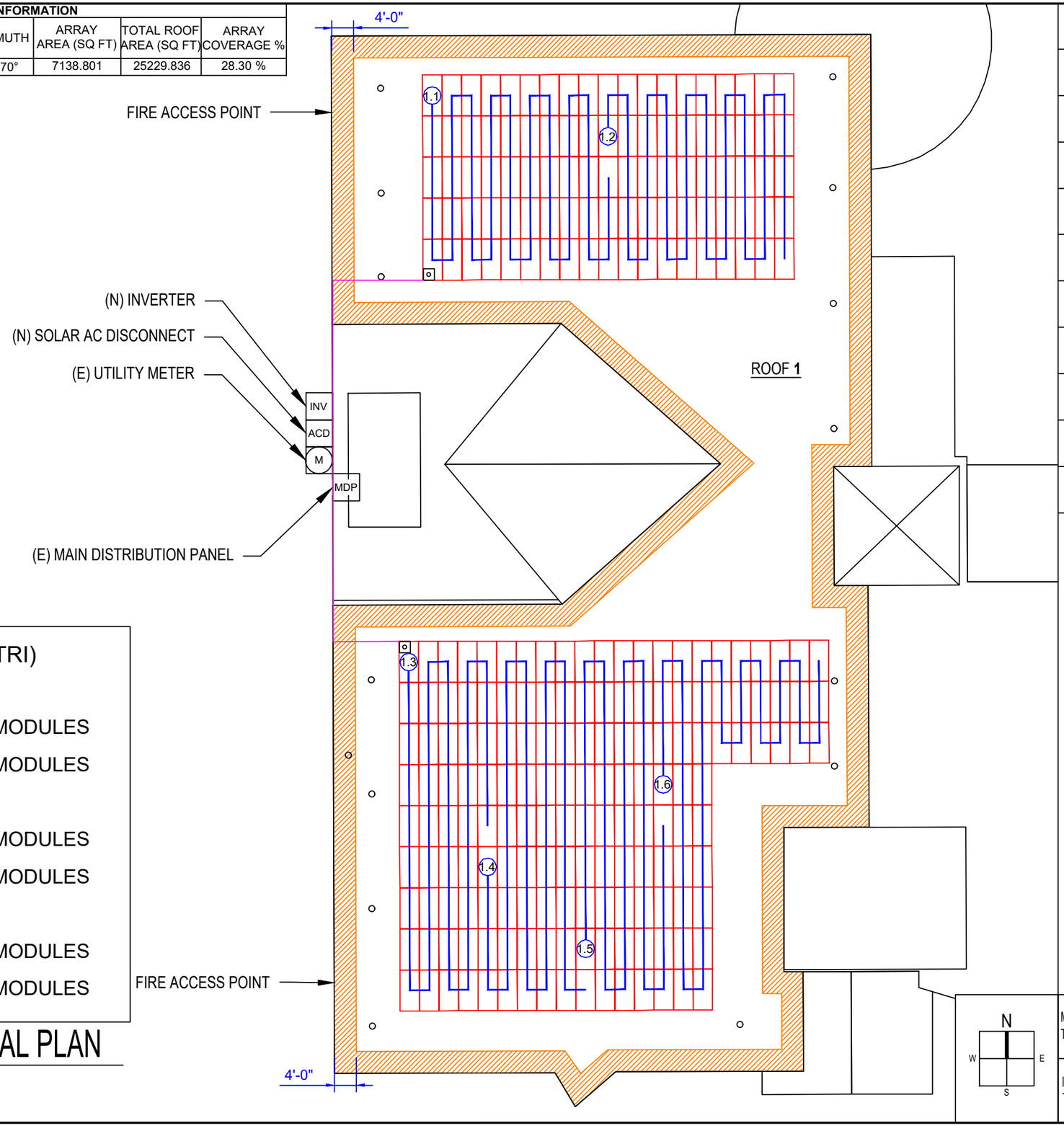
PROPERTY PLAN
(PAGE A-100)

ROOF INFORMATION

ROOF NO.	MODULES QTY.	ROOF PITCH	ARRAY TILT	AZIMUTH	ARRAY AREA (SQ FT)	TOTAL ROOF AREA (SQ FT)	ARRAY COVERAGE %
1	257	18°	0°	270°	7138.801	25229.836	28.30 %



1 SE100KUS (SE-TRI)

Center:

- 1.1 48 x C651U, 48 MODULES
- 1.2 47 x C651U, 47 MODULES

Left:

- 1.3 41 x C651U, 41 MODULES
- 1.4 41 x C651U, 41 MODULES

Right:

- 1.5 40 x C651U, 40 MODULES
- 1.6 40 x C651U, 40 MODULES

LEGEND

M	UTILITY METER
MDP	MAIN DISTRIBUTION PANEL
INV	INVERTER
ACD	AC DISCONNECT
	JUNCTION BOX
	PV MODULE AND C651U
	ROOF OBSTRUCTION
	PV STRING INDICATOR
	CONDUIT
	FIRE SETBACK

GENERAL NOTES

1. FIELD VERIFY ALL MEASUREMENTS
2. ITEMS BELOW MAY NOT BE ON THIS PAGE

N / W / E / S

MODULE TYPE & QTY.	(257) SILFAB SIL-580 XM+ 580W
INVERTER TYPE & QTY.	(1) SOLAREDGE SE100KUS (480V)

01 **ELECTRICAL PLAN**

SCALE: 1/20" = 1'

CONTRACTOR

ELLENSBURG SOLAR LLC

PHONE: 509-929-2728

ADDRESS: 961 STRANDE ROAD
ELLENSBURG, WA 98926

LIC. NO.: ELLENSL864RR

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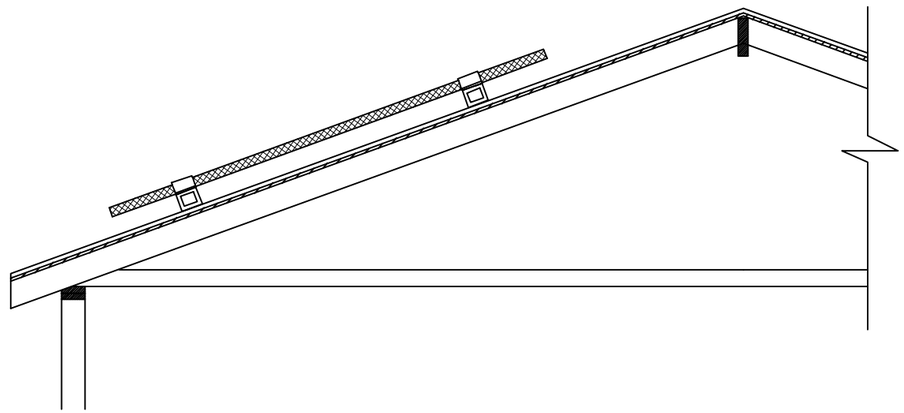
ELECTRICAL PLAN
(PAGE A-101)

