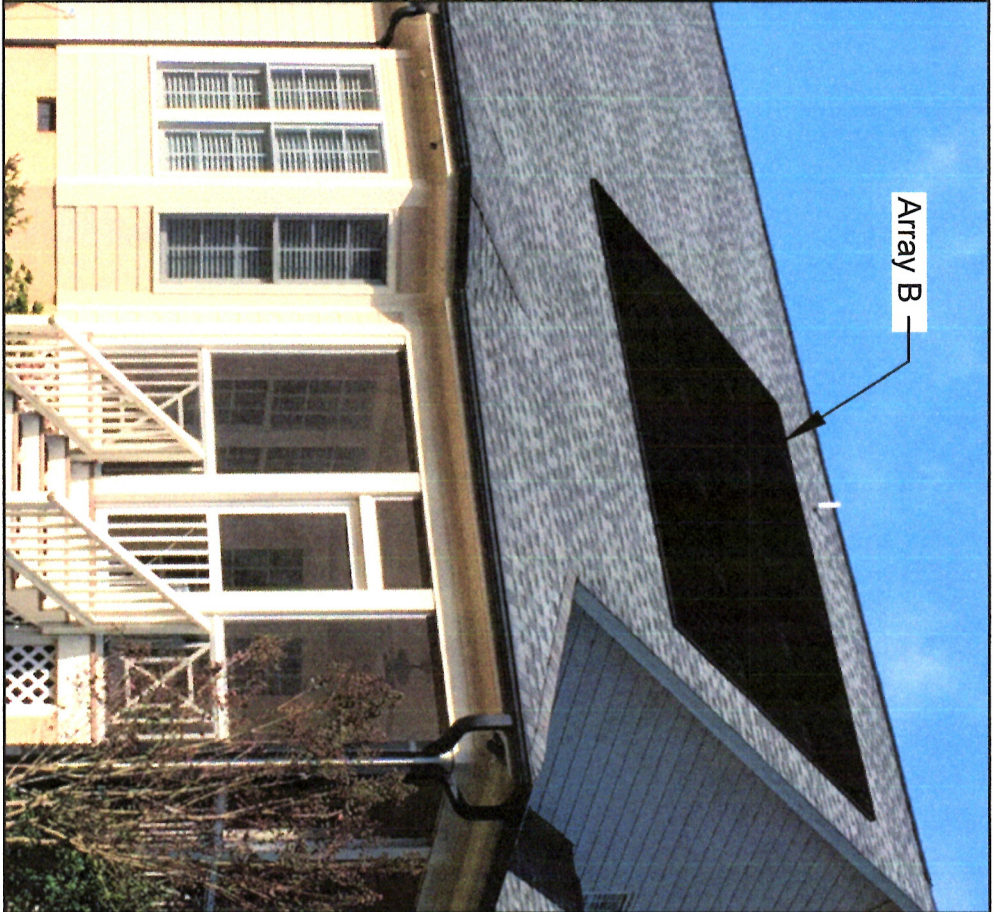
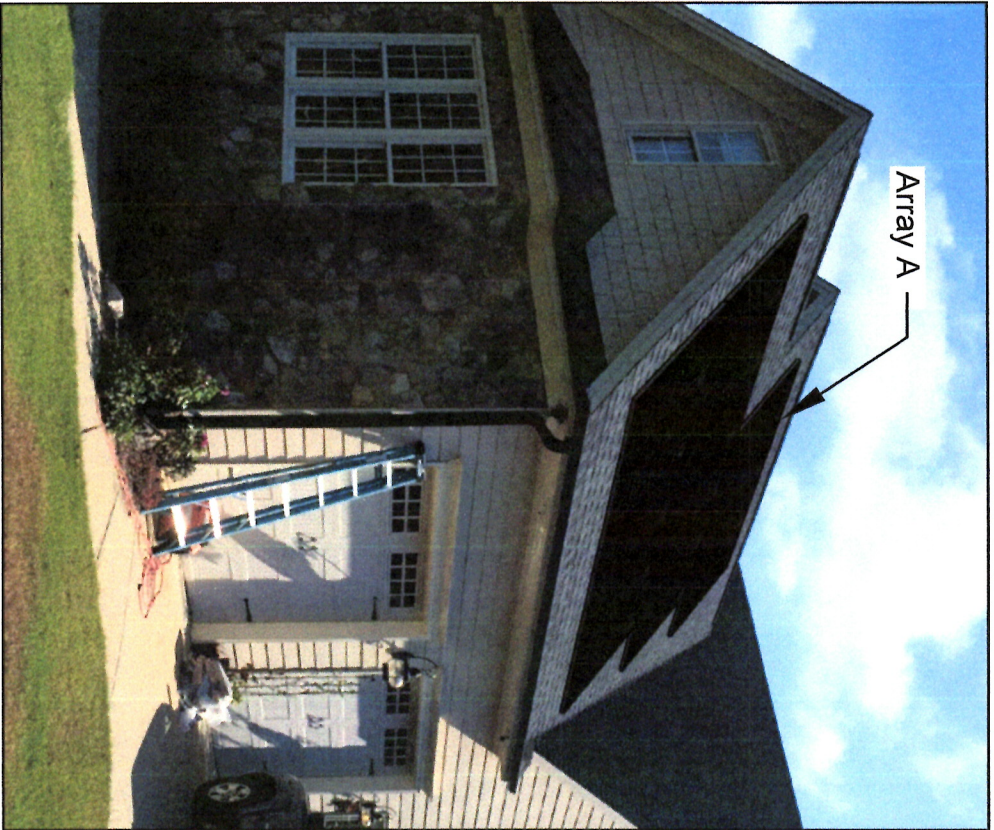




