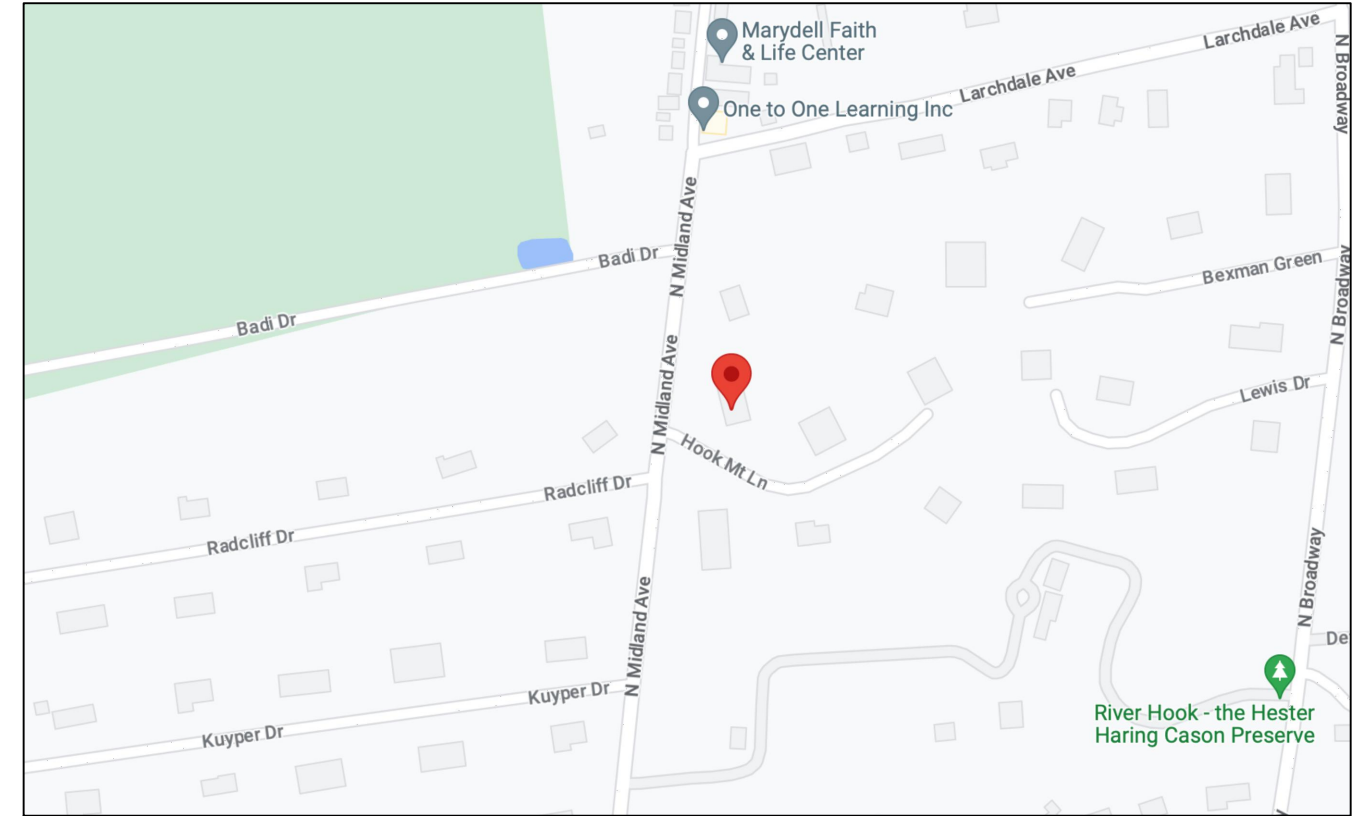


INVERTER & MAIN DISCONNECT



SOLAR ARRAY #1  
37 REC 420W  
PV PANELS  
SEE SHEET 2 OF 5  
FOR PANEL LAYOUT

**ROOF PANEL LAYOUT PLAN:**  
NTS



**AERIAL MAP:**  
NTS

**SITE VERIFICATION NOTES:**

1. PRIOR TO SUBMISSION TO MUNICIPALITY OF THE PLANS, THIS CONTRACTOR SHALL VISIT THE JOB SITE TO ASCERTAIN THE ACTUAL FIELD CONDITIONS AS THEY RELATE TO THE WORK INDICATED ON THE DRAWINGS AND DESCRIBED HEREIN. DISCREPANCIES, IF ANY, SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO SUBMISSION OF THE PLANS. SUBMISSION OF PLANS SHALL BE EVIDENCE THAT SITE VERIFICATION HAS BEEN PERFORMED AS DESCRIBED ABOVE.
2. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS PRIOR TO THE START OF WORK. IF EXISTING CONDITIONS VARY FROM PLANS, THE CONTRACTOR SHALL STOP WORK AND NOTIFY PROJECT ENGINEER A.S.A.P. CONTRACTOR ASSUMES ALL RESPONSIBILITY AND LIABILITY THEREFROM.
3. THE OWNER/CONTRATOR SHALL OBTAIN ALL NECESSARY PERMITS, VERIFY ALL CONDITIONS, EXAMINE THE DESIGN DOCUMENTS AND BE RESPONSIBLE FOR ALL MEASUREMENTS, DIMENSIONS AND CONDITIONS.
4. COMMENCEMENT OF CONSTRUCTION WILL SIGNIFY THAT THE CONTRACTOR WILL HOLD THE DESIGN ENGINEER HARMLESS FOR ANY AND ALL ERRORS, OMISSIONS AND PERSONAL LIABILITY.

**PROJECT DESIGN DATA:**

WORK SHALL BE COMPLETED AS PER 2020 RESIDENTIAL CODE OF NEW YORK STATE, PUBLICATION DATE: NOVEMBER 2019, NFPA 70, 2020 NATIONAL ELECTRICAL CODE AND 2018 WOOD FRAME CONSTRUCTION MANUEL LOAD CRITERIA AS FOLLOWS  
EXPOSURE CATEGORY: "B"  
GROUND SNOW LOAD: 40 PSF  
WIND SPEED: 120 MPH

**GENERAL NOTES:**

1. ALL SOLAR MODULES TO BE REC 420W AND SHALL BE INSTALLED AS PER REC INSTALLATION MANUAL.
2. ALL INVERTERS TO BE ENPHASE MICRO INVERTERS ALL RACKING TO BE IRON RIDGE AND ALL RACKING TO INSTALLED AS PER IRON RIDGE MANUFACTURERS SPECIFICATIONS.