STRUCTURAL INFORMATION

ROOF MATERIAL: STANDING SEAM METAL ROOF
ATTACHMENT TYPE: S-5! S-5-U
MODULE MANUFACTURER: SILFAB
MODULE MODEL: SIL-580 XM+
MODULE LENGTH: 89.685 IN.
MODULE WIDTH: 44.60 IN.
MODULE WEIGHT: 62.8 LBS.
PV MODULES TOTAL WEIGHT: 16139.6 LBS.
(SEE RESOURCE SHEET FOR FULL DIMENSION(S))
RAIL MANUFACTURER (OR EQUIV.): SUNMODO
RAIL MODEL (OR EQUIVALENT): HR150
GAP BETWEEN MODULES: 0.5 IN.

STRUCTURAL SIDE VIEW DETAILS

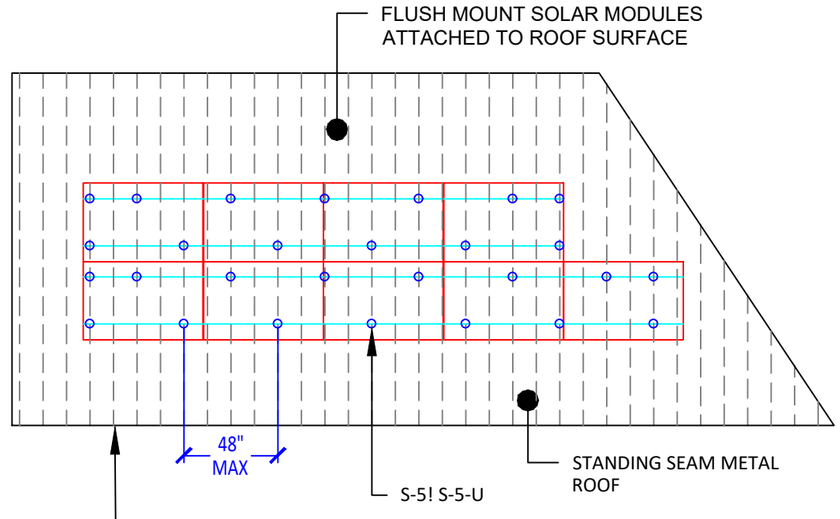


ATTACHMENT PENETRATION GUIDE FOR INSTALL

LEGEND

- PV Standoff
- PV Module
- Rail (Racking)

NOTE:
THIS IS A GENERIC ATTACHMENT LAYOUT.
IT IS INTENDED TO ILLUSTRATE ATTACHMENT AND RAIL SCHEDULE ONLY.
IT DOES NOT REFLECT THE ACTUAL LAYOUT OF THE PV PANELS.



01 ATTACHMENT PLAN
SCALE: NTS

CONTRACTOR
ELLENSBURG SOLAR LLC
PHONE: 509-929-2728
ADDRESS: 961 STRANDE ROAD
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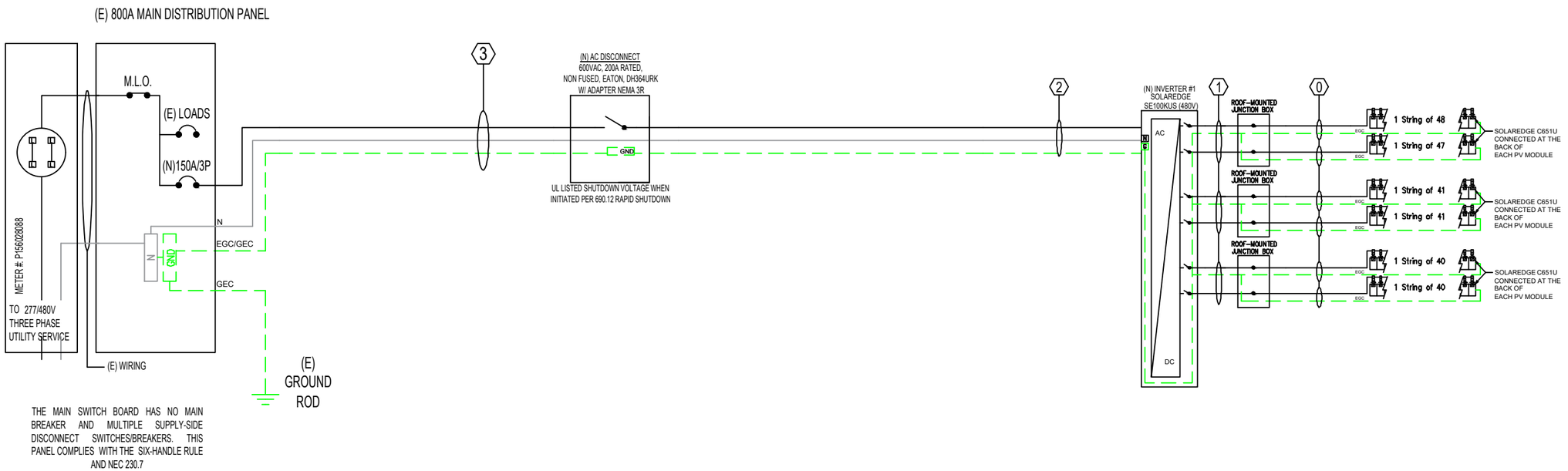
ATTACHMENT PLAN
(PAGE A-102)

PV EQUIPMENTS		ADDITIONAL NOTES	
NEW 149.060 KW PV ARRAY (257) SIL-580 XM+, 580W PV MODULES (1) SOLAREDGE SE100KUS (480V) INVERTER (257) ENPHASE C651U		1. SEE RESOURCE SHEETS FOR COMPONENT TECHNICAL DATA	



THE MAIN SWITCH BOARD HAS NO MAIN BREAKER AND MULTIPLE SUPPLY-SIDE DISCONNECT SWITCHES/BREAKERS. THIS PANEL COMPLIES WITH THE SIX-HANDLE RULE AND NEC 230.7

Voc* = MAX VOC AT MIN. TEMP.