Approved

10/21/2019BSutton

01 PERSPECTIVE SKETCH
G-01 SCALE: N/A



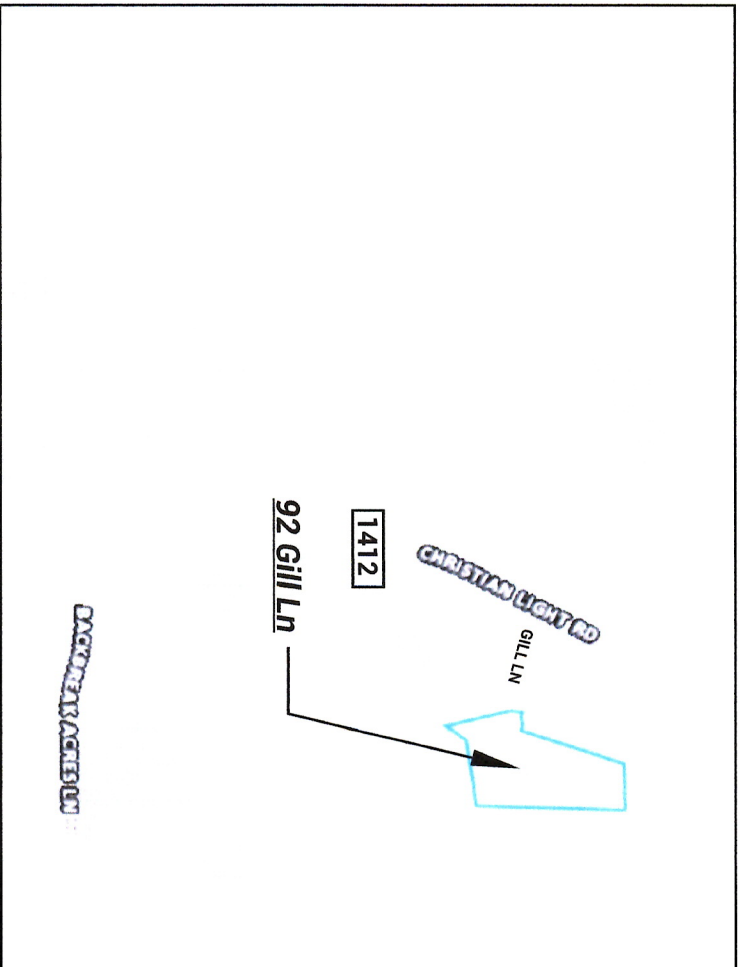
SHEET LIST TABLE	
SHEET NO.	SHEET TITLE
G-01	COVER
S-01	ARRAY LAYOUT A
S-02	ARRAY LAYOUT B
S-03	ASSEMBLY DETAILS
E-01	LINE DIAGRAM

PROJECT INFORMATION

CONTRACTOR
 NAME: CAPE FEAR SOLAR SYSTEMS, LLC
 PHONE: (910) 409-5533
 PROJECT MANAGER: JASON ORTIZ
 PHONE: (910) 599-0428

AUTHORITIES HAVING JURISDICTION
 BUILDING: HARNETT COUNTY
 ZONING: HARNETT COUNTY
 ELECTRICAL: HARNETT COUNTY
 UTILITY: DEP

APPLICABLE CODES & STANDARDS
 BUILDING: IRC WITH NORTH CAROLINA AMENDMENTS 2018
 ELECTRICAL: NEC 2017
 FIRE: IFC 2018



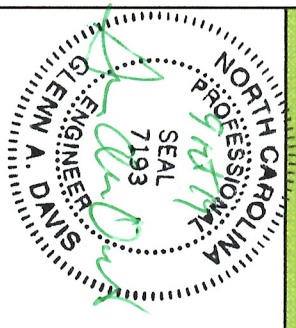
02 LOCATION MAP
G-01 SCALE: 1" = 900'

CAPE FEAR SOLAR SYSTEMS
 901 Martin Street, Unit A
 Wilmington, NC 28401
 910-409-5533