**RESIDENTIAL SOLAR PANEL INSTALLATION**  
LOCATED AT - 629 NORTH MIDLAND AVE, NYACK, NEW YORK 10960  
VILLAGE OF UPPER NYACK, ROCKLAND COUNTY, NEW YORK



**SOLAR PANEL  
INSTALLATION  
CAMPOMANES  
RESIDENCE**  
629 NORTH MIDLAND AVE  
NYACK  
NEW YORK 10960

**REVISIONS NOTES**

DWG. BY:	MEM	SCALE:	AS-NOTED
CHECKED BY:	MEM	PROJECT #:	ES-
DATE:	MAY 10, 2023	SBL #:	60.05-2-14
MUNICIPALITY:	VILLAGE OF UPPER NYACK	COUNTY:	ROCKLAND

**SYSTEM NOTES:**

TOTAL SYSTEM SIZE: 15.54KW DC SYSTEM  
PANEL TYPE: REC 420W  
OF PANELS: 37  
INVERTER TYPE: ENPHASE IQ7X  
OF INVERTERS: 37  
ARRAY #1  
AZIMUTH: 257  
TILT: 20  
# PANELS 37

**PROFESSIONAL NOTES:**

UNAUTHORIZED ALTERATION OR ADDITION TO THIS PLAN IS A VIOLATION OF SECTION 7209(2) OF THE NEW YORK STATE EDUCATION LAW. COPIES OF THIS MAP NOT HAVING THE SEAL OF THE ENGINEER SHALL NOT BE VALID

**SEAL & SIGNATURE**



**DWG#**

**S-1**

**PROJECT  
SITE PLAN  
AND NOTES**

DWG.

**1 OF 5**

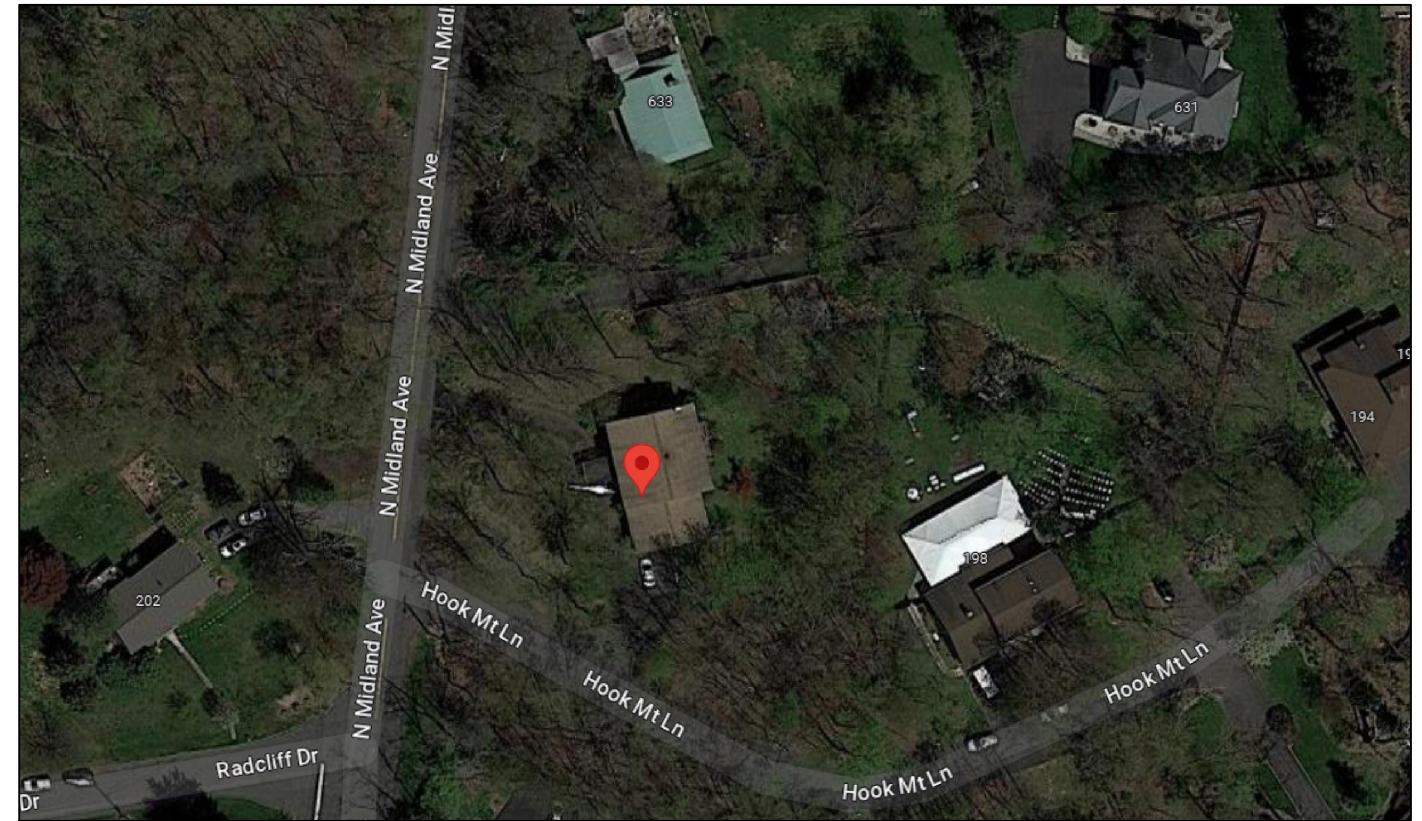


PORTION OF FRONT  
ARRAY VISIBLE FROM  
STREET DUE TO TREES  
AND VEGETATION,  
THERE ARE NO PANELS  
LOCATED ON THE REAR  
ROOF

**ROOF PANEL LAYOUT PLAN:**

NTS

INDIVIDUAL PANEL SIZE = 20.05 SQ.FT  
TOTAL PANEL SIZE = 741.85 SQ.FT.



**AERIAL VIEW:**



**VIEW FROM RIGHT SIDE:**



**VIEW FROM LEFT SIDE:**



**SOLAR PANEL  
INSTALLATION  
CAMPOMANES  
RESIDENCE**  
629 NORTH MIDLAND AVE  
NYACK  
NEW YORK 10960

**REVISIONS NOTES**

<b>DWG. BY:</b> MEM	<b>SCALE:</b> AS-NOTED
<b>CHECKED BY:</b> MEM	<b>PROJECT #:</b> ES-
<b>DATE:</b> MAY 10, 2023	<b>SBL #:</b> 60.05-2-14
<b>MUNICIPALITY:</b> VILLAGE OF UPPER NYACK	<b>COUNTY:</b> ROCKLAND

**SYSTEM NOTES:**

TOTAL SYSTEM SIZE: 15.54KW DC SYSTEM  
PANEL TYPE: REC 420W  
OF PANELS: 37  
INVERTER TYPE: ENPHASE IQ7X  
OF INVERTERS: 37  
ARRAY #1  
AZIMUTH: 257  
TILT: 20  
# PANELS 37

**PROFESSIONAL NOTES:**

UNAUTHORIZED ALTERATION OR ADDITION TO THIS PLAN IS A VIOLATION OF SECTION 7209(2) OF THE NEW YORK STATE EDUCATION LAW. COPIES OF THIS MAP NOT HAVING THE SEAL OF THE ENGINEER SHALL NOT BE VALID

