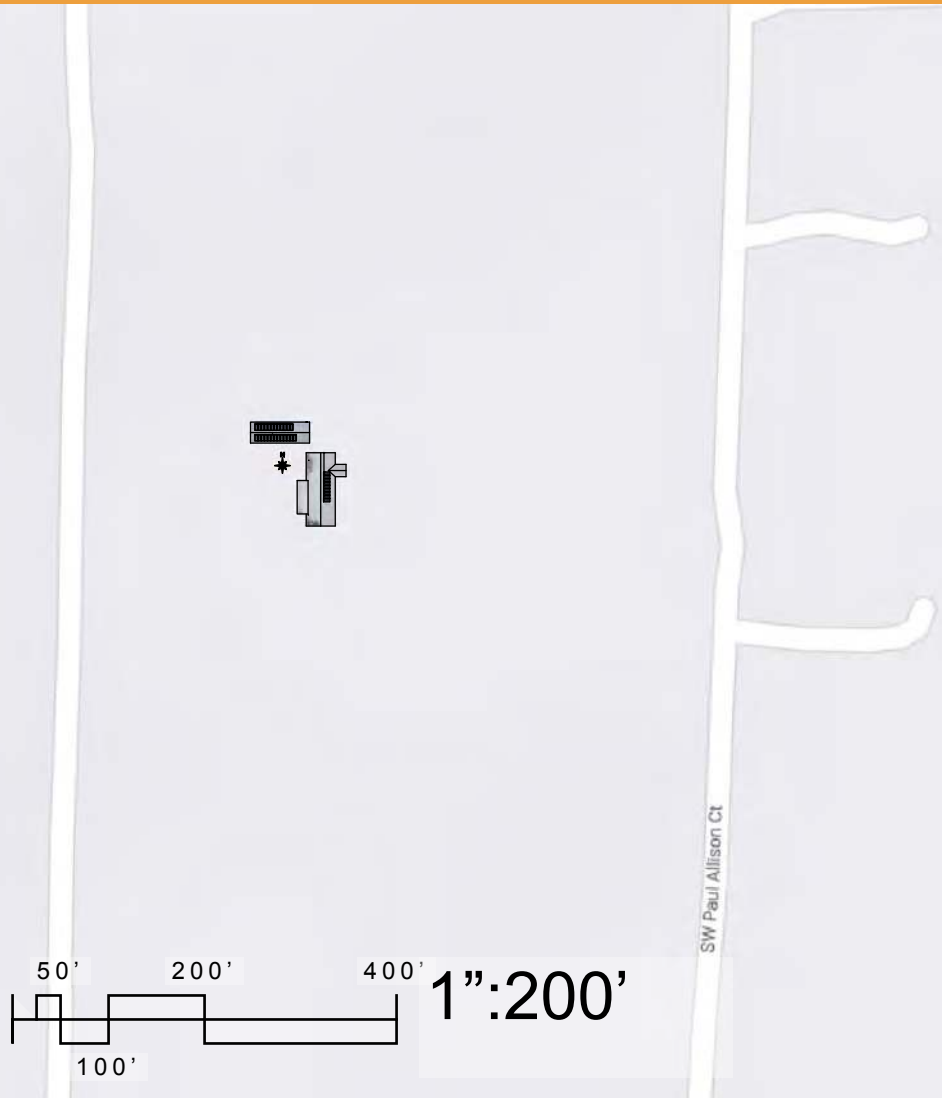
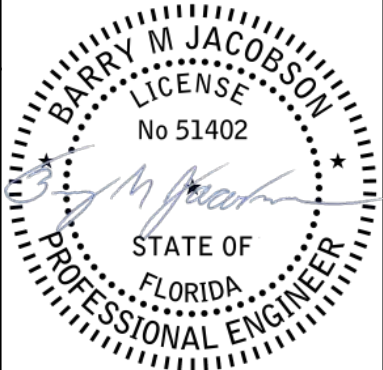


	1	2	3	4	5	6	7
A	ZACHARY MEARS 356 SW PAUL ALLISON LAKE CITY, FL 32024			SOLAR CONTRACTOR: SOLAR IMPACT, INC 4509 NW 23RD AVE., STUITE 20 GAINESVILLE, FL 32606 352.338.8221 WWW.SOLARIMPACT.COM SOLAR CONTRACTOR LICENSE: CVC56761 EC13012442 PROJECT MANAGER: JEFF BROSS 386.227.1167 JEFF.BROSS@SOLARIMPACT.COM PROJECT DESIGNER: RICHIE WILHOIT 352.226.7271 RICHIE.WILHOIT@SOLARIMPACT.COM ENGINEER OF RECORD: BARRY M. JACOBSON PE#51402 SOLAR IMPACT, INC 352.338.8221 BARRY@SOLARIMPACT.COM	CLIENT: ZACHARY MEARS GENERAL CONTRACTOR: N/A AUTHORITY HAVING JURISDICTION: COLUMBIA COUNTY BUILDING DEPARTMENT UTILITY: CLAY ELECTRIC COOPERATIVE (CEC)		
B	DC:	13.965 KW-DC MODULE STC RATING		PARTICIPANTS			
	AC:	11.87 kW-AC GROSS POWER RATING					
	AC:	11.4 kW-AC INVERTER					
C	THIS IS AN EXPANSION OF AN EXISTING BATTERY BACKUP/PV ARRAY. THE EXPANSION CONSISTS OF 4.365 KW OF NEW MODULES. THE 9 NEW Q.PEAK DUO XL-G10.3 BFG/485 TUFF RIB ROOF MOUNTED MODULES HAVE NEW IRONRIDGE A1 RACKING WITH THE MODULES PARALLEL TO THE SURFACE WITH THE SURFACE AND MODULE FACING EAST. THERE WILL BE 9 NEW SOLAREEDGE P505 OPTIMIZERS.		G01: GENERAL NOTES A01: EQUIP. LOCATIONS A02: ELECTRICAL RISER A03: FIRE SAFETY E01: LINE DIAGRAM E02: PLACARDS E03: ELECTRICAL CALCS E04: MODULE DATA E05: RSD DATA E06: INVERTER DATA S01: ROOF ZONES S02: ROOF CALCS S03: ATTACHMENT DATA S04: RACKING DATA 	2023 8TH EDITION FLORIDA BUILDING CODE : BUILDING 2023 8TH EDITION FLORIDA BUILDING CODE : RESIDENTIAL 2023 8TH EDITION FLORIDA BUILDING CODE : MECHANICAL 2023 8TH EDITION FLORIDA BUILDING CODE : PLUMBING 2023 8TH EDITION FLORIDA BUILDING CODE : FUEL GAS 2023 8TH EDITION FLORIDA BUILDING CODE : ENERGY CONSERVATION 2023 8TH EDITION FLORIDA BUILDING CODE : EXISTING BUILDING 2023 8TH EDITION FLORIDA BUILDING CODE : ACCESSIBILITY 2023 8TH EDITION FLORIDA FIRE PREVENTION CODE (NFPA) 2020 NATIONAL ELECTRIC CODE (NEC)			
D							
E	DOCUMENTS SIZED FOR 11"X17" PAPER						
	SUMMARY		PAGE INDEX	CODE REFERENCES		SITE LOCATION	
	1	2	3	4	5	6	7