LIC. NO. : 65677
 ELEC. LIC. NO. : 21073U

**9.81 KW PV SYSTEM
 MEADOR RESIDENCE**
 92 Gill Lane
 Fuquay Varina, NC 27526

COVER



Firm Lic. No. D-0395

#	REV. DATE	DESC.

REVISION LIST

DATE:	October 9, 2019
DRAWN BY:	ZJP
APPROVED BY:	GAD

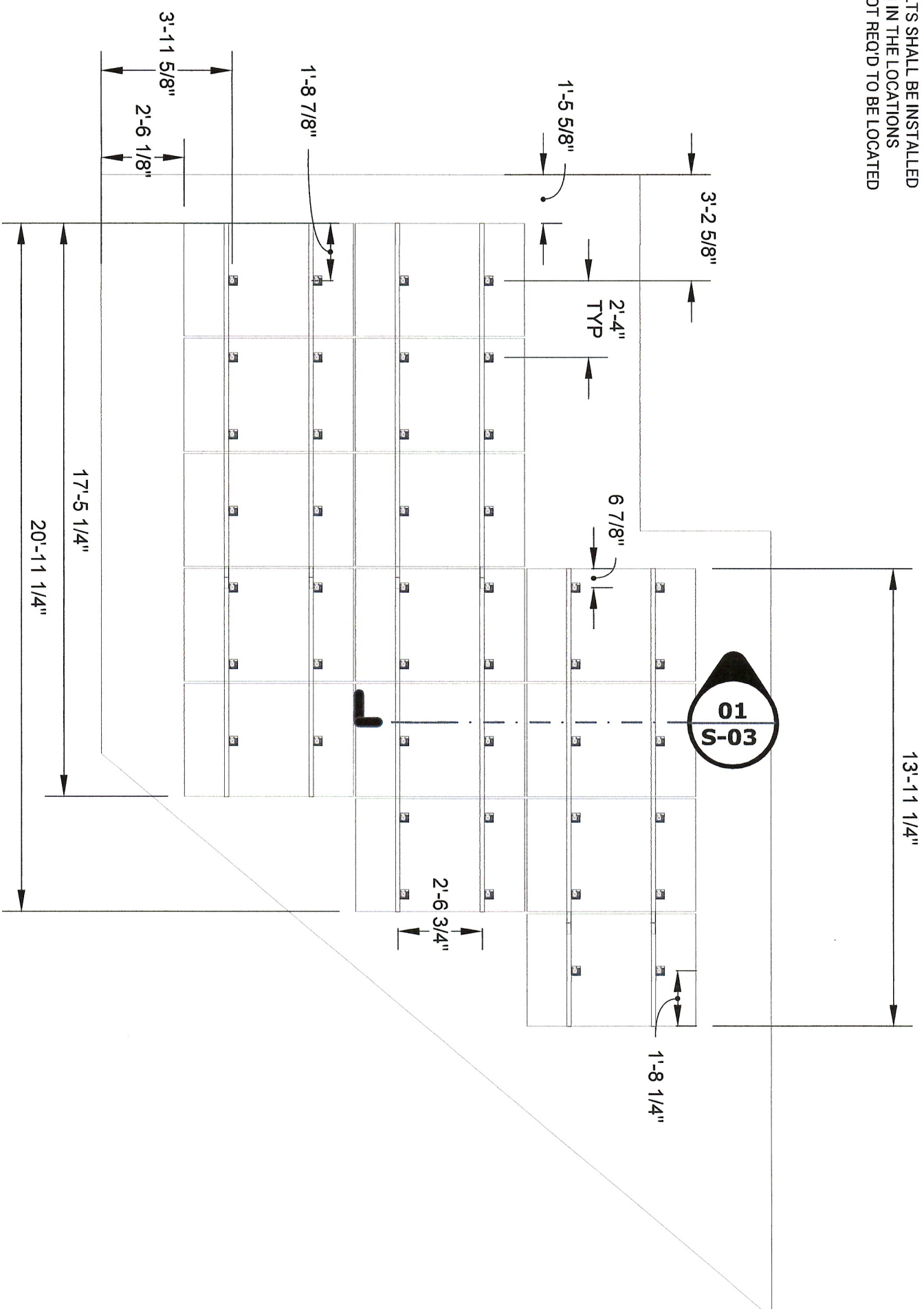
Sheet No.
G-01

STRUCTURAL NOTES

1. ROOF MOUNT RACKING SYSTEM & PV ARRAY TO BE INSTALLED IN STRICT ACCORDANCE WITH THESE DRAWINGS & MFG'S RECOMMENDATIONS. MINOR SPACING MODIFICATIONS ARE ACCEPTABLE TO ACCOMMODATE EXISTING ROOF STRUCTURE MEMBERS
2. EXISTING ROOF STRUCTURE HAS BEEN INCLUDED IN THE STRUCTURAL EVALUATION AND FOUND SUITABLE FOR THIS INSTALLATION
3. ALL ATTACHMENT BOLTS SHALL BE INSTALLED IN THE ROOF SHEATHING IN THE LOCATIONS SHOWN. (IT IS OK, BUT NOT REQ'D TO BE LOCATED IN RAFTERS.)

DESIGN SPECIFICATIONS

GROUND SNOW LOAD: 15 PSF
 DESIGN WIND SPEED: 116 MPH (ASCE 7-10)
 DESIGN EXPOSURE CATEGORY: C
 DEAD LOAD: 2.84 PSF.



01
 S-01 PLAN - ARRAY A LAYOUT
 SCALE: 1/4" = 1'



LIC. NO.: 65677
 ELEC. LIC. NO.: 21073U

**9.81 KW PV SYSTEM
 MEADOR RESIDENCE**
 92 Gill Lane
 Fuquay Varina, NC 27526

ARRAY A LAYOUT



Firm Lic. No. D-0395

REVISION LIST		
#	REV. DATE	DESC.