**SEAL & SIGNATURE**



**DWG#**

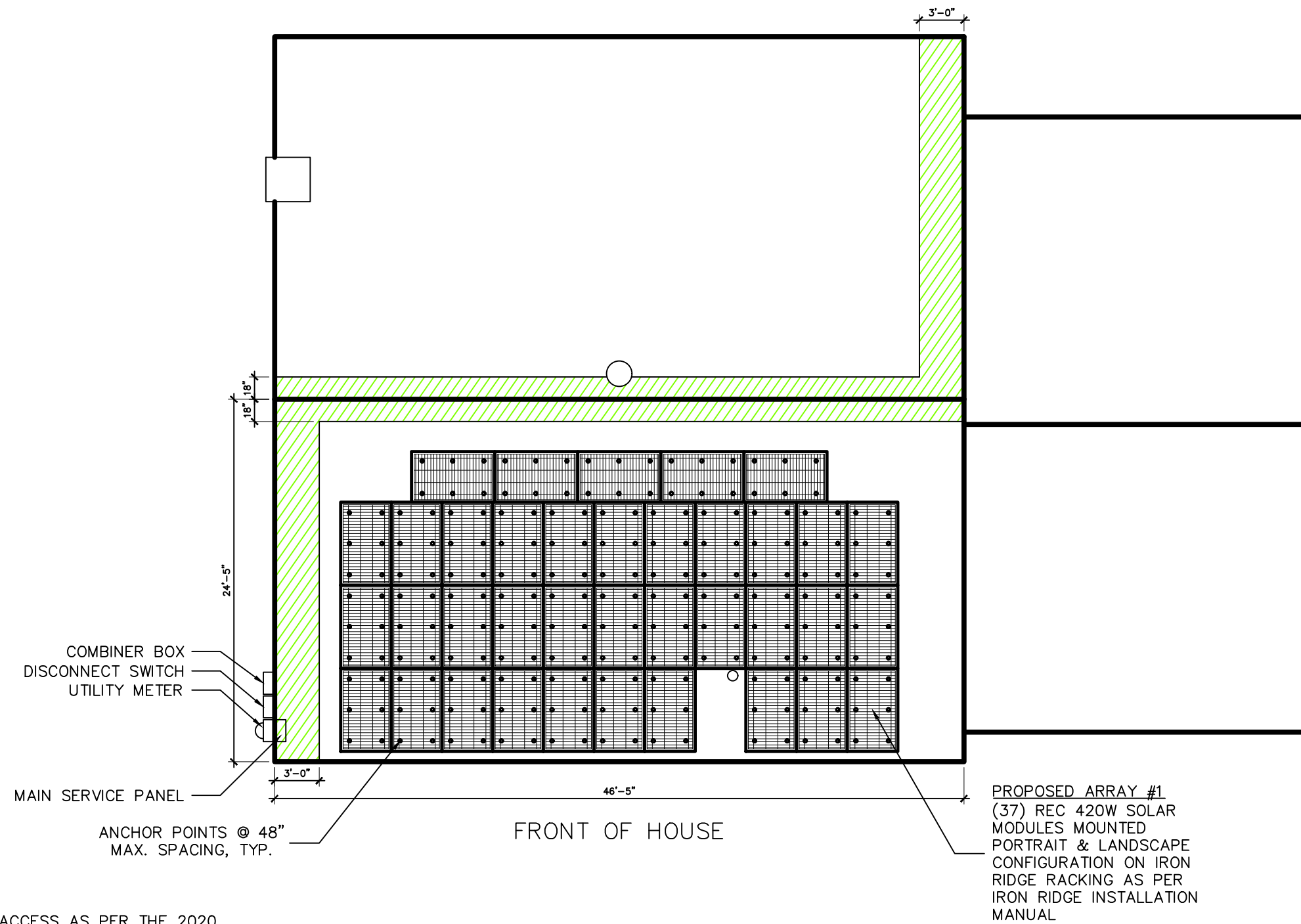
**S-1**

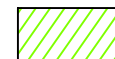
**PROJECT  
ELEVATIONS**

**DWG.**

**1A OF 5**

# ROOF PANEL LAYOUT:



 = FIRST RESPONDER ACCESS AS PER THE 2020 RESIDENTIAL CODE OF NEW YORK STATE, PUBLICATION DATE: NOVEMBER 2019, SECTION R324.6 "ROOF ACCESS AND PATHWAYS"