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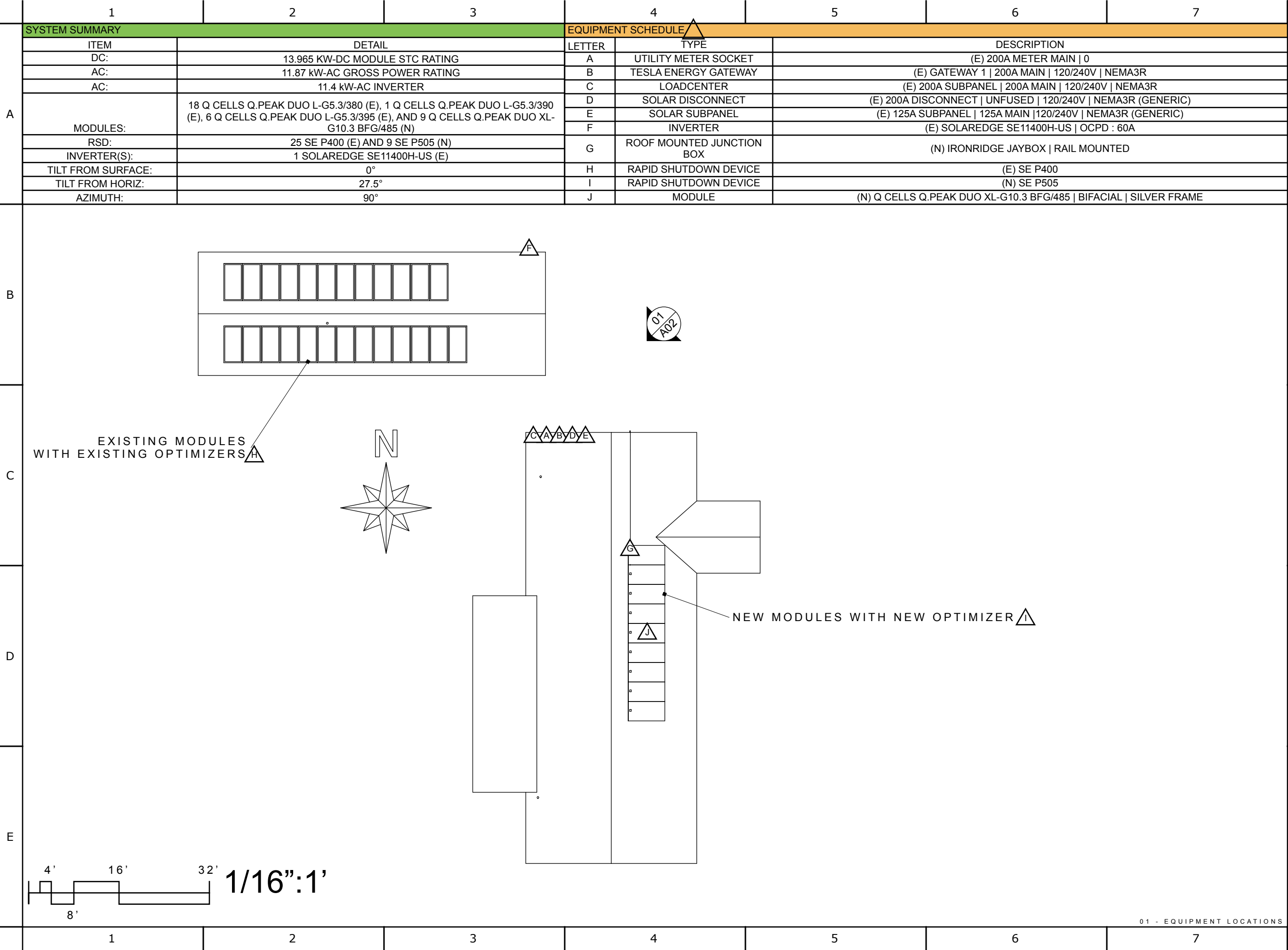
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PAGE TITLE:
GENERAL NOTES

PAGE # :
G01



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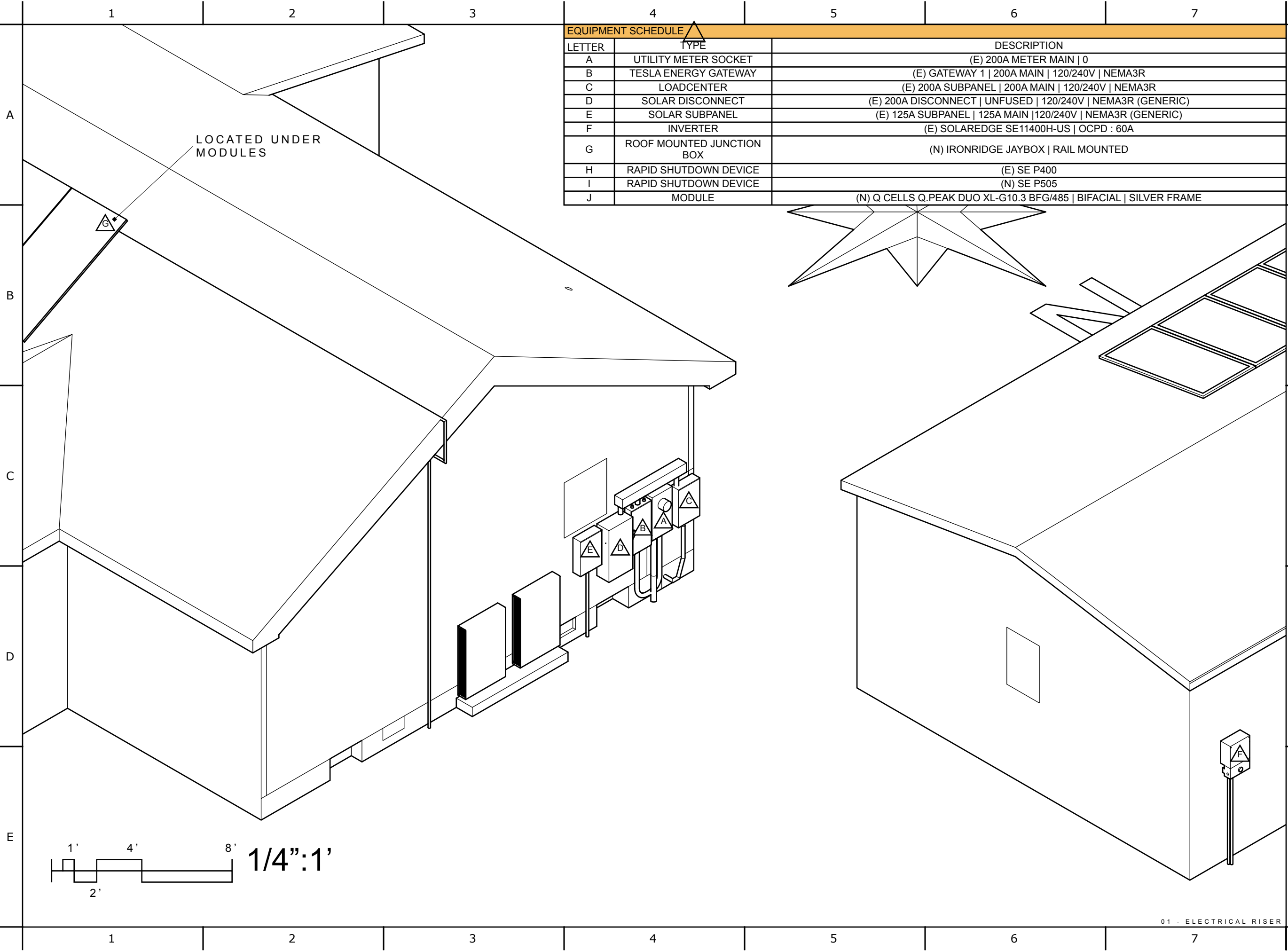
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PAGE TITLE:
EQUIPMENT LOCATIONS