DATE: October 9, 2019
 DRAWN BY: ZJP
 APPROVED BY: GAD

Sheet No.
S-01



LIC. NO. : 65677
 ELEC. LIC. NO. : 21073U

**9.81 KW PV SYSTEM
 MEADOR RESIDENCE**
 92 Gill Lane
 Fuquay Varina, NC 27526

ARRAY B LAYOUT



Firm Lic. No. D-03995

REVISION LIST

#	REV. DATE	DESC.

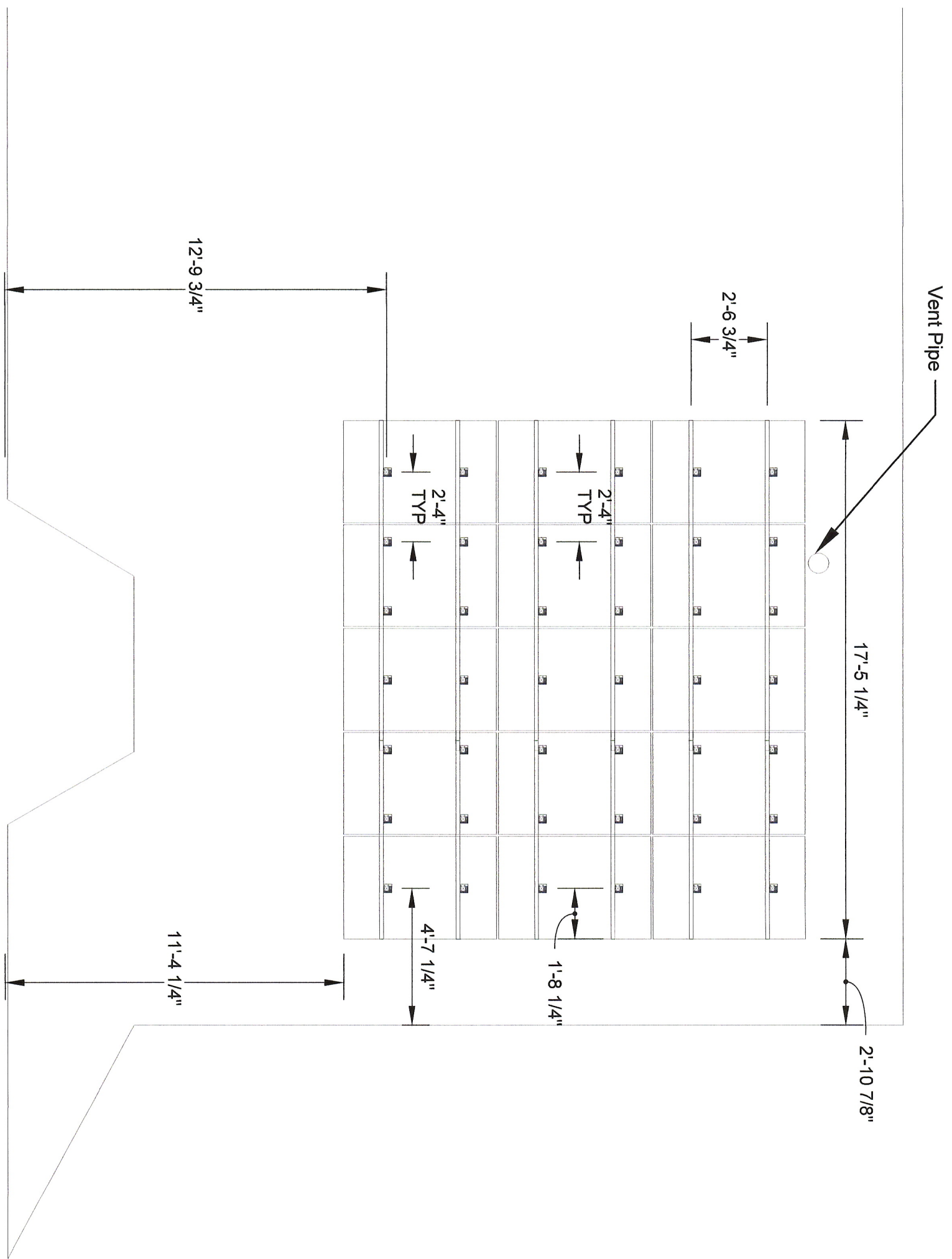
DATE: October 9, 2019

DRAWN BY: ZJP

APPROVED BY: GAD

Sheet No.

S-02



01 PLAN - ARRAY B LAYOUT
S-02 SCALE: 1/4" = 1'

GENERAL ELECTRICAL NOTES

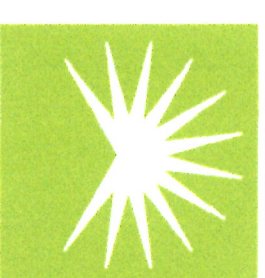
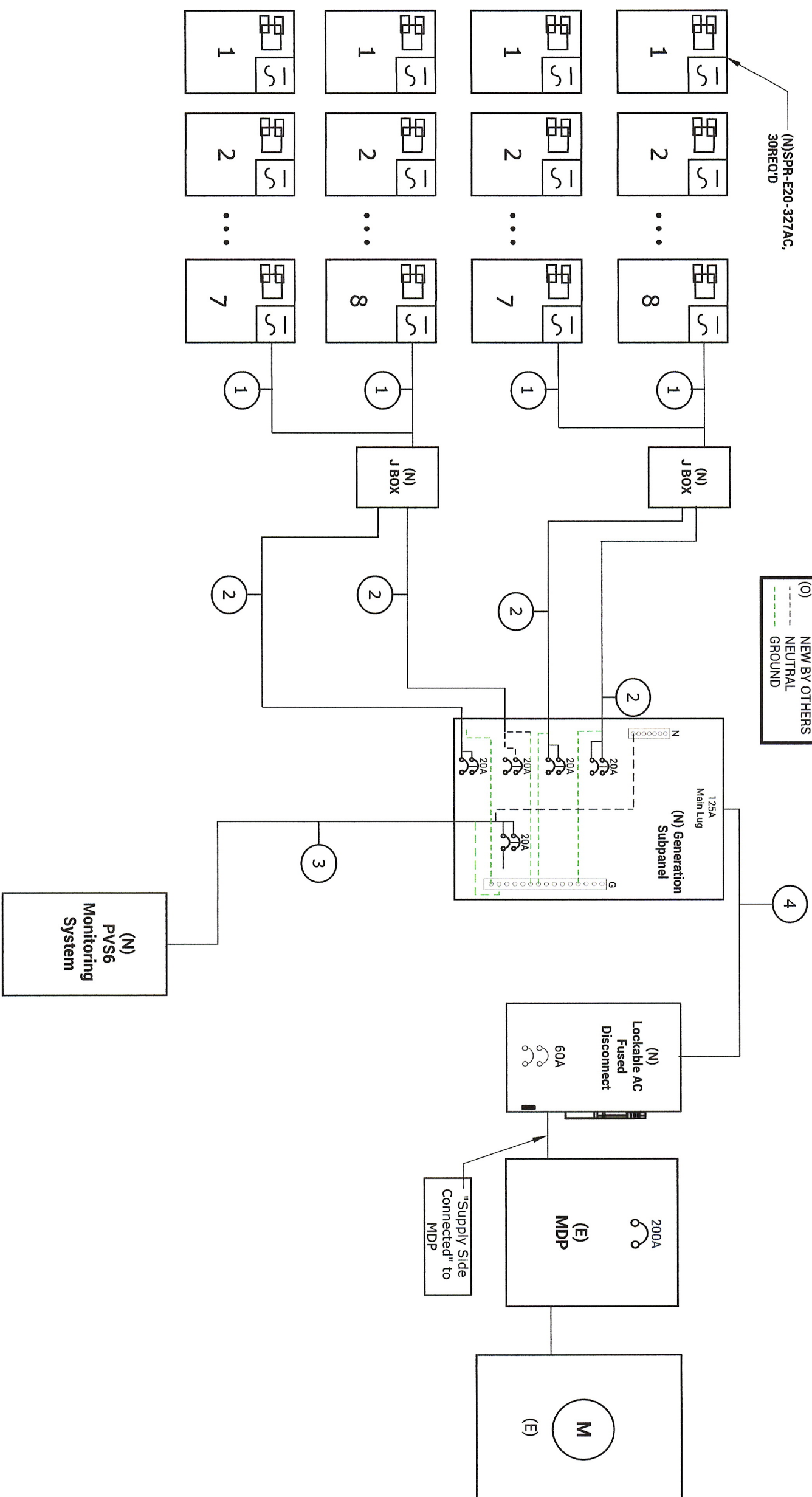
1. Equipment shall be new unless otherwise noted.
2. Equipment shall be listed unless otherwise noted.
3. Equipment shall be installed providing adequate working space in compliance with NEC.
4. Copper conductors shall be used and shall have insulation rating 600V, 90°C unless otherwise noted.
5. Conductors shall be sized in accordance with the NEC and ampacity shall be derated for temperature increase, conduit fill & voltage drop.
6. All conductors shall be installed in approved conduits. Conduits shall be adequately supported in accordance with the NEC.
7. AC Disconnect is optional, however it may be required by the utility.
8. Exposed non-current carrying metal parts shall be grounded in accordance with the NEC.
9. All work shall comply with the NEC and all applicable local electrical code requirements.
10. Contractor will provide labeling in accordance with the NEC, Article 110, 225, 690, and 705.