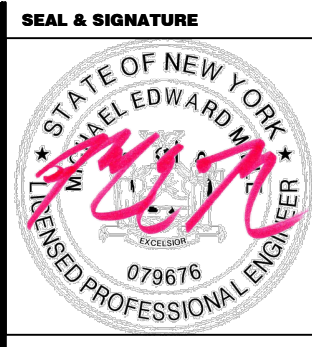


**SOLAR PANEL INSTALLATION**  
**CAMPOMANES RESIDENCE**  
 629 NORTH MIDLAND AVE  
 NYACK  
 NEW YORK 10960

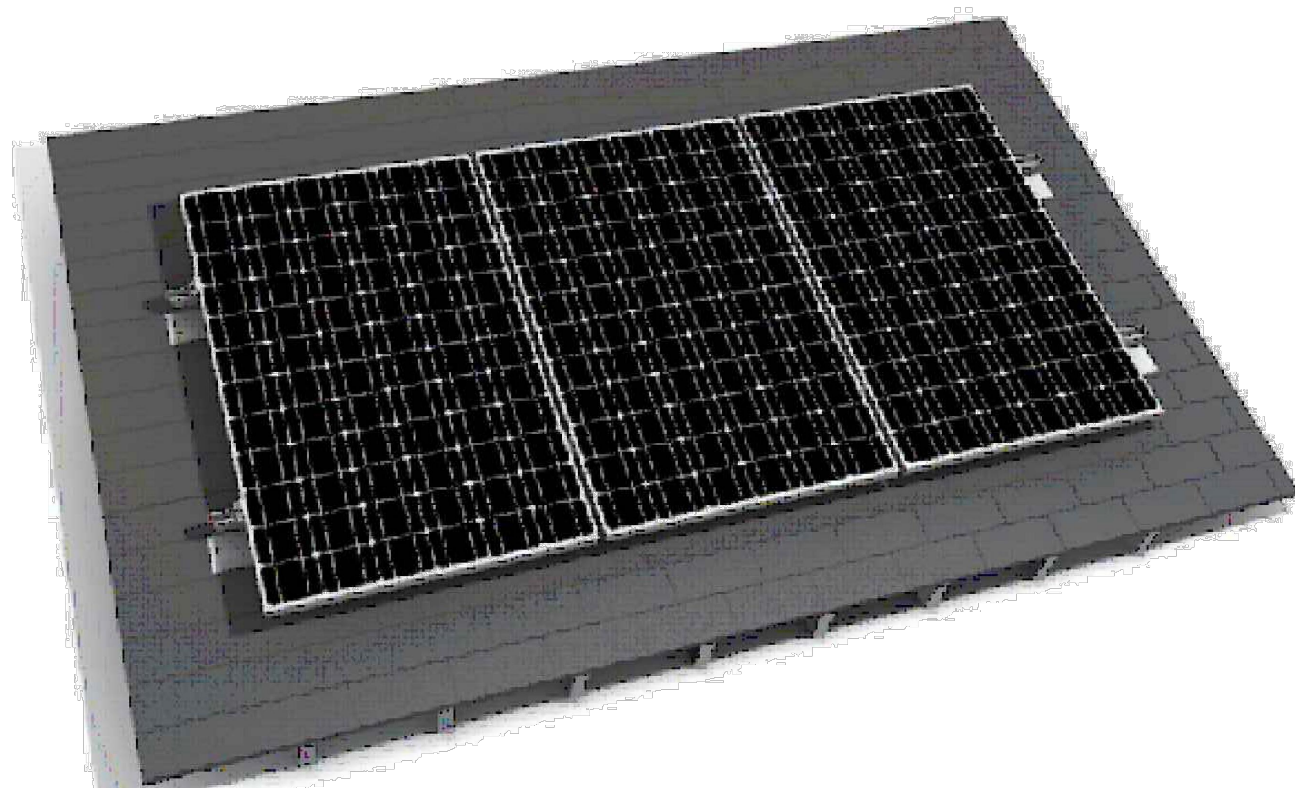
REVISIONS NOTES	
DWG. BY: <b>MEM</b>	SCALE: <b>AS-NOTED</b>
CHECKED BY: <b>MEM</b>	PROJECT #: <b>ES-</b>
DATE: <b>MAY 10, 2023</b>	SBL #: <b>60.05-2-14</b>
MUNICIPALITY: <b>VILLAGE OF UPPER NYACK</b>	COUNTY: <b>ROCKLAND</b>

SYSTEM NOTES:	
TOTAL SYSTEM SIZE:	15.54KW DC SYSTEM
PANEL TYPE:	REC 420W
OF PANELS:	37
INVERTER TYPE:	ENPHASE IQ7X
OF INVERTERS:	37
ARRAY #1	
AZIMUTH:	257
TILT:	20
# PANELS	37

**PROFESSIONAL NOTES:**  
 UNAUTHORIZED ALTERATION OR ADDITION TO THIS PLAN IS A VIOLATION OF SECTION 7209(2) OF THE NEW YORK STATE EDUCATION LAW. COPIES OF THIS MAP NOT HAVING THE SEAL OF THE ENGINEER SHALL NOT BE VALID



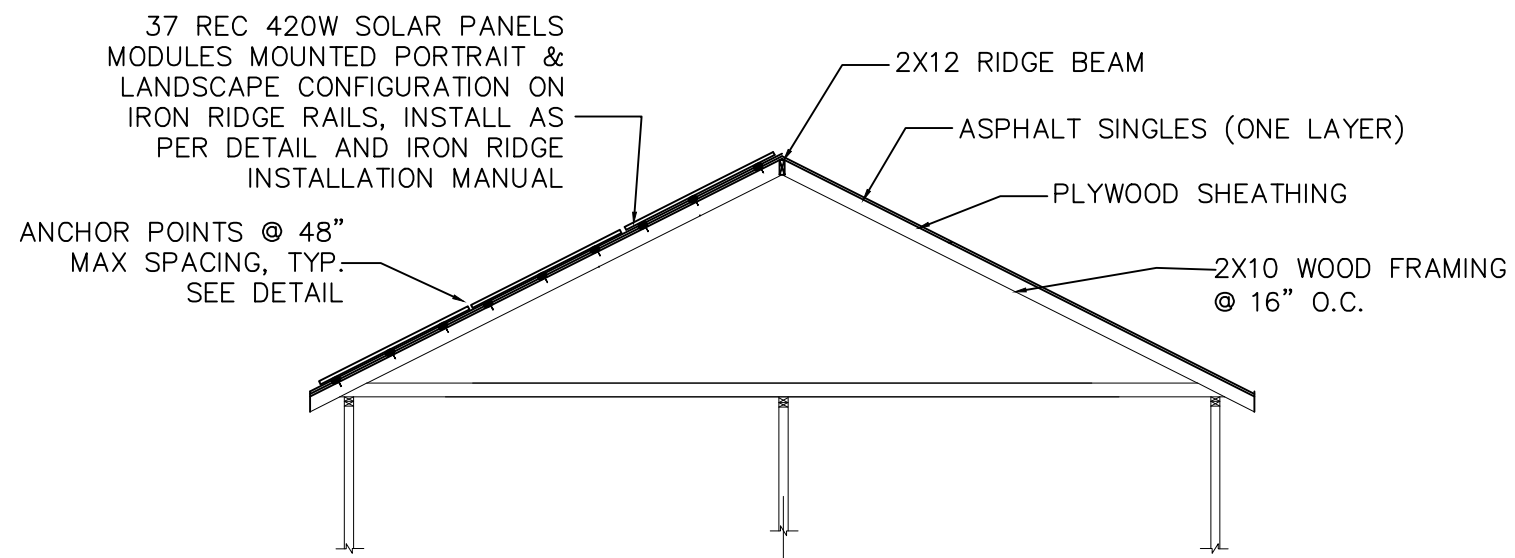
DWG# **S-2**  
**SOLAR ROOF LAYOUT PLAN**  
 DWG. **2 OF 5**