CONDUCTOR AND CONDUIT SCHEDULE W/ELECTRICAL CALCULATIONS

TAG NO.	QTY	CONDUCTOR	CONDUIT	CURRENT CARRYING CONDUCTORS	OCPD	NEUTRAL	EGC	TEMP. CORR. FACTOR	CONDUIT FILL FACTOR	CONT. CURRENT	MAX. CURRENT (125%)	BASE AMP.	DERATED AMP.	TERM. TEMP. RATING	AMP. @ TERMINAL	CIRCUIT LENGTH IN **Ft**
0	6	10 AWG PV WIRE, COPPER	FREE AIR	N/A	N/A	N/A	6 AWG BARE, COPPER	0.71 (56°C)	1.0	24A	30A	55A	39.05A	90°C	50A	N/A
1	3	8 AWG THWN-2, COPPER	1" EMT	4	N/A	N/A	6 AWG THWN-2, COPPER	0.71 (56°C)	0.8	24A	30A	55A	39.05A	75°C	50A	N/A
2	1	1/0 AWG THWN-2, COPPER	1-1/2" EMT	3	N/A	1/0 AWG THWN-2, COPPER	6 AWG THWN-2, COPPER	0.96 (34°C)	1.0	120A	150A	170A	163.2A	75°C	150A	N/A
3	1	1/0 AWG THWN-2, COPPER	1-1/2" EMT	3	150A	1/0 AWG THWN-2, COPPER	6 AWG THWN-2, COPPER	0.96 (34°C)	1.0	120A	150A	170A	163.2A	75°C	150A	N/A

CONTRACTOR

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LINE DIAGRAM
(PAGE E-601)

! WARNING !

ELECTRIC SHOCK HAZARD

TERMINALS ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION.

LABEL 1
AT EACH DISCONNECTING MEANS FOR PHOTOVOLTAIC EQUIPMENT .
[NEC 690.13(B)].

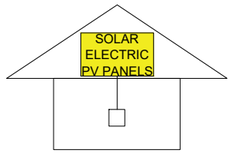
! WARNING !

POWER SOURCE
OUTPUT CONNECTION
DO NOT RELOCATE THIS
OVERCURRENT DEVICE

LABEL 2
AT POINT OF INTERCONNECTION
OVERCURRENT DEVICE.
[NEC 705.12(B)(3)(2)].

SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN

TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUTDOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN ARRAY



LABEL 3
AT MAIN SERVICE DISCONNECT
[NEC 690.56(C)(1)(A)].

PHOTOVOLTAIC POWER SOURCE

LABEL 4
AT EXPOSED RACEWAYS, CABLE TRAYS, AND OTHER WIRING METHODS; SPACED AT MAXIMUM 10 FT SECTION OR WHERE SEPARATED BY ENCLOSURES, WALLS, PARTITIONS, CEILINGS, OR FLOORS. [NEC 690.31(G)]
LETTERS AT LEAST 3/8 INCH; WHITE ON RED BACKGROUND; REFLECTIVE [IFC 605.11.1.1]

RAPID SHUTDOWN
FOR SOLAR PV SYSTEM

LABEL 5
AT RAPID SHUTDOWN DISCONNECT SWITCH.
[NEC 690.56(C)(3)].

PHOTOVOLTAIC SOLAR AC DISCONNECT

LABEL 6
AT EACH AC DISCONNECTING MEANS
[NEC 690.13(B)]

PHOTOVOLTAIC SOLAR DC DISCONNECT

LABEL 7
AT EACH DC DISCONNECTING MEANS
[NEC 690.13(B)]

! WARNING !

DUAL POWER SOURCE SECOND SOURCE IS PHOTOVOLTAIC SYSTEM

LABEL 8
AT POINT OF INTERCONNECTION.
[NEC 705.12(C)]

! CAUTION !

PHOTOVOLTAIC SYSTEM CIRCUIT IS BACKFED

LABEL 9
AT POINT OF INTERCONNECTION.
[NEC 705.12(B)(3)]

PHOTOVOLTAIC SYSTEM AC DISCONNECT
MAX. AC OPERATING CURRENT: 120A AC
MAX. AC OPERATING VOLTAGE: 480V AC

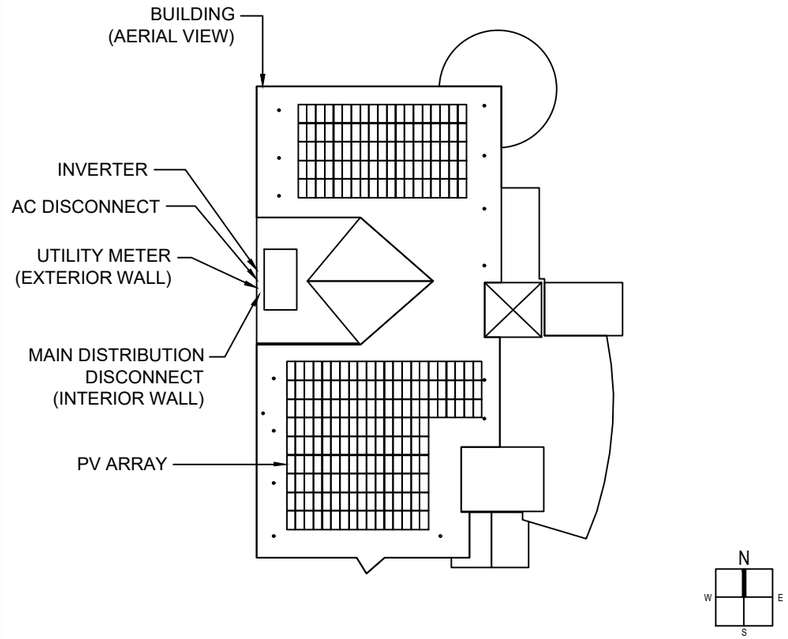
LABEL 10
AT POINT OF INTERCONNECTION, MARKED AT DISCONNECTING MEANS
[NEC 690.54]

MAXIMUM DC VOLTAGE
1000V
OF PV SYSTEM

LABEL 11
LABEL LOCATION: INVERTER 1
[NEC 690.53]

! CAUTION !