WIRING SCHEDULE

TAG	CONDUIT SIZE	CONDUCTOR	NEUTRAL	GROUND	NOTES
1	NONE	12/2 SunPower Trunk Cable	NONE	10 AWG	(Mfg supplied cabling within array)
2	NONE	10/2 NM	NONE	10 AWG	J Box to Generation Sub Panel
3	3/4" LFNC	12 THHN	12 THHN	12 AWG	Generation Sub Panel to PVS6
4	3/4" PVC	6 THHN	6 THHN	6 AWG	Generation Sub Panel to MDP

LEGEND

(N)	NEW
(E)	EXISTING
(O)	NEW BY OTHERS
---	NEUTRAL
---	GROUND



LIC. NO. : 65677
 ELEC. LIC. NO. : 21073U

**9.81 KW PV SYSTEM
 MEADOR RESIDENCE**
 92 Gill Lane
 Fuquay Varina, NC 27526

LINE DIAGRAM



REVISION LIST

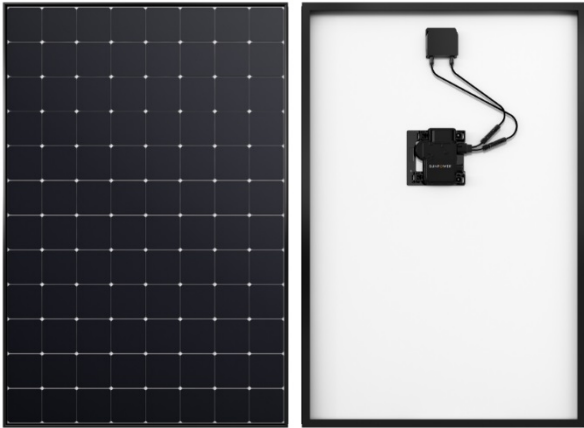
#	REV. DATE	DESC.

DATE: October 9, 2019

DRAWN BY: ZJP

APPROVED BY: GAD

Sheet No.



SunPower® E-Series: E20-327 | E19-320

SunPower® Residential AC Module

Built specifically for use with the SunPower Equinox™ system, the only fully integrated solution designed, engineered, and warranted by one manufacturer.



Maximum Power. Minimalist Design.

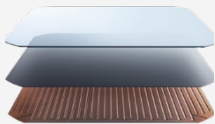
Industry-leading efficiency means more power and savings per available space. With fewer modules required and hidden microinverters, less is truly more.



Highest Lifetime Energy and Savings.

Designed to deliver 60% more energy over 25 years in real-world conditions like partial shade and high temperatures.¹

Fundamentally Different. And Better.



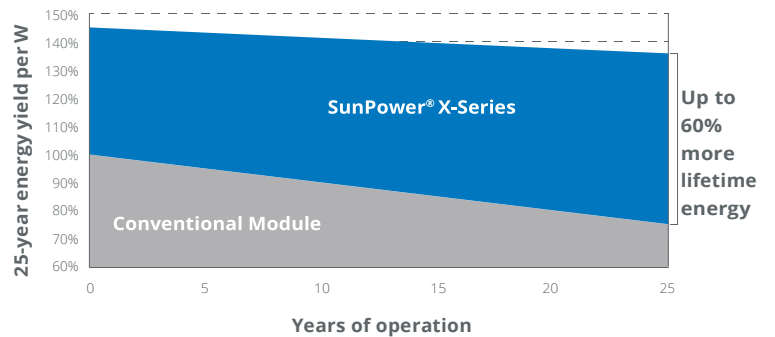
The SunPower® Maxeon® Solar Cell

- Enables highest-efficiency modules available.²
- Unmatched reliability³
- Patented solid metal foundation prevents breakage and corrosion



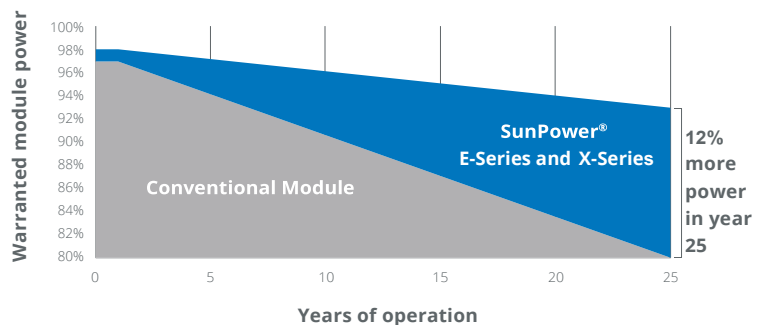
Factory-integrated Microinverter

- Simpler, faster installation
- Integrated wire management, rapid shutdown
- Engineered and calibrated by SunPower for SunPower modules



Best Reliability. Best Warranty.