IRON RIDGE RACKING

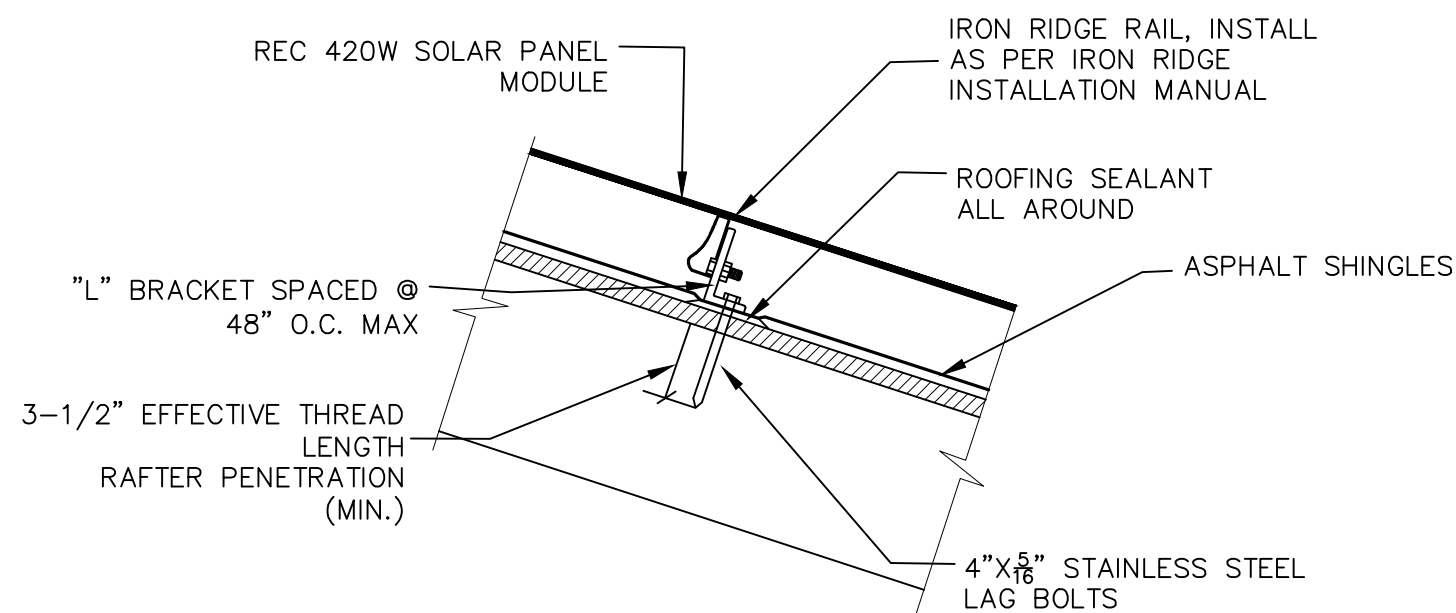
XRS Maximum Spans (feet)

Exposure	Wind Speed (mph)	0 psf Snow			10 psf Snow			20 psf Snow			30 psf Snow			40 psf Snow		
		Zone 1	Zone 2	Zone 3	Zone 1	Zone 2	Zone 3	Zone 1	Zone 2	Zone 3	Zone 1	Zone 2	Zone 3	Zone 1	Zone 2	Zone 3
Category B	90 mph	13.5	13.5	10.5	12.5	12.5	10.5	10.5	10.5	10.5	10.0	10.0	10.0	9.0	9.0	9.0
	100 mph	13.5	12.0	9.5	12.5	12.0	9.5	10.5	10.5	9.5	10.0	10.0	9.5	9.0	9.0	9.0
	110 mph	13.5	11.5	9.0	12.5	11.5	9.0	10.5	10.5	9.0	10.0	10.0	9.0	9.0	9.0	9.0
	120 mph	13.5	10.5	8.5	12.5	10.5	8.5	10.5	10.5	8.5	10.0	10.0	8.5	9.0	9.0	8.5
	130 mph	13.5	9.5	7.5	12.5	9.5	7.5	10.5	9.5	7.5	10.0	9.5	7.5	9.0	9.0	7.5
	140 mph	12.5	9.0	7.0	12.5	9.0	7.0	10.5	9.0	7.0	10.0	9.0	7.0	9.0	9.0	7.0
Category C	150 mph	11.5	8.5	6.5	11.5	8.5	6.5	9.5	9.5	6.5	10.0	8.5	6.5	9.0	8.5	6.5
	90 mph	13.5	11.0	8.5	12.5	11.0	8.5	10.5	10.5	10.5	10.0	10.0	8.5	9.0	9.0	8.5
	100 mph	13.5	9.5	8.0	12.5	9.5	8.0	10.5	9.5	8.0	10.0	9.5	8.0	9.0	9.0	8.0
	110 mph	13.0	9.5	7.5	12.5	9.5	7.5	10.5	9.5	7.5	10.0	9.5	7.5	9.0	9.0	7.5
	120 mph	12.0	8.5	7.0	12.0	8.5	7.0	10.5	8.5	7.0	10.0	8.5	7.0	9.0	8.5	7.0
	130 mph	11.0	8.0	6.5	11.0	8.0	6.5	10.5	8.0	6.5	9.5	8.0	6.5	9.0	8.0	6.5
140 mph	10.0	7.5	6.0	10.0	7.5	6.0	10.0	7.5	6.0	9.5	7.5	6.0	8.5	7.5	6.0	
150 mph	9.5	7.0	5.5	9.5	7.0	5.5	9.5	7.0	5.5	9.0	7.0	5.5	8.5	7.0	5.5	



**ROOF SECTION:**

NTS



**ATTACHMENT DETAIL:**

NTS



**SOLAR PANEL INSTALLATION**  
**CAMPOMANES RESIDENCE**  
 629 NORTH MIDLAND AVE  
 NYACK  
 NEW YORK 10960

REVISIONS NOTES


DWG. BY: MEM	SCALE: AS-NOTED
CHECKED BY: MEM	PROJECT #: ES-
DATE: MAY 10, 2023	SBL #: 60.05-2-14
MUNICIPALITY: VILLAGE OF UPPER NYACK	COUNTY: ROCKLAND

SYSTEM NOTES:

TOTAL SYSTEM SIZE: 15.54KW DC SYSTEM

PANEL TYPE: REC 420W

OF PANELS: 37

INVERTER TYPE: ENPHASE IQ7X

OF INVERTERS: 37

ARRAY #1

AZIMUTH: 257

TILT: 20

# PANELS: 37

PROFESSIONAL NOTES:

UNAUTHORIZED ALTERATION OR ADDITION TO THIS PLAN IS A VIOLATION OF SECTION 7209(2) OF THE NEW YORK STATE EDUCATION LAW. COPIES OF THIS MAP NOT HAVING THE SEAL OF THE ENGINEER SHALL NOT BE VALID

SEAL & SIGNATURE



DWG#

**S-3**  
**SOLAR PANEL ATTACHMENT PLAN I**  
 DWG. 3 OF 5

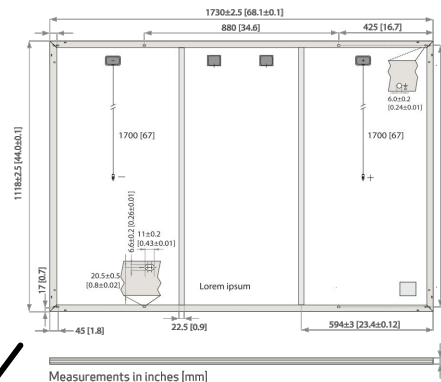
# CERTIFICATION NOTES:

1. THE ROOF STRUCTURAL MEMBERS HAVE BEEN CHECKED FOR 120 MPH WIND LOADS BASED ON ASCE7-16 AND FOR COMPLIANCE WITH THE 2020 RESIDENTIAL CODE OF NEW YORK STATE, PUBLICATION DATE: NOVEMBER 2019. THERE WAS (1) LAYER OF ROOF SHINGLES INSTALLED AT THE TIME OF THE INSPECTION. THIS PLAN DOES NOT APPLY IF ANY ADDITIONAL ROOF SHINGLES LAYERS ARE INSTALLED AFTER THE SITE INSPECTION. INSTALLATION OF SOLAR PANELS WITH MORE THAN (1) LAYERS OF ROOF SHINGLES IS NEVER PERMITTED.
2. THE MOUNTING BRACKETS & HARDWARE MEET OR EXCEEDS ASCE 7-16 AND 2020 RESIDENTIAL CODE OF NEW YORK STATE, PUBLICATION DATE: NOVEMBER 2019 WITH 120 MPH WIND DESIGN. THE SYSTEM'S ATTACHMENT TO THE ROOF TO MEET OR EXCEED 2020 RESIDENTIAL CODE OF NEW YORK STATE, PUBLICATION DATE: NOVEMBER 2019.
3. ANY PLUMBING VENTS THROUGH THE ROOF ARE NOT TO BE CUT OR COVERED DURING PANEL INSTALLATION. ANY MODIFICATION OR RELOCATION OF VENTS WILL REQUIRED A PLUMBING PERMIT AND INSPECTIONS.
4. SIZES OF MEMBERS THAT WERE NOT ACCESSIBLE FOR DIRECT MEASUREMENT ARE BASED ON OBSERVATIONS OF ACCESSIBLE MEMBERS OR CONSTRUCTION DEPTH OR BOTH AND OUR KNOWLEDGE OF STANDARD CONSTRUCTION PRACTICES AT THE TIME OF CONSTRUCTION.
5. THE EXISTING ROOF AND BUILDING STRUCTURE CAN SAFELY SUSTAIN, AND DISTRIBUTE TO THE GROUND, THE ADDITIONAL LOADS IMPOSED BY THE PROPOSED WORK IN ADDITION TO ALL OTHER GRAVITY AND LATERAL LOADS AS REQUIRED BY 2020 RESIDENTIAL CODE OF NEW YORK STATE, PUBLICATION DATE: NOVEMBER 2019

## REC ALPHA PURE-R SERIES PRODUCT SPECIFICATIONS



GENERAL DATA	
Cell type:	80 half-cut REC bifacial, heterojunction cells with lead-free, gapless technology
Glass:	0.13in(3.2mm)solar glass with anti-reflective surface treatment in accordance with EN 12150
Backsheet:	Highly resistant polymer (black)
Frame:	Anodized aluminum (black)
Junction box:	4-part, 4 bypass diodes, lead-free IP68 rated, in accordance with IEC 62790
Connectors:	Stäubli MC4 PV-KBT4/KST4 (4 mm <sup>2</sup> ) in accordance with IEC 62852, IP68 only when connected
Cable:	12 AWG (4 mm <sup>2</sup> ) PV wire, 67 + 67 in (1.7 + 1.7 m) in accordance with EN 50618
Dimensions:	68.1 x 44.0 x 1.2 in (20.77 ft) / 1730 x 1118 x 30 mm (1.93 m <sup>2</sup> )
Weight:	47.4 lbs (21.5 kg)
Origin:	Made in Singapore



	Product Code: RECxxAA PURE-R			
	410	420	430	440
Power Output - P <sub>MAX</sub> (Wp)	400	410	420	430
Watt Class Sorting - (W)	0/+10	0/+10	0/+10	0/+10
Nominal Power Voltage - V <sub>MPP</sub> (V)	48.8	49.4	50.0	50.5
Nominal Power Current - I <sub>MPP</sub> (A)	8.20	8.30	8.40	8.52
Open Circuit Voltage - V <sub>OC</sub> (V)	58.9	59.2	59.4	59.7
Short Circuit Current - I <sub>SC</sub> (A)	8.73	8.81	8.89	8.97
Power Density (W/ft <sup>2</sup> )	207	212	218	223
Panel Efficiency (%)	20.7	21.2	21.8	22.3
Power Output - P <sub>MAX</sub> (Wp)	305	312	320	327
Nominal Power Voltage - V <sub>MPP</sub> (V)	46.0	46.6	47.1	47.6
Nominal Power Current - I <sub>MPP</sub> (A)	6.64	6.70	6.78	6.88
Open Circuit Voltage - V <sub>OC</sub> (V)	55.5	55.8	56.0	56.3
Short Circuit Current - I <sub>SC</sub> (A)	7.05	7.12	7.18	7.24

Values at standard test conditions (STC: air mass AM1.5, irradiance 1075 W/sq ft (1000 W/m<sup>2</sup>), temperature 77°F (25°C), based on a production spread with a tolerance of P<sub>MAX</sub>, V<sub>OC</sub> & I<sub>SC</sub> ±3% within one watt class. Nominal module operating temperature (NMOT: air mass AM1.5, irradiance 800 W/m<sup>2</sup>, temperature 68°F (20°C), windspeed 3.3 ft/s (1 m/s). \*Where xxx indicates the nominal power class (P<sub>MAX</sub>) at STC above.

MAXIMUM RATINGS	WARRANTY			
Operational temperature:	-40 ... +85°C	Standard	REC ProTrust	
System voltage:	1000 V	Installed by an REC Certified Solar Professional	No	Yes
Test load (front):	+7000 Pa (146 lbs/ft <sup>2</sup> )	System Size	All	≤25 kW 25-500 kW
Test load (rear):	-4000 Pa (83.5 lbs/ft <sup>2</sup> )	Product Warranty (yrs)	20	25 25
Series fuse rating:	25 A	Power Warranty (yrs)	25	25 25
Reverse current:	25 A	Labor Warranty (yrs)	0	25 10
*See installation manual for mounting instructions. Design load = Test load / 1.5 (safety factor)		Power in Year 1	98%	98% 98%
		Annual Degradation	0.25%	0.25% 0.25%
		Power in Year 25	92%	92% 92%

See warranty documents for details. Conditions apply

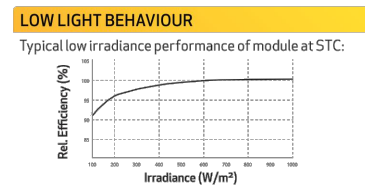
CERTIFICATIONS	
IEC 61215:2016, IEC 61730:2016, UL 61730	
IEC 62804	PID
IEC 61701	Salt Mist
IEC 62716	Ammonia Resistance
UL 61730	Fire Type Class 2
IEC 62782	Dynamic Mechanical Load
IEC 61215-2:2016	Hailstone (35mm)
IEC 62321	Lead-free acc. to RoHS EU 863/2015
ISO 14001, ISO 9001, IEC 45001, IEC 62941	



TEMPERATURE RATINGS*	
Nominal Module Operating Temperature:	44°C (±2°C)
Temperature coefficient of P <sub>MAX</sub> :	-0.26 %/°C
Temperature coefficient of V <sub>OC</sub> :	-0.24 %/°C
Temperature coefficient of I <sub>SC</sub> :	0.04 %/°C

\*The temperature coefficients stated are linear values

DELIVERY INFORMATION	
Panels per pallet:	33
Panels per 40 ft GP/high cube container:	858 (26 pallets)



Available from:

Founded in 1996, REC Group is an international pioneering solar energy company dedicated to empowering consumers with clean, affordable solar power. As Solar's Most Trusted, REC is committed to high quality, innovation, and a low carbon footprint in the solar materials and solar panels it manufactures. Headquartered in Norway with operational headquarters in Singapore, REC also has regional hubs in North America, Europe, and Asia-Pacific.