POWER TO THIS SERVICE IS ALSO SUPPLIED FROM THE FOLLOWING SOURCES WITH DISCONNECTS AS SHOWN PER NEC 705.10:



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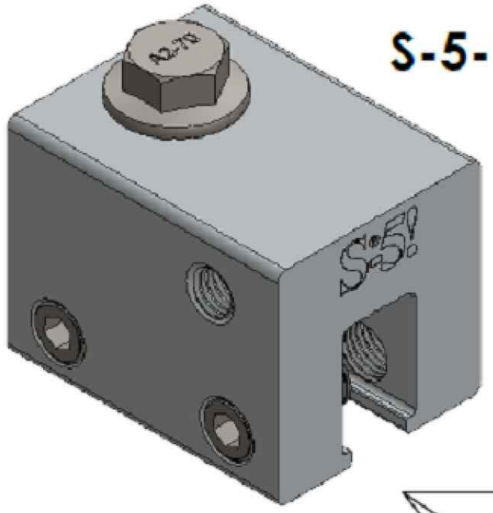
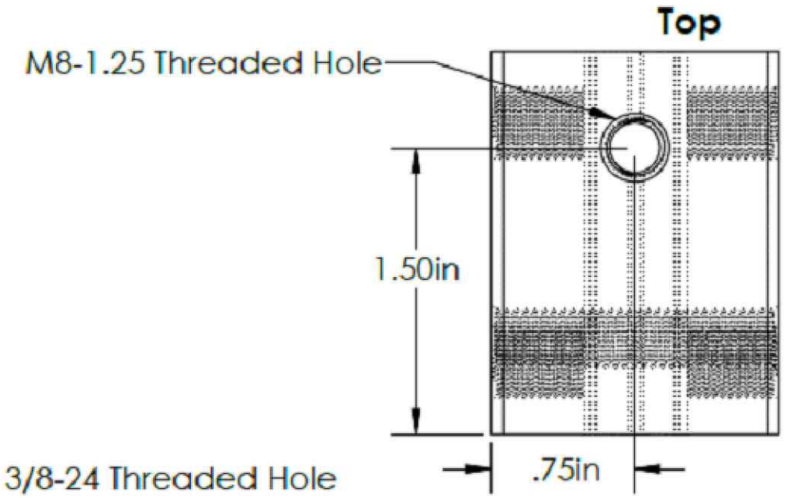
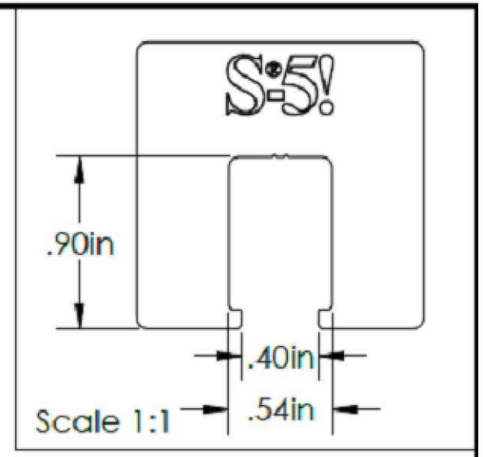
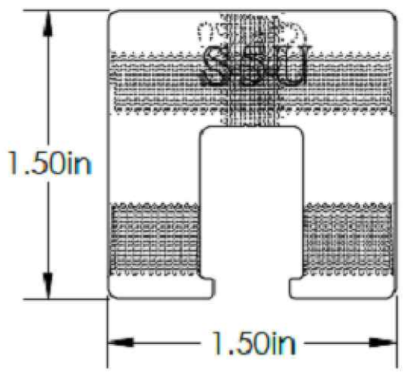
PLACARDS
(PAGE E-602)

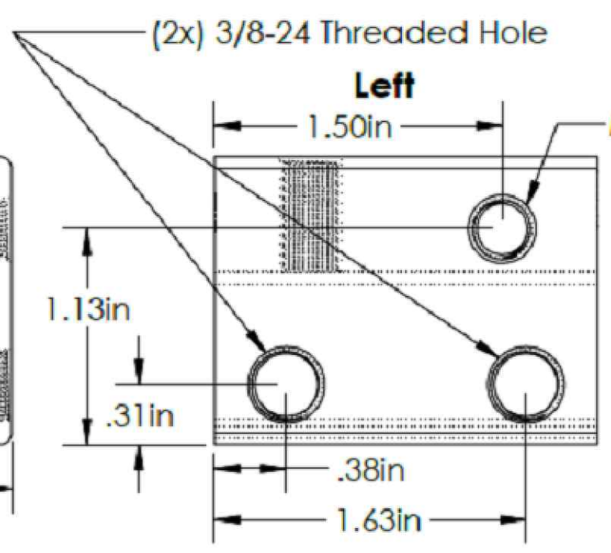
S-5-U

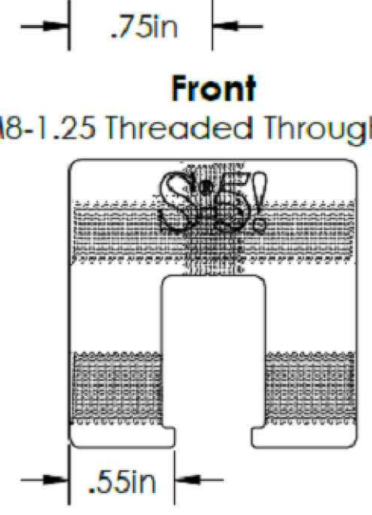


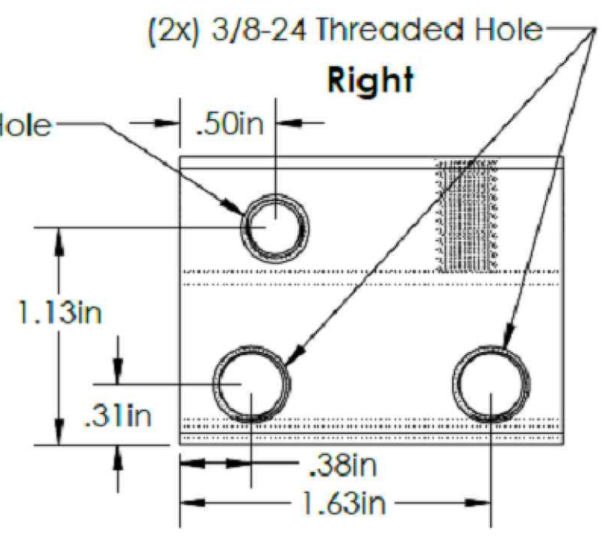


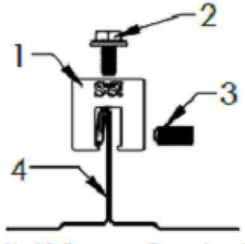


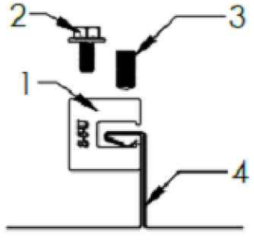


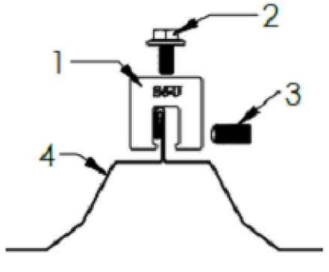












FOR STANDING SEAM SPECIFIC MECHANICAL LOAD TEST INFORMATION AND CLAMP INSTALLATION INFORMATION PLEASE VISIT: WWW.S-5.COM

General Notes:

1. S-5-U Clamp
2. M8-1.25 SS Hex Flange Bolt (13mm Socket)
3. 3/8-24 SS Round Point Setscrew (3/16 Hex Drive)
4. Example roof

MATERIAL: 6061 T6 Al	S-5! The Right Way!	METAL ROOF INNOVATIONS, LTD. 8655 TABLE BUTTE RD COLORADO SPRINGS, CO 80908 719-495-0518 719-495-0045(FAX)	
EST ASSEMBLY WEIGHT: 0.373 lbs	TITLE: S-5-U		
SUPPLIED HARDWARE: M8-1.25 x 16 mm HEX Bolt [2x] 3/8-24 x .800" Setscrews			
SCALE: 1:1	DRAWING NO.: U11-B-16-D	DRAWN BY: Kati Kadakas	DATE: 4/11/2016
EST. WEIGHT: Clamp: 0.304 lbs Setscrew: 0.0170 lbs Bolt: 0.0345 lbs	S-5!® PRODUCTS ARE PROTECTED BY MULTIPLE U.S. AND FOREIGN PATENTS. VISIT OUR WEBSITE AT WWW.S-5.COM FOR COMPLETE INFORMATION ON PATENTS AND TRADEMARKS.		

CONTRACTOR
ELLENSBURG SOLAR LLC
PHONE: 509-929-2728
ADDRESS: 961 STRANDE ROAD
ELLENSBURG, WA 98926
LIC. NO.: ELLENSL864RR

NEW PV SYSTEM:
149.060 kW DC
100.000 kW AC

PROPERTY OWNER:
25-0355 PUYALLUP PUBLIC LIBRARY
324 S MERIDIAN
PUYALLUP, WA 98371
APN:5745001180, 5745001190, 5745001200, 5745001210, 5745001220

ENGINEER OF RECORD

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
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PRSOL20261128

REVISIONS

REV	DESCRIPTION	DATE

PAPER SIZE: 11" x 17" (ANSI B)

BARUN CORP
www.baruncorp.com

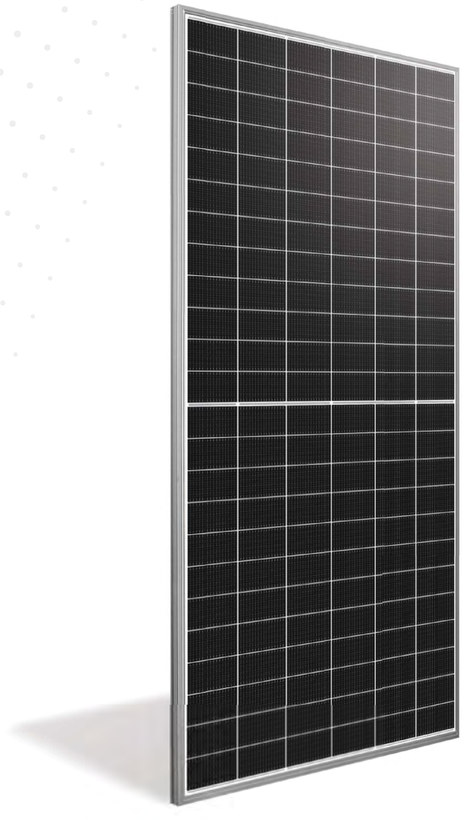
DATE: 7/12/2026
DESIGN BY: OM
CHECKED BY: EV

RESOURCE DOCUMENTS
(PAGE RD-00)

SILFAB COMMERCIAL NTC

SIL-580 XM+
BIFACIAL

SILFAB SOLAR®



NEXT-GENERATION N-TYPE CELL TECHNOLOGY

Manufactured exclusively in the USA.

- Improved Shade Tolerance
- Improved Low-Light Performance
- Increased Performance in High Temperatures
- Efficient Bifacial Energy Yield
- Enhanced Durability
- Reduced Degradation Rate
- 25-Year Product Warranty/ 30-Year Performance Warranty

TOP PERFORMER 2025 kiwa PV MODULE RELIABILITY SCORECARD

SILFABSOLAR.COM

ELECTRICAL SPECIFICATIONS		580		
Test Conditions		STC	BSTC	NOCT
Module Power (Pmax)	Wp	580	632.8	428.2
Maximum power voltage (Vpmax)	V	44.27	44.27	40.73
Maximum power current (Ipmax)	A	13.10	14.29	10.51
Open circuit voltage (Voc)	V	52.27	52.32	48.08
Short circuit current (Isc)	A	13.85	15.11	11.12
Module efficiency	%	22.4%		
Maximum system voltage (VDC)	V	1500		
Series fuse rating	A	30		
Power Tolerance	Wp	0 to +10		
Bifaciality Factor	%	80 ± 10		

Performance conditions: Measurement tolerance ≤ 3% • Standard Test Conditions (STC): 1000 W/m², AM 1.5, Temperature 25 °C • Nominal Operating Cell Temperature (NOCT): 800 W/m², AM 1.5 • Bifacial Standard Test Conditions (BSTC): 1000 W/m2 + φ × 135 W/m2 , φ = 80 % , AM 1.5 • Electrical characteristics may vary by ±5%.