PAGE # :
A01



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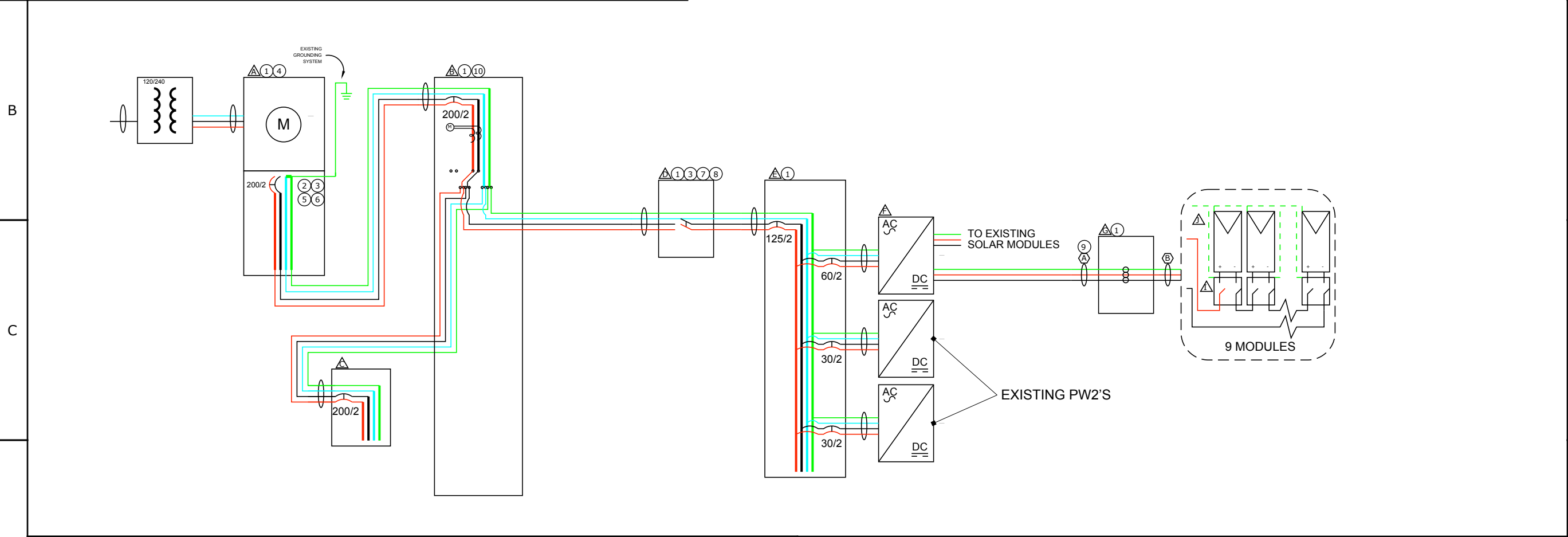
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ELECTRICAL
RISER

PAGE #:

A02

	1		2		3		4		5		6		7	
A	EQUIPMENT SCHEDULE 						CONDUCTOR SIZES 						FIELD APPLIED PLACARDS 	
	LETTER	TYPE		DESCRIPTION										
	A	UTILITY METER SOCKET		(E) 200A METER MAIN 0				A (1 SET) 2X #10 CU + 1X #10 CU GRD IN 0.75" PVC SCH 40/HPDE						
	B	TESLA ENERGY GATEWAY		(E) GATEWAY 1 200A MAIN 120/240V NEMA3R				B (1 SET) 2X #10 CU + 1X #4 CU GRD IN FREE AIR						
	C	LOADCENTER		(E) 200A SUBPANEL 200A MAIN 120/240V NEMA3R				1 SEE PLACARDS PAGE FOR DETAILS *Note: NEC 705.95(B) says "Neutral Conductor for Instrumentation, Voltage Detection or Phase Detection. A conductor used solely for instrumentation, voltage detection, or phase detection and connected to a single-phase or 3-phase utility-interactive inverter, shall be permitted to be sized at less than the ampacity of the other current-carrying conductors and shall be sized equal to or larger than the equipment grounding conductor."						
	D	SOLAR DISCONNECT		(E) 200A DISCONNECT UNFUSED 120/240V NEMA3R (GENERIC)										
	E	SOLAR SUBPANEL		(E) 125A SUBPANEL 125A MAIN 120/240V NEMA3R (GENERIC)										
	F	INVERTER		(E) SOLAREEDGE SE11400H-US OCPD : 60A										
	G	ROOF MOUNTED JUNCTION BOX		(N) IRONRIDGE JAYBOX RAIL MOUNTED										
	H	RAPID SHUTDOWN DEVICE		(E) SE P400										
I	RAPID SHUTDOWN DEVICE		(N) SE P505											
J	MODULE		(N) Q CELLS Q.PEAK DUO XL-G10.3 BFG/485 BIFACIAL SILVER FRAME											



SOLAR SCHEDULE									
INVERTER	MODEL	MODULE	RSD	STRING #1		STRING #2		STRING #3	
				MODULE	RSD	MODULE	RSD	MODULE	RSD
1	SolarEdge SE11400H-US	Q Cells 380 W Q Cells 485 W	SE P400 SE P505	12 Q Cells 380 W	12 SE P400	13 Q Cells 380 W	13 SE P400	9 Q Cells 485 W	9 SE P505

ELECTRICAL NOTES

1.) ALL EQUIPMENT TO BE LISTED BY UL OR OTHER NRTL, AND LABELED FOR ITS APPLICATION.

2.) ALL CONDUCTORS SHALL BE COPPER, RATED FOR 600 V AND 90 DEGREE C WET ENVIRONMENT.

3.) WIRING, CONDUIT, AND RACEWAYS MOUNTED ON ROOFTOPS SHALL BE ROUTED DIRECTLY TO, AND LOCATED AS CLOSE AS POSSIBLE TO THE NEAREST RIDGE, HIP, OR VALLEY.

4.) WORKING CLEARANCES AROUND ALL NEW AND EXISTING ELECTRICAL EQUIPMENT SHALL COMPLY WITH NEC 110.26.

5.) DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS. CONTRACTOR SHALL FURNISH ALL NECESSARY OUTLETS, SUPPORTS, FITTINGS AND ACCESSORIES TO FULFILL APPLICABLE CODES AND STANDARDS.

6.) WHERE SIZES OF JUNCTION BOXES, RACEWAYS, AND CONDUITS ARE NOT SPECIFIED, THE CONTRACTOR SHALL SIZE THEM ACCORDINGLY.

7.) ALL WIRE TERMINATIONS SHALL BE APPROPRIATELY LABELED AND READILY VISIBLE.

8.) MODULE GROUNDING CLIPS TO BE INSTALLED BETWEEN MODULE FRAME AND MODULE SUPPORT RAIL, PER THE GROUNDING CLIP MANUFACTURER'S INSTRUCTION.