## Enphase IQ 7X Microinverter

INPUT DATA (DC)	IQ7X-96-2-US	
Commonly used module pairings <sup>1</sup>	320 W - 460 W +	
Module compatibility	96-cell PV modules	
Maximum input DC voltage	79.5 V	
Peak power tracking voltage	53 V - 64 V	
Operating range	25 V - 79.5 V	
Min/Max start voltage	33 V / 79.5 V	
Max DC short circuit current (module I <sub>sc</sub> )	10 A	
Overtoltage class DC port	II	
DC port backfeed current	0 A	
PV array configuration	1 x 1 ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit	
OUTPUT DATA (AC)	@ 240 VAC	@ 208 VAC
Peak output power	320 VA	
Maximum continuous output power	315 VA	
Nominal (L-L) voltage/range <sup>2</sup>	240 V / 211-264 V	
Maximum continuous output current	1.31 A (240 VAC)	1.51 A (208 VAC)
Nominal frequency	60 Hz	
Extended frequency range	47 - 68 Hz	
AC short circuit fault current over 3 cycles	5.8 Arms	
Maximum units per 20 A (L-L) branch circuit <sup>3</sup>	12 (240 VAC)	10 (208 VAC)
Overtoltage class AC port	III	
AC port backfeed current	18 mA	
Power factor setting	1.0	
Power factor (adjustable)	0.85 leading ... 0.85 lagging	
EFFICIENCY	@240 VAC	@208 VAC
CEC weighted efficiency	97.5 %	97.0 %
MECHANICAL DATA		
Ambient temperature range	-40°C to +60°C	
Relative humidity range	4% to 100% (condensing)	
Connector type (IQ7X-96-2-US)	MC4 (or Amphenol H4 UTX with optional Q-DCC-5 adapter)	
Dimensions (WxHxD)	212 mm x 175 mm x 30.2 mm (without bracket)	
Weight	1.08 kg (2.38 lbs)	
Cooling	Natural convection - No fans	
Approved for wet locations	Yes	
Pollution degree	PD3	
Enclosure	Class II double-insulated, corrosion resistant polymeric enclosure	
Environmental category / UV exposure rating	NEMA Type 6 / outdoor	
FEATURES		
Communication	Power Line Communication (PLC)	
Monitoring	Enlighten Manager and MyEnlighten monitoring options Compatible with Enphase IQ Envoy	
Disconnecting means	The AC and DC connectors have been evaluated and approved by UL for use as the load-break disconnect required by NEC 690.	
Compliance	CA Rule 21 (UL 1741-SA) UL 62109-1, UL1741/IEEE1547, FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 107.1-01 This product is UL Listed as PV Rapid Shut Down Equipment and conforms with NEC-2014 and NEC-2017 section 690.12 and C22.1-2015 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, when installed according manufacturer's instructions.	

1. No enforced DC/AC ratio. See the compatibility calculator at <https://enphase.com/en-us/support/module-compatibility>.
2. Nominal voltage range can be extended beyond nominal if required by the utility.
3. Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

To learn more about Enphase offerings, visit [enphase.com](https://enphase.com)



© 2019 Enphase Energy. All rights reserved. All trademarks or brands used are the property of Enphase Energy, Inc. 2019-3-26



**SOLAR PANEL  
INSTALLATION  
CAMPOMANES  
RESIDENCE**  
629 NORTH MIDLAND AVE  
NYACK  
NEW YORK 10960

REVISIONS NOTES			
DWG. BY: MEM		SCALE: AS-NOTED	
CHECKED BY: MEM		PROJECT #: ES-	
DATE: MAY 10, 2023		SBL #: 60.05-2-14	
MUNICIPALITY: VILLAGE OF UPPER NYACK		COUNTY: ROCKLAND	

SYSTEM NOTES:	
TOTAL SYSTEM SIZE: 15.54KW DC SYSTEM	
PANEL TYPE:	REC 420W
OF PANELS:	37
INVERTER TYPE:	ENPHASE IQ7X
OF INVERTERS:	37
ARRAY	#1
AZIMUTH:	257
TILT:	20
# PANELS	37

**PROFESSIONAL NOTES:**  
UNAUTHORIZED ALTERATION OR ADDITION TO THIS PLAN IS A VIOLATION OF SECTION 7209(2) OF THE NEW YORK STATE EDUCATION LAW. COPIES OF THIS MAP NOT HAVING THE SEAL OF THE ENGINEER SHALL NOT BE VALID



**DWG#**  
**S-4**  
**SOLAR  
PANEL &  
INVERTER  
SPECIFICATIONS**  
DWG.  
**4 OF 5**

AC & DC GROUNDING CONDUCTORS PER  
NEC ARTICLE 690.47(c)(2)  
CONNECTED AS PER 250.64(c)(2)

ALL CONDUCTORS ARE TO BE  
COPPER UNLESS NOTED OTHERWISE

ALL EXTERIOR MOUNTED COMBINERS,  
JUNCTION BOXES, TROUGHS, DISCONNECTS,  
ETC. SHALL BE NEMA 3R RATED.