MECHANICAL PROPERTIES / COMPONENTS	METRIC	IMPERIAL
Module weight	28.5 kg ± 0.2 kg	62.8 lbs ± 0.4 lbs
Dimensions (H x L x D)	2278 mm x 1133 mm x 35 mm	89.7 in x 44.6 in x 1.4 in
Maximum surface load (wind/snow)*	2400 Pa rear load / 5400 Pa front load	50.1 lb/ft² rear load / 112.8 lb/ft² front load
Hail impact resistance	ø 50 mm at 116.6 km/h	ø 2 in at 72.5 mph
Cells	144 Half cells - N-Type Silicon solar cell 182 mm x 92 mm	144 Half cells - N-Type Silicon solar cell 7.17 in x 3.62 in
Glass	3.2 mm high transmittance, tempered, anti-reflective coating	0.126 in high transmittance, tempered, anti-reflective coating
Cables and connectors (refer to installation manual)	1350 mm, ø 5.7 mm, MC4-EVO2A from Staubli	53.1 in, ø 0.22 in (12 AWG), MC4-EVO2A from Staubli
Backsheet	High durability, superior hydrolysis and UV resistance, multi-layer dielectric film, transparent PV backsheet	
Frame	Anodized Aluminum (Silver)	
Junction Box	UL 3730 Certified, IEC 62790 Certified, IP68 rated, 3 diodes	

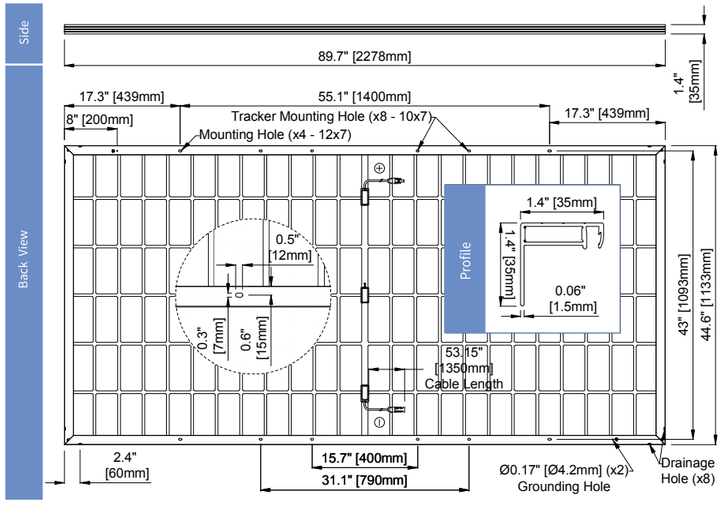
TEMPERATURE RATINGS	
Temperature Coefficient Isc	0.04 %/°C
Temperature Coefficient Voc	-0.24 %/°C
Temperature Coefficient Pmax	-0.29 %/°C
NOCT (± 2°C)	45 °C
Operating temperature	-40/+85 °C

WARRANTIES	
Module product workmanship warranty	25 years**
Linear power performance guarantee	30 years
	≥ 98% end 1st yr ≥ 94.7% end 12th yr ≥ 90.8% end 25th yr ≥ 89.3% end 30th yr

CERTIFICATIONS	
Product	UL 61215, UL 61730, CSA C22.2#61730, IEC 61215, IEC 61730, IEC 61701 (Salt Mist Corrosion), IEC 62716 (Ammonia Corrosion), CEC Listed, UL Fire Rating: Type 1
Factory	ISO9001:2015

SHIPPING SPECS	
Modules Per Pallet:	29
California (Pallets per load)	21
Others (Pallets per load)	22

* ⚠ Warning. Read the Safety and Installation Manual for mounting specifications and before handling, installing and operating modules.
** 12 year extendable to 25 years subject to registration and conditions outlined under "Warranty" at silfabsolar.com.
PAN files generated from 3rd party performance data are available for download at: silfabsolar.com/downloads.



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SILFAB SOLAR INC.

1770 Port Drive
Burlington WA 98233 USA
T +1 360.569.4733
info@silfabsolar.com
SILFABSOLAR.COM

7149 Logistics Lane
Fort Mill SC 29715 USA
T +1 839.400.4338

4080 Confederation Parkway, Suite 301
Mississauga ON L5B 0G4 Canada
T +1 905.255.2501

Sales & Customer Support
T +1.833.998.6642

Silfab - SIL-580-XM+-BIFACIAL 20260521

Three Phase Inverter with Synergy Technology

USA Domestic Content Eligible

For North America

SE50KUS / SE100KUS / SE110KUS / SE120KUS

INVERTER

12-20 YEAR WARRANTY

Made in the USA from imported parts

SolarEdge's USA-manufactured Offering for C&I rooftops and carports

- Eligible for domestic content*: SolarEdge USA-manufactured inverters, when paired with certain SolarEdge USA-manufactured power optimizers, are intended to be eligible for the enhanced federal income tax credit for domestic content
- Pre-commissioning feature for automated validation of system components and wiring during the site installation process and prior to grid connection
- Easy two-person installation with lightweight, modular design (each inverter consists of three Synergy units and one Synergy Manager)
- Independent operation of each Synergy unit enables higher uptime and easy serviceability
- Built-in thermal sensors detect faulty wiring, ensuring enhanced protection and safety
- Built-in arc fault protection and rapid shutdown
- Built-in PID mitigation for maximized system performance
- Monitored** and field-replaceable surge protection devices, to better withstand surges caused by lightning or other events
- Built-in module-level monitoring with Ethernet or cellular communication for full system visibility

* For more details, see Eligibility for Domestic Content on the last page.

** Applicable only for DC and AC SPDs.

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Three Phase Inverter with Synergy Technology