9.) MODULE SUPPORT RAIL TO BE BONDED TO CONTINUOUS COPPER G.E.C. VIA WEEB LUG OR ILSCO GBL-4DBT LAY-IN LUG.

10.) THE POLARITY OF THE GROUNDED CONDUCTORS IS NEGATIVE

ADDITIONAL NOTES:

1. EACH MODULE TO BE GROUNDED USING THE SUPPLIED CONNECTION POINT PER MANUFACTURER'S REQUIREMENTS. ALL SOLAR MODULES, EQUIPMENT, AND METALLIC COMPONENTS ARE TO BE BONDED. IF THE EXISTING GROUNDING ELECTRODE SYSTEM CAN NOT BE VERIFIED OR IS ONLY METALLIC WATER PIPING, IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL A SUPPLEMENTAL GROUNDING ELECTRODE.

2. ALL PLAQUES AND SIGNAGE REQUIRED BY THE LATEST EDITION OF NATIONAL ELECTRICAL CODE. LABEL SHALL BE METALLIC OR PLASTIC, ENGRAVED OR MACHINE PRINTED IN A CONTRASTING COLOR TO THE PLAQUE. PLAQUE SHALL BE UV RESISTANT IF EXPOSED TO SUNLIGHT.

3. DC CONDUCTORS SHALL BE RUN IN EMT AND SHALL BE LABELED, "CAUTION DC CIRCUIT" OR EQUIV. EVERY 5 FT.

4. EXPOSED NON-CURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE WITH 250.134 OR 250.136(A).

5. CONFIRM LINE SIDE VOLTAGE AT ELECTRIC UTILITY SERVICE PRIOR TO CONNECTING INVERTER. VERIFY SERVICE VOLTAGE IS WITHIN INVERTER VOLTAGE OPERATIONAL RANGE.

6. OUTDOOR EQUIPMENT SHALL BE NEMA-3R RATED OR BETTER.

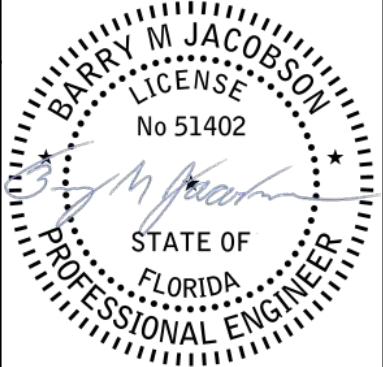
7. ELECTRICAL CONTRACTOR TO PROVIDE CONDUIT EXPANSION JOINTS AND ANCHOR CONDUIT RUNS AS REQUIRED PER NEC.

8. ALL WIRING MUST BE PROPERLY SUPPORTED BY DEVICES OR MECHANICAL MEANS DESIGNED AND LISTED FOR SUCH USE, AND FOR ROOF-MOUNTED SYSTEMS, WIRING MUST BE PERMANENTLY AND COMPLETELY HELP OFF OF THE ROOF SURFACE. NEC 110.2 - 110.4 / 300.4

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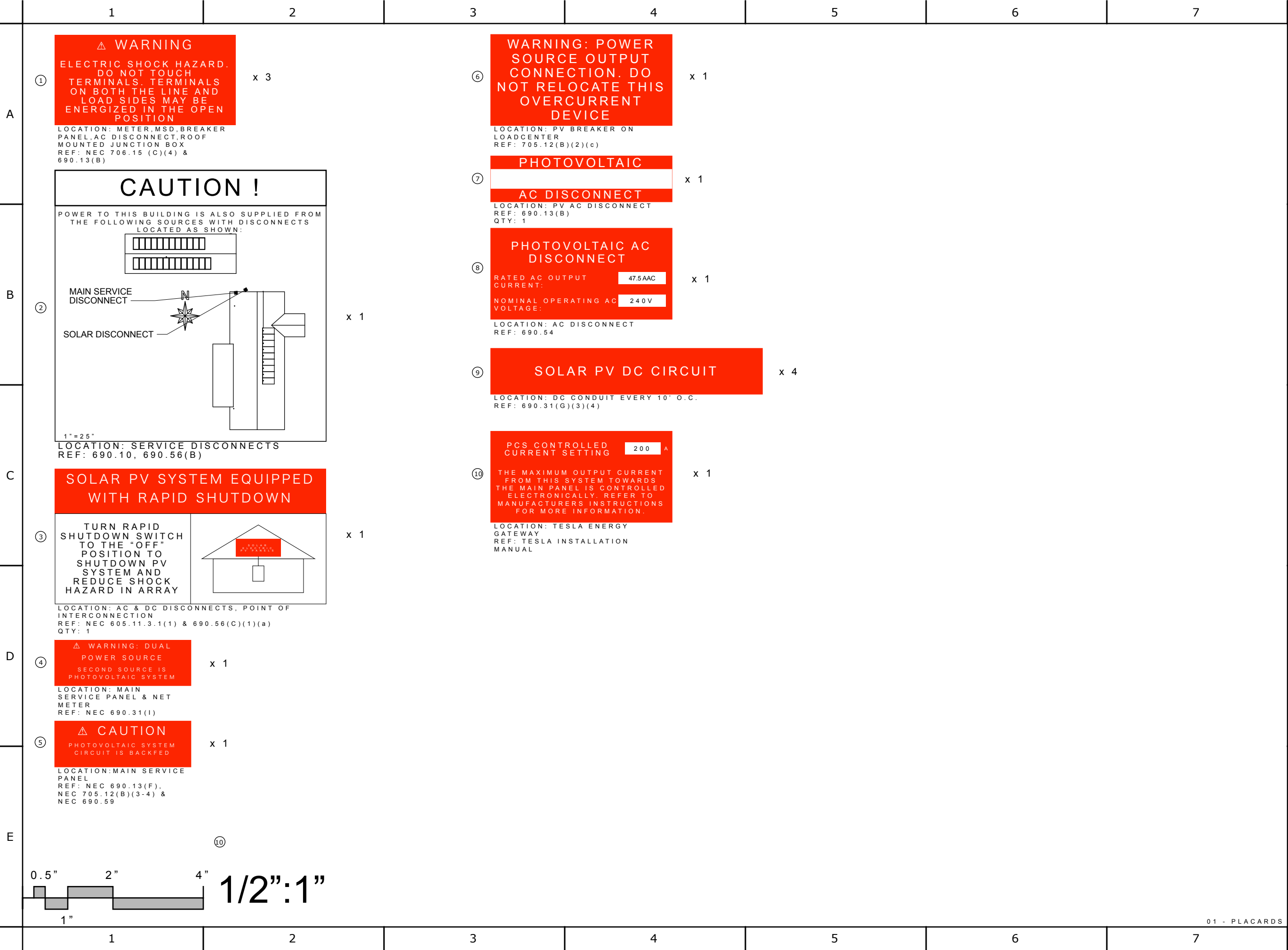
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PAGE TITLE:

LINE DIAGRAM

PAGE #:

E01



	1	2	3	4	5	6	7
A	LOCATION INFORMATION		CONDUCTOR, CONDUIT, & OCD SIZES 310.10(H)				
			Conductor ID in Oneline			A	B
	Location	Gainesville AP	Current-carrying Conductor			#10	#10
	Temp, Ambient High (ASHRAE 2%)	34.0 C	Insulation Type			THWN-2	PV Wire
	Temp, Ambient Low (ASHRAE Extreme)	-5.0 C	Side of Service			Load	Load
	Temp, Module Test	25.0 C	Insulation Temp Rating			90 C	90 C
	Temp, Delta Low	-30.0 C	Conductor Material			CU	CU
	Temp, Below Ground	25.0 C	Neutral Sizing			#N/A	#N/A
			Over-current Device Type			#N/A	#N/A
B	MODULE SPECIFICATIONS AND CALCULATIONS		CURRENT SOURCE				
	ITEM	MODULE 1	Current Type			DC	DC
	Module Manufacturer	Q Cells	Current Source			Optimizer 1	Optimizer 1
	Module Model	Q.Peak Duo XL-G10.3 BFG/485	Parallel Sources Combined			Not Combined	Not Combined
	Module Power STC	485 W	# Parallel Sources			1	1
	Module Operating Volt	45.63 VDC	# Sets of Conductors			1	1
	Module Open-circuit Volt	53.63 VDC	# Conduits			1	1
	Module Coeff Volt/Temp	-0.27 %/C	# Sets Conductors per OCD			1	1
			# Conductors per Conduit			3	#N/A
C	Module Max Volt (Voc*(1+Td*VTCoef))	57.97 VDC	# Current-Carrying Conductors per Conduit			2	2
	Module Operating Current	10.63 A	# Grounds per Conduit			1	1
	Module Short-Circuit Current	11.16 A	# Neutrals per Conduit			0	0
	Module Max-Current (Isc*125%)	13.95 A	# Sources per Conductor			1	1
	INVERTER SPECIFICATIONS AND CALCULATIONS		Source Maximum Current				
	ITEM	INVERTER 1	Conductor Maximum Current				
	Inverter Make	SolarEdge	CONDITIONS OF USE CALCULATION 310.15 690.8(B)(2)(b)				
	Inverter Model	SE11400H-US	Bottom of Conduit Distance Above Roof (or Below Ground)				
	Inverter Qnty	1	Temperature Ambient High				
D	Inverter Power	11,400 W	Temperature Adjustment (roof/sun)				
	Inverter Input Voltage, Max DC	480	Total Temperature				
	Inverter Input Voltage, Nominal DC	400	Derate for Temp				
	Inverter Output Voltage, AC	240 VAC	Derate for Fill / Bundled				
	Inverter Input Current, Max DC	30.5 ADC	Conductor Ampacity, w/o derates				
	Inverter Output Current, AC	47.5 AAC	Min Ampacity required >= Imax conductor*125% 690.8(B)(1)				
	Inverter Output Frequency	60 Hz	Conductor Ampacity, with derates and 240.4(D)				
	Inverter Phase Qnty	1 Phase	Min Ampacity required >= Imax conductor 690.8(B)(2)				
	Inverter UL Listing	UL1741	TERMINAL CALCULATION 110.14 310.15 690.8(B)(2)(a)				
E	Inverter Grounding	Ungrounded	Terminal Temp Rating				
	Modules in Series	9	Conductor Ampacity at terminals				
	String Max Open Circuit Voltage	522 VDC	Min Ampacity required >= Imax conductor*1.25 690.8(B)(1)				
			OVER-CURRENT 690.8, 690.9, 240.4B				
			# of Parallel Sources per OCD				
			Min Ampacity required >= # parallel sources*Imax source x 1.25				
			Over-current Device				
			CONDUIT ANNEX C, CHAPTER 9 TABLE 1, 376.22				
			Conduit Type				
		Nipple (less than or equal to 24-inches)					
		Conduit diameter					
		Max Allowable Conduit Fill					
		Conduit Fill					
		VOLTAGE DROP (WORST CASE), CHAPTER 9, TABLES 8 & 9					
		Conductor Length One-Way					
		Power Factor					
		Resistance					
		Reactance					
		Impedance					
		Source Operating Current					
		Conductor Operating Current,					
		Nominal Operating Voltage					
		Voltage Drop, total					
		Voltage Drop, percentage					
	1	2	3	4	5	6	7

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LAKE CITY, FL 32024

PAGE TITLE:

ELECTRICAL CALCULATIONS

PAGE #:

E03

Power Optimizer For North America

P400 / P401 / P485 / P505



POWER OPTIMIZER

PV power optimization at the module level

- Specifically designed to work with SolarEdge inverters
- High efficiency with module-level MPPT, for maximized system energy production and revenue, and fast project ROI
- Superior efficiency (99.5%)
- Mitigates all types of module mismatch losses, from manufacturing tolerance to partial shading
- Flexible system design for maximum space utilization
- Fast installation with a single bolt
- Next generation maintenance with module-level monitoring
- Meets NEC requirements for arc fault protection (AFCI) and Photovoltaic Rapid Shutdown System (PVRSS)
- Module-level voltage shutdown for installer and firefighter safety

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Power Optimizer For North America P400 / P401 / P485 / P505

Optimizer model (typical module compatibility)	P400 (for 72 & 96-cell modules)	P401 (for high power 60 and 72-cell modules)	P485 (for high-voltage modules)	P505 (for higher current modules)	
INPUT					
Rated Input DC Power ⁽¹⁾	400	430	485	505	W
Absolute Maximum Input Voltage (Voc at lowest temperature)	80	60	125 ⁽²⁾	83 ⁽²⁾	Vdc
MPPT Operating Range	8 – 80	8 – 60	12.5 – 105	12.5 – 83	Vdc
Maximum Short Circuit Current (Isc)	10.1	12.5	11	14	Adc
Maximum Efficiency	99.5				%
Weighted Efficiency	98.8				%
Overtoltage Category	II				
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREGE INVERTER)					
Maximum Output Current	15				Adc
Maximum Output Voltage	60			80	Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREGE INVERTER OR INVERTER OFF)					
Safety Output Voltage per Power Optimizer	1 ± 0.1				Vdc
STANDARD COMPLIANCE					
EMC	FCC Part 15 Class B, IEC61000-6-2, IEC61000-6-3				
Safety	IEC62109-1 (class II safety), UL1741, NEC/PVRSS				
Material	UL94 V-0, UV Resistant				
RoHS	Yes				
INSTALLATION SPECIFICATIONS					
Maximum Allowed System Voltage	1000				Vdc
Compatible inverters	All SolarEdge Single Phase and Three Phase inverters				
Dimensions (W x L x H)	129 x 153 x 33.5 / 5.1 x 6 x 1.3	129 x 153 x 29.5 / 5.1 x 6 x 1.16	129 x 159 x 49.5 / 5.1 x 6.3 x 1.9	129 x 162 x 59 / 5.1 x 6.4 x 2.3	mm / in
Weight (including cables)	750 / 1.7	655 / 1.5	845 / 1.9	1064 / 2.3	gr / lb
Input Connector	MC4 ⁽³⁾				
Input Wire Length ⁽⁴⁾	0.16 / 0.5				
Output Wire Type / Connector	Double Insulated / MC4				
Output Wire Length	1.2 / 3.9				
Operating Temperature Range ⁽⁵⁾	-40 to +85 / -40 to +185				
Protection Rating	IP68 / NEMA6P				
Relative Humidity	0 – 100				
	%				

- (1) The rated power of the module at STC will not exceed the optimizer Rated Input DC Power. Modules with up to +5% power tolerance are allowed.
(2) NEC 2017 requires that the maximum input voltage not be more than 80V.
(3) For other connector types please contact SolarEdge.
(4) Longer input wire lengths are available for use. For 0.9m input wire length order P401-xxxLxxx.
(5) For ambient temperatures above +85°C / +185°F power de-rating is applied. Refer to the [Power Optimizers Temperature De-Rating Technical Note](#) for more details.