With more than 25 million modules deployed around the world, SunPower technology is proven to last. That's why we stand behind our module and microinverter with the industry's best 25-year Combined Power and Product Warranty, including the highest Power Warranty in solar.



E-Series: E20-327 | E19-320 SunPower® Residential AC Module

AC Electrical Data		
Inverter Model: Enphase IQ 7XS (IQ7XS-96-ACM-US)	@240 VAC	@208 VAC
Peak Output Power	320 VA	320 VA
Max. Continuous Output Power	315 VA	315 VA
Nom. (L-L) Voltage/Range ² (V)	240 / 211–264	208 / 183–229
Max. Continuous Output Current (A)	1.31	1.51
Max. Units per 20 A (LL) Branch Circuit ³	12 (single phase)	10 (two pole) wye
CEC Weighted Efficiency	97.5%	97.0%
Nom. Frequency	60 Hz	
Extended Frequency Range	47–68 Hz	
AC Short Circuit Fault Current Over 3 Cycles	5.8 A rms	
Overvoltage Class AC Port	III	
AC Port Backfeed Current	18 mA	
Power Factor Setting	1.0	
Power Factor (adjustable)	0.7 lead. / 0.7 lag.	
No active phase balancing for three-phase installations		

DC Power Data		
	SPR-E20-327-E-AC	SPR-E19-320-E-AC
Nom. Power ⁵ (P _{nom})	327 W	320 W
Power Tol.	+5/-0%	+5/-0%
Module Efficiency	20.4%	19.9%
Temp. Coef. (Power)	-0.35%/°C	-0.35%/°C
Shade Tol.	<ul style="list-style-type: none"> • Three bypass diodes • Integrated module-level maximum power point tracking 	

Tested Operating Conditions	
Operating Temp.	-40°F to +185°F (-40°C to +85°C)
Max. Ambient Temp.	122°F (50°C)
Max. Load	Wind: 62 psf, 3000 Pa, 305 kg/m ² front & back Snow: 125 psf, 6000 Pa, 611 kg/m ² front
Impact Resistance	1 inch (25 mm) diameter hail at 52 mph (23 m/s)

Mechanical Data	
Solar Cells	96 Monocrystalline Maxeon Gen III
Front Glass	High-transmission tempered glass with anti-reflective coating
Environmental Rating	Outdoor rated
Frame	Class 1 black anodized (highest AAMA rating)
Weight	42.9 lbs (19.5 kg)
Recommended Max. Module Spacing	1.3 in. (33 mm)

1 SunPower 360 W compared to a conventional module on same-sized arrays (260 W, 16% efficient, approx. 1.6 m²). 4% more energy per watt (based on third-party module characterization and PVSim), 0.75%/yr slower degradation (Campeau, Z. et al. "SunPower Module Degradation Rate," SunPower white paper, 2013).

2 Based on search of datasheet values from websites of top 10 manufacturers per IHS, as of January 2017.

3 #1 rank in "Fraunhofer PV Durability Initiative for Solar Modules: Part 3." PVTech Power Magazine, 2015. Campeau, Z. et al. "SunPower Module Degradation Rate," SunPower white paper, 2013.

4 Factory set to 1547a-2014 default settings. CA Rule 21 default settings profile set during commissioning. See the Equinox Installation Guide #518101 for more information.

5 Standard Test Conditions (1000 W/m² irradiance, AM 1.5, 25°C). NREL calibration standard: SOMS current, LACCS FF and voltage. All DC voltage is fully contained within the module.

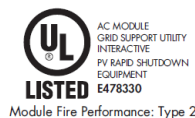
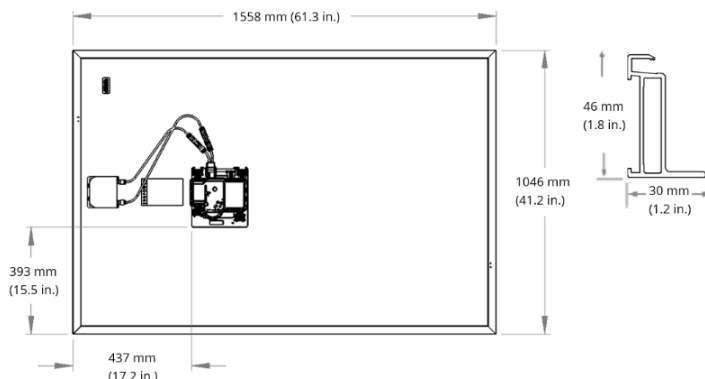
6 This product is UL Listed as PVRSE and conforms with NEC 2014 and NEC 2017 690.12; and C22.1-2015 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors; when installed according to manufacturer's instructions.

See www.sunpower.com/facts for more reference information.

For more details, see extended datasheet www.sunpower.com/datasheets. Specifications included in this datasheet are subject to change without notice.

©2018 SunPower Corporation. All Rights Reserved. SUNPOWER, the SUNPOWER logo and MAXEON are registered trademarks of SunPower Corporation in the U.S. and other countries as well. 1-800-SUNPOWER.