USA Domestic Content Eligible for North America

SE50KUS / SE100KUS / SE110KUS / SE120KUS

Applicable to inverters with part numbers	SE-TRI-USxxIBNSx				
Model Number	SE50KUS	SE100KUS	SE110KUS	SE120KUS	UNITS
OUTPUT					
Total Rated AC Output Capacity	120,000				W
Rated AC Active Output Power	50,000	100,000	110,000	120,000	W
Maximum AC Apparent Output Power	50,000	100,000	120,000	120,000	VA
AC Output Line Connections	3W + PE, 4W + PE				
Supported Grids	WYE: TN-C; TN-S; TN-C-S; TT, IT; Delta: IT				
AC Output Voltage Minimum-Nominal-Maximum[1] (L-N)	105 – 120 – 132.5	244 – 277 – 305			Vac
AC Output Voltage Minimum-Nominal-Maximum[1] (L-L)	183 – 208 – 229	422.5 – 480 – 529			Vac
AC Frequency Minimum-Nominal-Maximum[1]	59.5 – 60 – 60.5				Hz
Maximum Continuous Output Current (per phase, PF=1)	139.5	120	144.3		Aac
GFDI Threshold	1				A
Utility Monitoring, Islanding Protection, Configurable Power Factor, Country Configurable Thresholds	Yes				
Total Harmonic Distortion	≤ 3				%
Power Factor Range	±0.85 to 1				
INPUT[2]					
Maximum DC Power (Module STC) Inverter / Synergy Unit	87,500 / 29,165	175,000 / 58,300	210,000 / 70,000		W
Transformer-less, Ungrounded	Yes				
Maximum Input Voltage DC+ to DC-	600	1000			Vdc
Operating Voltage Range	370 – 600	850 – 1000			Vdc
Maximum Input Current	3 x 46.5	3 x 40	3 x 48.25		Adc
Reverse-Polarity Protection	Yes				
Ground-Fault Isolation Detection	167kΩ sensitivity per Synergy Unit[3]				
CEC Weighted Efficiency	97	98.5			%
Nighttime Power Consumption	< 12				W
ADDITIONAL FEATURES					
Supported Communication Interfaces[4]	2 x RS485; Ethernet; Wi-Fi (optional); Cellular (optional)				
Smart Energy Management	Export Limitation				
Inverter Commissioning	With the SetApp mobile application using built-in Wi-Fi access point for local connection				
Arc Fault Protection	Built-in, user configurable (according to UL 1699B)				
Photovoltaic Rapid Shutdown System	NEC 2014 – 2023, built-in, if paired with C651U				
PID Rectifier	Nighttime, built-in				
RS485 Surge Protection (ports 1+2)	Type II, field replaceable, integrated				
AC, DC Surge Protection	Type II, field replaceable, integrated				
DC SAFETY SWITCH					
DC Disconnect	Built-in				
STANDARD COMPLIANCE					
Safety	UL 1699B; UL 1741; UL 1741 SA; UL 1741 SB; UL 1998; CSA C22.2#107.1; Canadian AFCI according to T.I.L. M-07				
Grid Connection Standards	IEEE 1547-2018, Rule 21, Rule 14 (HI)				
Emissions	FCC Part 15 Class A				
Advanced Grid Support Capabilities	L/HFRT; L/HVRT; VOLT-VAR; VOLT-Watt; Frequency-Watt; Ramp Rate Control; Fixed Power Factor; Fixed Q; Cos (Phi) / Watt				

(1) For other regional settings please contact SolarEdge support.
(2) For compatibility of inverters and power optimizers, see this technical note.
(3) Where permitted by local regulations.
(4) For specifications of the optional communication options, visit the Communication product page or the Knowledge Center to download the relevant product datasheet.

/ Three Phase Inverter with Synergy Technology

USA Domestic Content Eligible for North America

SE50KUS / SE100KUS / SE110KUS / SE120KUS

Applicable to inverters with part numbers		SE-TRI-USxxIBNSx				
Model Number		**SE50KUS**	**SE100KUS**	**SE110KUS**	**SE120KUS**	**UNITS**
INSTALLATION SPECIFICATIONS						
Number of Synergy Units per Inverter		3				
AC Maximum Conduit Size		2 ½"				in
AC Maximum Conductor Size Line / PE		4/0 AWG / 1/0 AWG				
DC Maximum Conduit Size		1 x 3"; 2 x 2"				in
Inverter Unit / Synergy Manager	Multi-input (fuse-less)[5] (SE-xxx-USxxIxxSx)	9 / 3 pairs; 6 – 12 AWG				
Dimensions (H x W x D)		Synergy Unit: 22 x 12.9 x 10.75 / 558 x 328 x 273 Synergy Manager: 14.17 x 22.4 x 11.6 / 360 x 560 x 295				in / mm
Weight		Synergy Unit: 70.4 / 32 Synergy Manager: 39.6 / 18				lb / kg
Operating Temperature Range		-40 to +140 / -40 to +60[6]				°F / °C
Cooling		Fan (user replaceable)				
Noise		< 67				dBA
Protection Rating		NEMA 3R				
Mounting		Brackets provided				

(5) Fusing is not included with the multi-input version of the Synergy Manager.
(6) For power derating information, see the Temperature Derating technical note for North America.

***Eligibility for Domestic Content**

As it relates to the domestic content rules, the U.S. Department of Treasury and the IRS have not yet issued proposed or final regulations. Rather, the IRS has issued three notices - Notice 2023-38, Notice 2024-41 and Notice 2025-08. These notices provide guidance regarding the domestic content rules. SolarEdge products referenced herein are manufactured with the intent to be eligible for inclusion under the elective safe harbor table in calculating the Domestic Cost Percentage under the "Rooftop (MLPE)" category (under IRS Notices 2024-41 and 2025-08, depending on the PN used – see chart below). Eligibility is subject to the installation of qualified USA-Manufactured inverters and Power Optimizers (C651U) in the same project. SolarEdge does not provide tax and/or legal advice. You should consult with your own legal and/or tax advisor(s) regarding the eligibility of your project for the ITC or PTC, including the 10% Domestic Content bonus, to determine how the applicable rules apply to your project. The forward-looking statements in this document are accurate as of the date herein and are subject to change. For more information, please contact your local SolarEdge sales representative.

PN	Domestically produced MPCs per notice 2024-41*	Domestically produced MPCs per notice 2025-08*
USESUK-USR0INNN**6**, when paired with C651U	Printed Circuit Board Assemblies, Electrical Parts, Enclosure (35.6%)	Printed Circuit Board Assemblies (DC-DC) and (AC-AC), Enclosure, Production (24.8%)
USESUK-USR0INNN**8**, when paired with C651U	Printed Circuit Board Assemblies, Enclosure (17.6%)	Printed Circuit Board Assemblies (DC-DC) and (AC-AC), Enclosure, Production (24.8%)

SolarEdge is a global leader in smart energy technology. By leveraging world-class engineering capabilities and with a relentless focus on innovation, SolarEdge creates smart energy solutions that power our lives and drive future progress.

SolarEdge developed an intelligent inverter solution that changed the way power is harvested and managed in photovoltaic (PV) systems. The SolarEdge DC optimized inverter maximizes power generation while lowering the cost of energy produced by the PV system.

Continuing to advance smart energy, SolarEdge addresses a broad range of energy market segments through its PV, storage, EV charging, UPS, and grid services solutions.

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Cautionary Note Regarding Market Data and Industry Forecasts: This brochure may contain market data and industry forecasts from certain third-party sources. This information is based on industry surveys and the preparer's expertise in the industry and there can be no assurance that any such market data is accurate or that any such industry forecasts will be achieved. Although we have not independently verified the accuracy of such market data and industry forecasts, we believe that the market data is reliable and that the industry forecasts are reasonable.