PV System Design Using a SolarEdge Inverter ⁽⁶⁾		SolarEdge Home Wave Single Phase	Single phase	Three Phase for 208V grid	Three Phase for 277/480V grid	
Minimum String Length (Power Optimizers)	P400, P401 P485, P505	8		10	18	
Maximum String Length (Power Optimizers)		6		8	14	
Maximum String Length (Power Optimizers)		25		25	50	
Maximum Power per String		5700 ⁽⁷⁾ (6000 with SE7600-US – SE11400-US)	5250 ⁽⁷⁾	6000 ⁽⁸⁾	12750 ⁽⁹⁾	W
Parallel Strings of Different Lengths or Orientations		Yes				

- (6) It is not allowed to mix P485/P505 with P400/P401 in one string.
(7) A string with more than 30 optimizers does not meet NEC rapid shutdown requirements, safety voltage will be above the 30V requirement.
(8) For the 208V grid, it is allowed to install up to 6,500W per string when the maximum power difference between each string is 1,000W.
(9) For 277/480V grid, it is allowed to install up to 15,000W per string when the maximum power difference between each string is 2,000W.

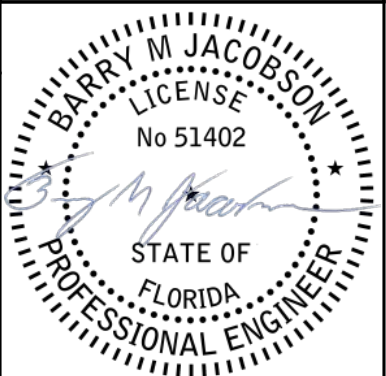
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PAGE TITLE: SOLAREGE OPTIMIZER
PAGE #: E05

Single Phase Inverter with HD-Wave Technology

for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US /
SE7600H-US / SE10000H-US / SE11400H-US



12-25
YEAR
WARRANTY

INVERTERS

Optimized installation with HD-Wave technology

- Specifically designed to work with power optimizers
- Record-breaking efficiency
- Quick and easy inverter commissioning directly from a smartphone using the SolarEdge SetApp
- Fixed voltage inverter for longer strings
- Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12
- UL1741 SA certified, for CPUC Rule 21 grid compliance
- Extremely small
- Built-in module-level monitoring
- Outdoor and indoor installation
- Optional: embedded consumption metering and production revenue grade metering, ANSI C12.20 Class 0.5 (0.5% accuracy)

solaredge.com

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Single Phase Inverter with HD-Wave Technology for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US /
SE7600H-US / SE10000H-US / SE11400H-US

MODEL NUMBER	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
APPLICABLE TO INVERTERS WITH PART NUMBER	SEXXXXH-XXXXBXX4							
OUTPUT								
Rated AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
Maximum AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
AC Output Voltage Min.-Nom.-Max. (211 - 240 - 264)	✓	✓	✓	✓	✓	✓	✓	Vac
AC Output Voltage Min.-Nom.-Max. (183 - 208 - 229)	-	✓	-	✓	-	-	✓	Vac
AC Frequency (Nominal)	59.3 - 60 - 60.5 ¹⁾							Hz
Maximum Continuous Output Current @240V	12.5	16	21	25	32	42	47.5	A
Maximum Continuous Output Current @208V	-	16	-	24	-	-	48.5	A
Power Factor	1, adjustable -0.85 to 0.85							
GFDI Threshold	1							A
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes							
INPUT								
Maximum DC Power @240V	4650	5900	7750	9300	11800	15500	17650	W
Maximum DC Power @208V	-	5100	-	7750	-	-	15500	W
Transformer-less, Ungrounded	Yes							
Maximum Input Voltage	480							Vdc
Nominal DC Input Voltage	380				400			Vdc
Maximum Input Current @240V ²⁾	8.5	10.5	13.5	16.5	20	27	30.5	Adc
Maximum Input Current @208V ²⁾	-	9	-	13.5	-	-	27	Adc
Max. Input Short Circuit Current	45							Adc
Reverse-Polarity Protection	Yes							
Ground-Fault Isolation Detection	600k Ω Sensitivity							
Maximum Inverter Efficiency	99	99.2						%
CEC Weighted Efficiency	99						99 @ 240V 98.5 @ 208V	%
Nighttime Power Consumption	< 2.5							W

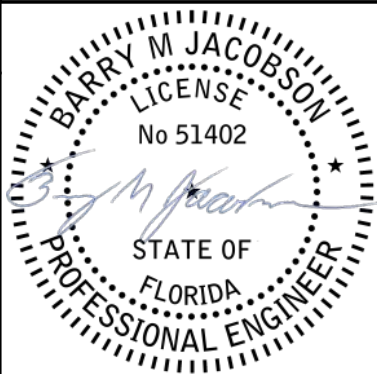
¹⁾ For other regional settings please contact SolarEdge support

²⁾ A higher current source may be used; the inverter will limit its input current to the values stated

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**solar
impact**

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REV#	DATE	REVISION NOTES

Project Name:
**ZACHARY
MEARS**
Project Address:
356 SW PAUL ALLISON
COURT
LAKE CITY, FL 32024