Warranties, Certifications, and Compliance	
Warranties	<ul style="list-style-type: none"> • 25-year limited power warranty • 25-year limited product warranty
Certifications and Compliance	<ul style="list-style-type: none"> • UL 1703 • UL 1741 / IEEE-1547 • UL 1741 AC Module (Type 2 fire rated) • UL 62109-1 / IEC 62109-2 • FCC Part 15 Class B • ICES-0003 Class B • CAN/CSA-C22.2 NO. 107.1-01 • CA Rule 21 (UL 1741 SA)⁴ (includes Volt/Var and Reactive Power Priority) • UL Listed PV Rapid Shutdown Equipment⁵ <p>Enables installation in accordance with:</p> <ul style="list-style-type: none"> • NEC 690.6 (AC module) • NEC 690.12 Rapid Shutdown (inside and outside the array) • NEC 690.15 AC Connectors, 690.33(A)-(E)(1) <p>When used with InvisiMount racking and InvisiMount accessories (UL 2703):</p> <ul style="list-style-type: none"> • Module grounding and bonding through InvisiMount • Class A fire rated <p>When used with AC module Q Cables and accessories (UL 6703 and UL 2238)⁶:</p> <ul style="list-style-type: none"> • Rated for load break disconnect
PID Test	Potential-induced degradation free



SUNPOWER®

Please read the Safety and Installation Instructions for details.

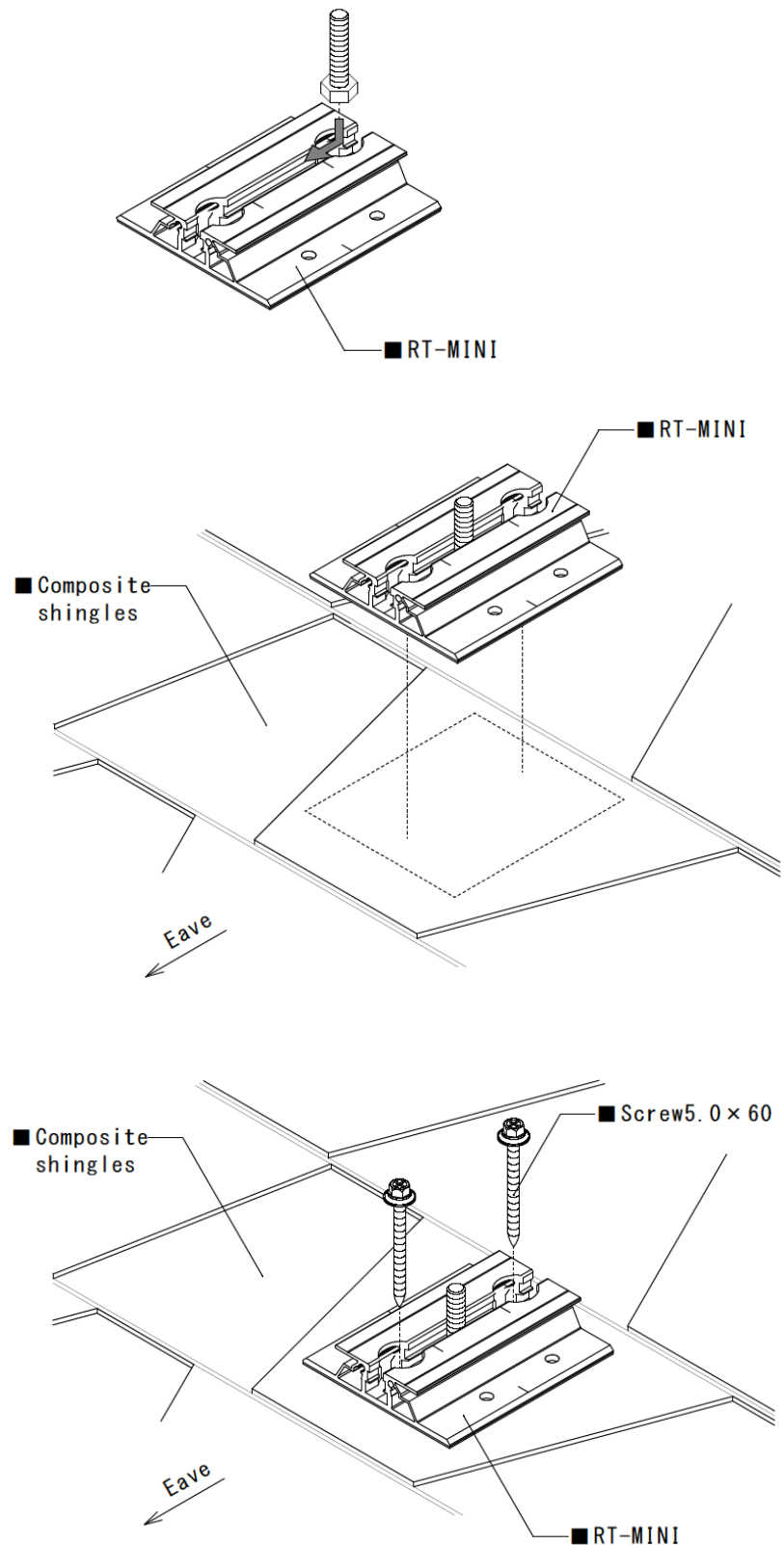
531948 RevA

- ④ Installing the bracket.
- Place the brackets at the specified position and make sure the RT butyl makes good contact with the roofing surface.
- Slide the M8 or 5/16" Hex bolt into place before fastening the bracket on the roof.**
- Set the bracket with 2 ea. Screws, M 5.0 × 60 mm stainless wood screw using 8 mm hex socket.
- After completing process, make sure the brackets are securely fixed.

! Attention

The 5/16" or M8 Hex bolt must be set on the lower channel before both wood screws are fixed to the rafter.

[Fastening it to the Rafter]



NABCEPTM

Raising Standards. Promoting Confidence.



**The North American Board of
Certified Energy Practitioners**

does hereby recognize that

Jason Ortiz

has satisfied the requirements and standards for the

Photovoltaic System Inspector

established by the NABCEP Board of Directors.

System Inspector # **PVSI-090719-021052**

Expires **Nov 07, 2022**

To verify current status visit www.nabcep.org

A handwritten signature in black ink that reads "Shawn W. O'Brien".