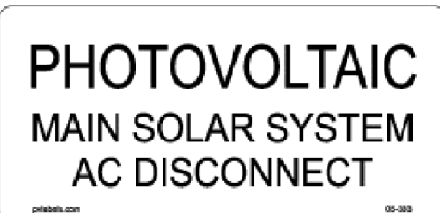
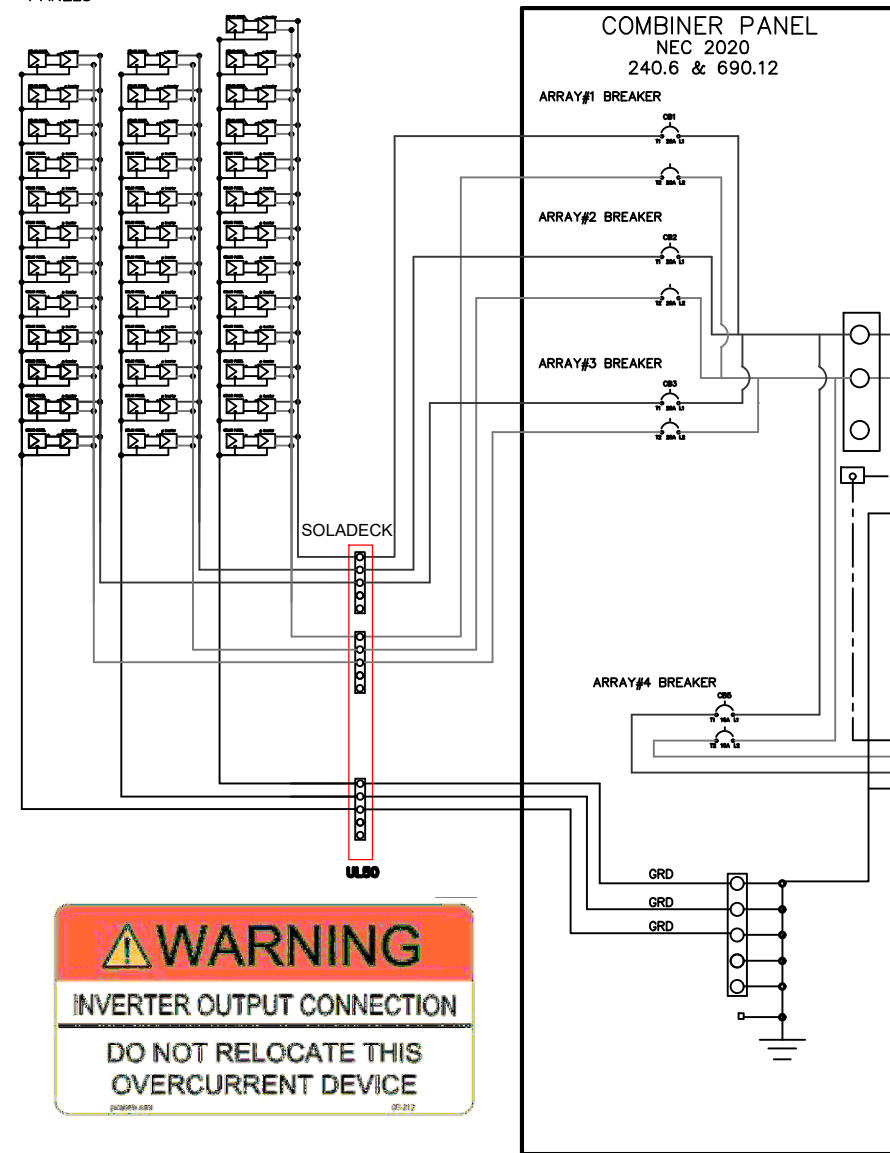
- CB1  
AMPACITY: 20 AMP BREAKER  
VOLTAGE: 240V  
SINGLE PHASE + GROUND
- CB2  
AMPACITY: 20 AMP BREAKER  
VOLTAGE: 240V  
SINGLE PHASE + GROUND
- CB3  
AMPACITY: 20 AMP BREAKER  
VOLTAGE: 240V  
SINGLE PHASE + GROUND
- CB4  
AMPACITY: 10 AMP BREAKER  
VOLTAGE: 240V  
SINGLE PHASE + GROUND



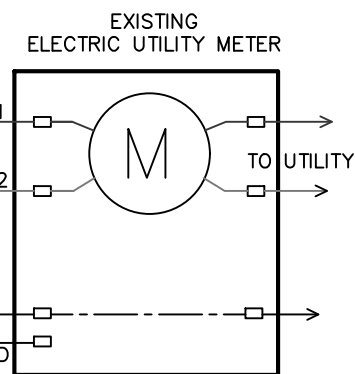
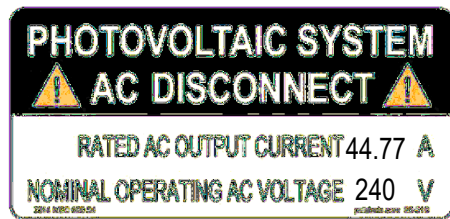
CIRCUIT 3  
1 STRING  
X 12  
MODULES  
12 TOTAL  
PANELS

CIRCUIT 2  
1 STRING  
X 12  
MODULES  
12 TOTAL  
PANELS

CIRCUIT 1  
1 STRING  
X 13  
MODULES  
13 TOTAL  
PANELS



89L DISCONNECT  
60A RATED  
60A FUSED  
DISCONNECT  
120/240V



WIRE AMPACITY  
NEC TABLE 310.15(B)(16)  
#10 THWN Cu35A RATED  
#8 THWN Cu50A RATED  
#6 THWN Cu65A RATED  
#4 THWN Cu85A RATED

AC SYSTEM SIZE = # OF PANELS X  
INVERTER OUTPUT RATING

37 PANELS X 0.315 = 11.655 KW/AC

CONFIRM LINE SIDE VOLTAGE AT ELECTRIC  
UTILITY SERVICE ENTRANCE BEFORE  
CONNECTING INVERTER AND ENSURE  
PROPER OPERATIONAL RANGE REQUIRED  
BY SYSTEM INVERTER.

DC CONDUITS MAY BE RUN ABOVE OR BELOW  
ROOF.  
PROVIDE SOLAIDECK JUNCTION/FLASHING WHEN  
PENETRATING THE ROOF WITH DC CONDUCTORS

ALL DC CONDUCTORS WITHIN THE BUILDING  
ENVELOPE MUST BE IN METALLIC CONDUIT.

DC CONDUCTORS MUST BE 90° RATED.

INTERCONNECTION TO UTILITY AND SYSTEM  
GROUNDING PER NEC-2020 ARTICLE 690

PROVIDE SIGNAGE AS REQUIRED BY  
NEC-2020 ARTICLE 690.

ALL OUTDOOR EQUIPMENT SHALL BE A  
MINIMUM OF NEMA-3R RATED.



**SOLAR PANEL  
INSTALLATION  
CAMPOMANES  
RESIDENCE**  
629 NORTH MIDLAND AVE  
NYACK  
NEW YORK 10960

REVISIONS NOTES

DWG. BY: MEM	SCALE: AS-NOTED
CHECKED BY: MEM	PROJECT #: ES-
DATE: MAY 10, 2023	SBL #: 60.05-2-14
MUNICIPALITY: VILLAGE OF UPPER NYACK	COUNTY: ROCKLAND

SYSTEM NOTES:

TOTAL SYSTEM SIZE: 15.54KW DC SYSTEM  
PANEL TYPE: REC 420W  
OF PANELS: 37  
INVERTER TYPE: ENPHASE IQ7X  
OF INVERTERS: 37  
ARRAY #1  
AZIMUTH: 257  
TILT: 20  
# PANELS: 37

PROFESSIONAL NOTES:

UNAUTHORIZED ALTERATION  
OR ADDITION TO THIS PLAN  
IS A VIOLATION OF SECTION  
7209(2) OF THE NEW YORK  
STATE EDUCATION LAW.  
COPIES OF THIS MAP NOT  
HAVING THE SEAL OF THE  
ENGINEER SHALL NOT BE

SEAL & SIGNATURE



DWG#

S-5

SOLAR PANEL  
3-LINE  
DIAGRAM

DWG.

5 OF 5