PAGE TITLE: SOLAREGE INVERTER
PAGE #: **E06**

	1	2	3	4	5	6	7	
A	IronRidge socket and torque settings		Wind Speed	V	130 mph			A
	Item	Socket	Torque	Roof Type	RoofType	Gabled		
	Bonded Splice Screws	5/16"	20 in-lbs	Roof Material	RoofMat	Tuff Rib		
	UFO Clamp	7/16"	80 in-lbs	Attachment	Attach	SolarFoot		
	Rail Grounding Lug Nut	7/16"	80 in-lbs	Substrate	Substrate	plywood		
	Grounding Lug Terminal Screw	7/16"	20 in-lbs	Substrate Material	SubstrateMat	19/32-inch plywood		
	Expansion Joint Nut	7/16"	80 in-lbs	Fastener Type	FastenType	1/4-14x1-1/12 ZAC type AB-MP (3/8-inch HWH)		
	Microinverter Kit Nut	7/16"	80 in-lbs	Fastener Qty	FastenQty	four		
B	External Pressure Coefficients, (GC), for Enclosed and Partially Enclosed Buildings (Figure 30.3-2B to 30.3-2H and 29.4-7)		Eave Height	Eht	10.333333 ft			B
			Building Width Perpendicular to Ridge	W	75.3 ft			
			Building Length Parallel to Ridge	L	28.7 ft			
			Soffit Width	OH	19.610676 in			
			Slope of Roof	Slope	6.24:12			
			Exposure Category	EC	B			
			Module Model	ModModel	Q.Peak Duo XL-G10.3 BFG/485			
			Min Attachment Spacing	MinAS	24 in			
C	Roof Zone	GCp min		Max Attachment Spacing	MaxAS	72 in		C
	1	-1.404		Module Orientation	Orient	Portrait		
	2	-1.695		Low Module Height Above Roof	H1	3.5 in		
	3	-2.043		Module Tilt from Roof	omega	0		
			Parapet Height	hpt	0 ft			
			Rail Type	railType	Aires			
			Rail Selection	rail	A1			
			Safety Factor	SafetyFactor	2			
D			Design Attachment Uplift	AttachUp	558 lbs			D
			Module Length	Lp	87.2 in			
			Module Width	Wp	41.1 in			
			Cell Count	CellCount	72			
			Min Strike Zone Distance	StrikeMin	11.8 in			
			Max Strike Zone Distance	StrikeMax	21.6 in			
			Roof Angle	Theta	27.4			
			Roof Slope Category	lowSlope	FALSE			
E			Ridge Height	RHt	30.7 ft			E
			Roof Height Reference	RoofHtRef	mean roof height above grade			
			Roof Height	h	20.5 ft			
			Half Roof Height	rh2	10.2 ft			
			Area of Solar Module	Asm	24.88 ft2			
			Solar Module Pressure Equalization Factor	Ga	0.566	0		
			Width for Zone 2 and 3 Determination	a	3.00 ft	a=max(3,0.04*h,min(0.4*h,0.1*W,0.1*L))		
			Least Building Horiz Dist	B	28.74 ft	B=min(W,L)		
			Mean Roof Height : Least Building Horiz Dist	h/B	0.71			
			Load Factor Based on Strength Design	LF	0.6			
			Topographic Factor	Kzt	1	Topographic Factor is 1 since no topographic feature specified		
			Wind Directionality Factor	Kd	0.85	Table 26.6-1 kd=0.85 for buildings		
			Ground Elevation Factor	Ke	1	Table 26.9-1. Value of 1.0 is permissible for all elevations		
			Velocity Pressure Exposure Coefficient	Kh	0.623	Table 26.10-1 if h<15 then Kh=2.51*(15/zg)^(2/alpha) elseif h<=zg then Kh=2.51*(h/zg)^(2/alpha))		
			Velocity Pressure at Mean Roof Height	qh	16.1 psf	26.10.2 qh = 0.00256 * Kh * Kzt * Kd * Ke * V^2 * LF		
			Exposure Category Coefficient alpha	alpha	7.5	Table 26.11-1		
			Exposure Category Coefficient zg	zg	3,280 ft	Table 26.11-1		
			Parapet Height Factor	Gp	0.9 psf	Eqn 29.4-6 Gp = min(1.2,0.9+hpt/h)		
			Panel Cord Factor	Gc	1.03	Eqn 29.4-6 Gc=max(0.6+0.06*Lp/12,0.8)		
			Normalized wind area	An	96.27	Figure 29.4-7 An=1000/max(Lb,15)^2*Asm		
			Normalized Building Length	Lb	16.07	Figure 29.4-7 Lb=min(0.4*(h*max(Wl,Ws))^0.5,h,B)		
			High Module Height Above Roof	H2	3.50 in			
			Limit for Adjacent Modules	d1_limit	4.00 ft	d1_limit=max(4*h2, 4 ft)		
	1	2	3	4	5	6	7	

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REV#	DATE	REVISION NOTES

Project Name:
ZACHARY MEARS

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356 SW PAUL ALLISON COURT
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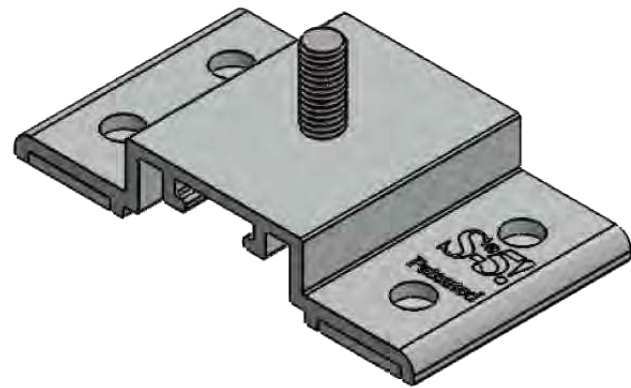
PAGE TITLE :

PAGE # :

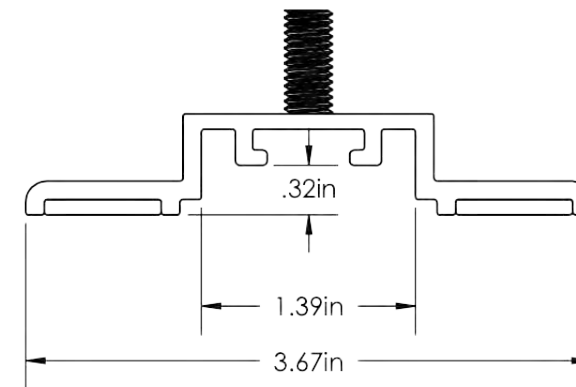
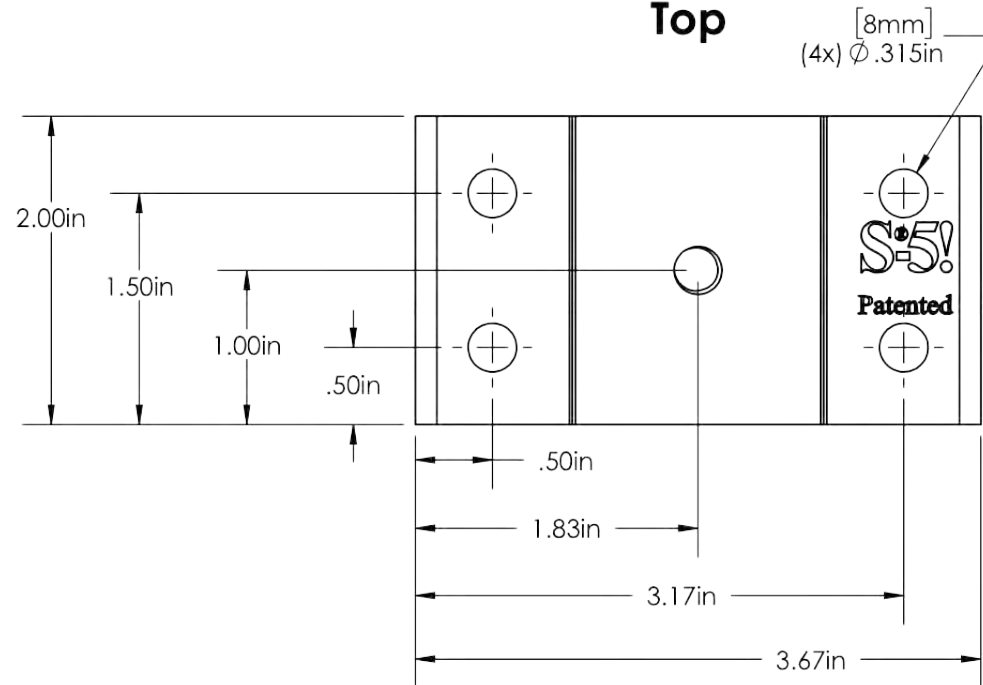
ROOF ZONE CALCS