Shawn O'Brien, Executive Director

License Year

2019

License No.

65677

North Carolina

Licensing Board for General Contractors

This is to Certify That:

Cape Fear Solar Systems LLC
Wilmington, NC

is duly registered and entitled to practice

General Contracting

Limitation: Limited

Classification: Building

until

December 31, 2019

when this Certificate expires.

Witness our hands and seal of the Board.

Dated, Raleigh, N.C.

January 1, 2019

This certificate may not be altered.



[Signature]

Chairman

[Signature]

Secretary-Treasurer



Post Office Box 150005
 Raleigh, North Carolina 27624-0005
 (800) 809-4859

- Builders Premier Insurance Company
 Builders Mutual Insurance Company

WORKERS COMPENSATION & EMPLOYERS LIABILITY Insurance Policy

Policy Number	Policy Period	
	From	To
WCP 0042535 11	04/16/2019 12:01 A.M. Standard Time at the described location	04/16/2020

RENEWAL DECLARATION	Customer #:
---------------------	-------------

1. Named Insured and Address	Agent		
CAPE FEAR SOLAR SYSTEMS LLC 901 MARTIN ST WILMINGTON NC 28401	JAMES E MOORE INS AGENCY 1508 MILITARY CUTOFF RD #104 WILMINGTON, NC 28403-5730 Telephone: 910-256-5333 0000233		
Carrier # 37354	FEIN # 261923635	Risk ID # 6238279	Entity of Insured LLC

Location(s): See Site Location Schedule

2. The Policy Period is from 04/16/2019 to 04/16/2020 12:01 a.m. Standard Time at the Insured's mailing address.

3. A. Workers Compensation Insurance: Part One of the policy applies to the Workers Compensation Law of the states listed here: North Carolina

B. Employers Liability Insurance: Part Two of the policy applies to work in each state listed in Item 3A. The limits of our liability under Part Two are:

Bodily Injury by Accident	\$	1,000,000	each accident
Bodily Injury by Disease	\$	1,000,000	policy limit
Bodily Injury by Disease	\$	1,000,000	each employee

C. Other States Insurance: Part Three of the policy applies to the states, if any, listed here: SC, VA, TN, MD, GA, MS, DC, FL except state(s) listed in Item 3.A. above.

D. This policy includes these endorsements and schedules: See attached schedule.

4. The premium for this policy will be determined by our Manuals of Rules, Classifications, Rates, and Rating Plans. All information required below is subject to verification and change by audit.

SEE EXTENSION OF INFORMATION PAGE

FAILURE TO PAY ANY PAST OR CURRENT PREMIUMS DUE WILL RESULT IN THE RESCISSION OF THIS OFFER OF COVERAGE.

Minimum Premium	\$	1,120	Total Estimated Annual Premium	\$	5,899
			Expense Constant	\$	210
			Premium Discount	\$	- 101
			Deposit	\$	

Premium Adjustment Period: Annual; Semiannual; Quarterly; Monthly

Countersigned this _____ Day of _____,
 Issued Date: 03/14/2019
 Issuing Office BUILDERS MUTUAL INSURANCE CO.

 Authorized Representative



Post Office Box 150005
 Raleigh, North Carolina 27624-0005
 (800) 809-4859

**COMMERCIAL PACKAGE POLICY
 GENERAL LIABILITY COVERAGE PART**

- Builders Premier Insurance Company
 Builders Mutual Insurance Company

WC Policy No:

Policy Number	Policy Period	
	From	To
CPP 0030977 11	04/16/2019 12:01 A.M. Standard Time at the described location	04/16/2020

Transaction	
RENEWAL DECLARATION	Customer #: 0261923635

Named Insured and Address	Agent
CAPE FEAR SOLAR SYSTEMS LLC 901 MARTIN ST WILMINGTON NC 28401	JAMES E MOORE INS AGENCY 1508 MILITARY CUTOFF RD #104 WILMINGTON, NC 28403-5730 Telephone: 910-256-5333 0000233
Business Description ARTISAN - UNSPECIFIED	Type of Business LIMITED LIABILITY COMPANY Audit Period Quarterly

IN RETURN FOR THE PAYMENT OF THE PREMIUM, AND SUBJECT TO ALL THE TERMS OF THIS POLICY, WE AGREE WITH YOU TO PROVIDE THE INSURANCE AS STATED IN THIS POLICY.

GENERAL LIABILITY DECLARATIONS

LIMITS OF INSURANCE

General Aggregate Limit (Other than Products-Completed Operations)	\$	2,000,000
Products - Completed Operations Aggregate Limit	\$	2,000,000
Each Occurrence Limit	\$	1,000,000
Personal and Advertising Injury Limit	\$	1,000,000
Medical Expense Limit, any one person	\$	5,000
Fire Damage Limit, any one fire	\$	100,000
Limited Care Custody/Control (Each Loss)	\$	
Limited Care Custody/Control (Policy Aggregate)	\$	
Employee Benefits Liability (Each Claim)	\$	
Employee Benefits Liability (Aggregate)	\$	
Hired and Non-Owned Auto Liability (Each Occurance)		

DEDUCTIBLES

	PER CLAIM	PER OCCURRENCE
Premop BI		\$
Products BI		\$
Premop PD		\$
Product PD		\$
Premop BI/PD		\$
Product BI/PD		\$

LOCATIONS OF ALL PREMISES YOU OWN, RENT OR OCCUPY

Refer to attached schedule.

CLASSIFICATIONS

Refer to attached schedule

TOTAL PREMIUM FOR THIS COVERAGE PART \$ 2,028

Forms and Endorsements Applicable to this Policy See Attached Schedule

These Declarations together with the common policy conditions, coverage part declarations, coverage part coverage form(s) and form(s) and endorsements, if any, issued, complete the above numbered policy.