CE

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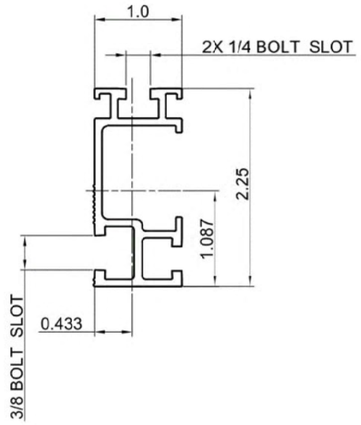
HR150 (Helio Open Rail)

SunModo's new HR150 Open Rail makes it easy to route PV wires inside rail channels with the cable management feature.

With two convenient 1/4" channels and a 3/8" slot available, HR150 can handle a variety of components such as mounts, rail splices, micro-inverters, and clamps.

Manufactured in 4 stock sizes in clear or black. SunModo Rail is extruded 6005-T5 aluminum with anodized coating for lasting aesthetics.



Part Number	Description	Length
A20242-084	HR150 (Helio Open Rail) 84", Clear	84"
A20242-124	HR150 (Helio Open Rail) 124", Clear	124"
A20242-164	HR150 (Helio Open Rail) 164", Clear	164"
A20242-206	HR250 (Helio Open Rail) 206", Clear	206"

Part Number	Description	Length
A20242-084-BK	HR150 (Helio Open Rail) 84", Black	84"
A20242-124-BK	HR150 (Helio Open Rail) 124", Black	124"
A20242-164-BK	HR150 (Helio Open Rail) 164", Black	164"
A20242-206-BK	HR250 (Helio Open Rail) 206", Black	206"

S-5!®
The Right Way!®

S-5-U Clamp

The S-5-U clamp is by far our most popular and most versatile clamp. It fits about 85% of the standing seam profiles manufactured in North America—including most structural and architectural profiles. It can be used on vertically oriented seams and, by rotating the clamp 90 degrees, it can also be used on most horizontal 2" seam profiles.

Its simple design, generous dimensioning, and multiple hole orientations are what make the S-5-U clamp so versatile for use with the S-5!® snow retention products, such as ColorGard®, as well as with other heavy-duty applications.

Installation is as simple as setting the specially patented round-point setscrews into the clamp, placing the clamp on the seam, and tightening them to the specified tension. Then, affix ancillary items using the bolt provided with the product. Go to www.S-5.com/tools for information and tools available for properly attaching and tensioning S-5! clamps.

S-5-U Mini Clamp

The S-5-U Mini is a bit shorter than the S-5-U and has one setscrew rather than two. The mini is the choice for attaching all kinds of rooftop accessories: signs, walkways, satellite dishes, antennas, rooftop lighting, lightning protection systems, solar arrays, exhaust stack bracing, conduit, condensate lines, mechanical equipment—just about anything!*

*S-5! mini clamps are not compatible with, and should not be used with S-5! SnoRail™/SnoFence™ or ColorGard® snow retention systems.

The S-5-U clamp is our most popular and versatile clamp, fitting about 85% of the standing seam profiles in North America.

The right way to attach almost anything to metal roofs!

S-5-U and S-5-U Mini

888-825-3432 | www.S-5.com |

MADE IN THE USA

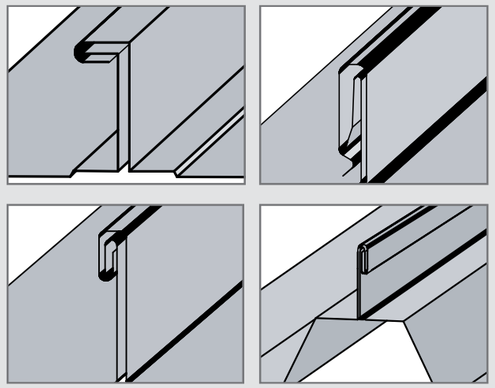
S-5!®
The Right Way!®

The strength of the S-5-U clamp is in its simple design. The patented setscrews will slightly dimple the metal seam material but not pierce it—leaving the roof manufacturer's warranty intact.

The **S-5-U and S-5-U Mini clamps** are each furnished with the hardware shown to the right. Each box also includes a bit tip for tightening setscrews using an electric screw gun. A structural aluminum attachment clamp, the S-5-U is compatible with most common metal roofing materials excluding copper. All included hardware is stainless steel. Please visit **www.S-5.com** for more information including CAD details, metallurgical compatibilities and specifications.

The S-5-U clamp has been tested for load-to-failure results on most major brands and profiles of standing seam roofing. The independent lab test data found at www.S-5.com can be used for load-critical designs and applications. S-5!® holding strength is unmatched in the industry.

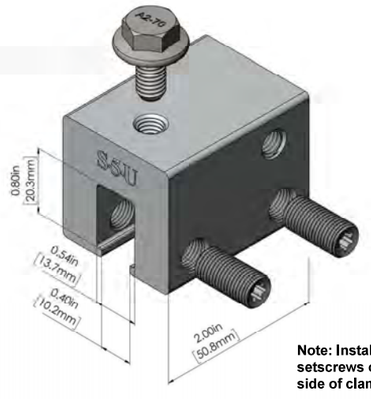
Example Profiles



For horizontal seams under 0.65", do not use this clamp. Visit www.S-5.com for more detailed information and proper clamp usage.

S-5-U Clamp

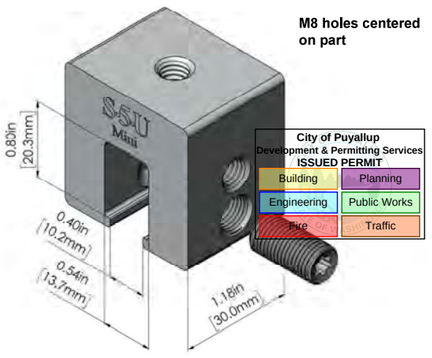
M8 hole located 1/2" (13.00 mm) from edge of part



Note: Install both setscrews on same side of clamp.

S-5-U Mini Clamp

M8 holes centered on part



PRSOL20261128

Please note: All measurements are rounded to the second decimal place.

S-5!® Warning! Please use this product responsibly!

Products are protected by multiple U.S. and foreign patents. Visit the website at www.S-5.com for complete information on patents and trademarks. For maximum holding strength, setscrews should be tensioned and re-tensioned as the seam material compresses. Clamp setscrew tension should be verified using a calibrated torque wrench between 160 and 180 inch pounds when used on 22ga steel, and between 130 and 150 inch pounds for all other metals and thinner gauges of steel. Consult the S-5! website at www.S-5.com for published data regarding holding strength.

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