S02

SolarFoot

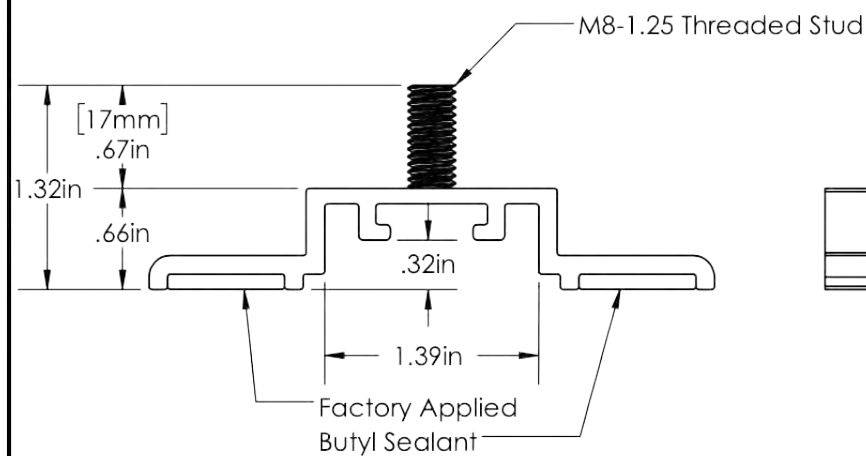


Top

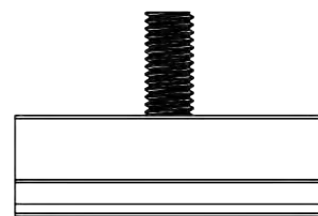


Scale 2:3

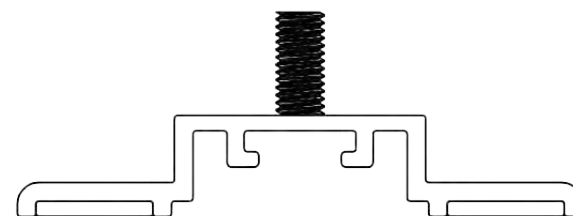
Back



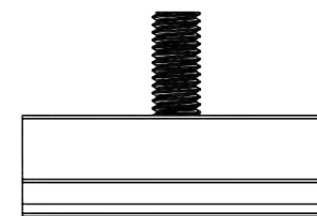
Left



Front



Right



General Notes:

1. SolarFoot
2. M8-1.25 Stainless Steel Hex Flange Nut (13mm Socket)
3. Metal to Metal: 1/4-14 Self Drilling Screw 1-1/2" to 2-1/2"
Metal to Wood: 1/4-14 Type 17 AB Milled Point 1-1/2" to 2-1/2"
4. Example roof

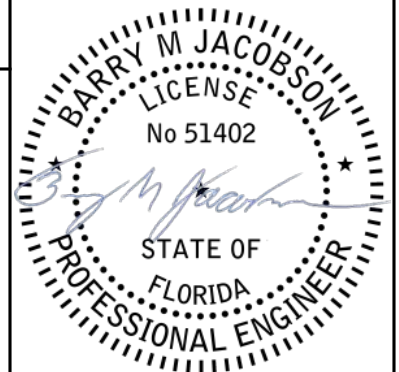
**FOR STANDING SEAM SPECIFIC MECHANICAL LOAD TEST
INFORMATION AND CLAMP INSTALLATION INFORMATION
PLEASE VISIT: WWW.S-5.COM**

MATERIAL: 6005A T61 Al	 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: 0.248 lbs				
SUPPLIED HARDWARE: M8-1.25 Hex Flange Nut	TITLE SolarFoot [CCD]			
SCALE: 2:3	DRAWING NO. LP66-A-0-A	DRAWN BY Paul Leitch	DATE 09/20/2017	
EST. WEIGHT: Bracket: 0.129 lbs Fastener: 0.026 lbs Nut: 0.015 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.			

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REV#	DATE	REVISION NOTES

Project Name:
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Project Address:
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LAKE CITY, FL 32024

PAGE TITLE:	PAGE #:
ATTACHMENT DATA (CONT)	S03



Aire® Flush Mount System



Breathe easy with accelerated installations.

The Aire® racking system has been carefully engineered to streamline every part of the installation process. We've eliminated tiresome hassles, so that you get off the roof and on to your next project faster than ever.

Aire® retains the strength and reliability that IronRidge installers depend on. It also takes wire management to the next level with the first (and only) NEC-compliant rail, formally approved and listed as a cable tray.



Strength Tested

All components have been evaluated for superior structural performance.



PE Certified

Pre-stamped engineering letters are available online for most states.



Class A Fire Rating

Certified to maintain the fire resistance rating of the existing roof structure.



Approved Cable Tray

Open channel listed to NEMA VE 1, certified to hold PV and DG cables.



UL 2703 Listed System

Entire system and components meet the latest effective UL 2703 standards.



25-Year Warranty

Products are guaranteed to arrive without any impairing defects.

Rails

Aire® A1 Rail



The lighter, open Aire® rail for standard conditions.

- 6' spanning capability
- Wire management tray
- Mill or anodized black

Aire® A2 Rail



The tougher, open Aire® rail for higher load capacity.

- 8' spanning capability
- Wire management tray
- Mill or anodized black

Aire® Rail Ties



Structurally connect and bond Aire® Rails together.

- Reinstallable, up to 5x
- Internal splice design
- No more splice rules

Aire® Dock



Connects Aire® Rails to attachments with ease.

- Clicks on, slides easily
- Drops into open slots
- Anodized assembly

Clamps & Grounding

Aire® Lock Mids



Securely bond between modules to Aire® Rails.

- Fits 30-40mm modules
- Utilizes UFO® design
- Minimal 1/2" gap

Aire® Lock Ends



Securely bond modules to Aire® Rails along ends.

- Fits 30-40mm modules
- Easy rail engagement
- Clean aesthetics

Aire® Lock Stealth®



Securely bonds modules to rail ends, entirely hidden.

- Angled for easy install
- Robust tether leash
- Fits most modules

Aire® Lug



Bonds Aire® Rails to grounding conductors.

- Simplified with single bolt
- Low-profile form factor
- Works with 10-6 AWG

Accessories

Aire® Caps



Block entry and provide a finished look to Aire® Rails.

- Stay secure on rail ends
- Symmetrical, with drain
- Cover rough-cut ends

Aire® Clip



Keeps wiring contained in open Aire® Rail channels.

- No module interference
- Simple press-in design
- Slot for easy removal

Aire® MLPE Mount



Securely bonds MLPE and accessories to Aire® Rails.

- Glove-friendly installation
- Lays flush in rail channel
- Low profile form factor

Aire® All Tile Hook



Attaches rails to tile roofs, with Aire® Dock included.

- Works on flat, S, & W tiles
- Single-socket installation
- Optional deck flashing

Resources



Design Assistant

Quickly go from rough layout to fully engineered system.

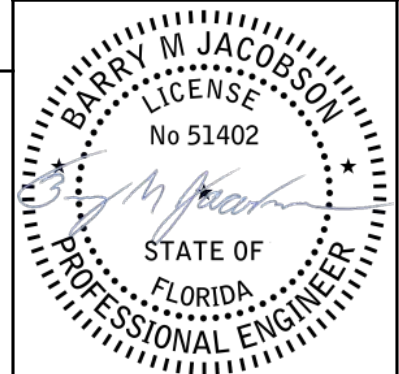
Go to IronRidge.com/design



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Project Address:
**356 SW PAUL ALLISON COURT
LAKE CITY, FL 32024**

PAGE TITLE:	PAGE #:
RACKING DATA	S04