WYSSLING CONSULTING
CORPORATE EXPERIENCE WITH SMALL BUSINESS VALUE
Scott E. Wyssling, PE
Jon P. Ward, SE, PE
Gregory T. Elvestad, PE

76 North Meadowbrook Drive
Alpine, UT 84004
office (201) 874-3483
swyssling@wysslingconsulting.com

August 24, 2022

Scott Wyssling, PE

Digitally signed by Scott Wyssling, PE
DN: C=US, S=Utah, L=Alpine, O=Wyssling Consulting, OU=Engineering, CN="Scott Wyssling, PE", E=swyssling@wysslingconsulting.com
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Sigora Solar LLC
490 Westfield Road STE A
Charlottesville, VA 22901

Re: Engineering Services
Ranz Residence
189 Widgeon Way, Lillington NC
10.530 kW System

To Whom It May Concern:

We have received information regarding solar panel installation on the roof of the above referenced structure. Our evaluation of the structure is to verify the existing capacity of the roof system and its ability to support the additional loads imposed by the proposed solar system.

A. Site Assessment Information

1. Site visit documentation identifying attic information including size and spacing of framing for the existing roof structure.
2. Design drawings of the proposed system including a site plan, roof plan and connection details for the solar panels. This information will be utilized for approval and construction of the proposed system.

B. Description of Structure:

Roof Framing:	Prefabricated wood trusses at 24" on center. All truss members are constructed of 2x6 dimensional lumber.
Roof Material:	Composite Asphalt Shingles
Roof Slope:	34 & 45 degrees
Attic Access:	Accessible
Foundation:	Permanent

C. Loading Criteria Used

- **Dead Load**
  - Existing Roofing and framing = 7 psf
  - New Solar Panels and Racking = 3 psf
  - TOTAL = 10 PSF
- **Live Load** = 20 psf (reducible) – 0 psf at locations of solar panels
- **Ground Snow Load** = 15 psf
- **Wind Load** based on ASCE 7-10
  - Ultimate Wind Speed = 120 mph (based on Risk Category II)
  - Exposure Category C

Analysis performed of the existing roof structure utilizing the above loading criteria is in accordance with the North Carolina Residential Code (2018), including provisions allowing existing structures to not require strengthening if the new loads do not exceed existing design loads by 105% for gravity elements and 110% for seismic elements. This analysis indicates that the existing framing will support the additional panel loading without damage, if installed correctly.

D. Solar Panel Anchorage

1. The solar panels shall be mounted in accordance with the most recent Unirac installation manual. If during solar panel installation, the roof framing members appear unstable or deflect non-uniformly, our office should be notified before proceeding with the installation.
2. The maximum allowable withdrawal force for a $^{5}/_{16}$" lag screw is 235 lbs per inch of penetration as identified in the National Design Standards (NDS) of timber construction specifications. Based on a minimum penetration depth of 2½", the allowable capacity per connection is greater than the design withdrawal force (demand). Considering the variable factors for the existing roof framing and installation tolerances, the connection using one $^{5}/_{16}$" diameter lag screw with a minimum of 2½" embedment will be adequate and will include a sufficient factor of safety.
3. Considering the wind speed, roof slopes, size and spacing of framing members, and condition of the roof, the panel supports shall be placed no greater than 48" on centers.
4. Panel supports connections shall be staggered to distribute load to adjacent framing members.

Based on the above evaluation, this office certifies that with the racking and mounting specified, the existing roof system will adequately support the additional loading imposed by the solar system. This evaluation is in conformance with the North Carolina Residential Code, current industry standards, and is based on information supplied to us at the time of this report.

Should you have any questions regarding the above or if you require further information do not hesitate to contact me.

Very truly yours,

Scott E. Wyssling, PE
North Carolina License No. 46546

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NORTH CAROLINA PROFESSIONAL SEAL 046546 ENGINEER SCOTT E. WYSSLING

Wyssling Consulting, PLLC
76 N Meadowbrook Drive
Alpine UT 84004 COA # P-2308

Date Signed 8/24/2022

PROJECT DESCRIPTION:

26 x REC SOLAR: REC405AA PURE 405W MONO MODULES
ROOF MOUNTED SOLAR PHOTOVOLTAIC MODULES
DC SYSTEM SIZE: 10.530kW DC
AC SYSTEM SIZE: 7.540kW AC

EQUIPMENT SUMMARY:
26 REC SOLAR:REC405AA PURE 405W MONO MODULES
26 ENPHASE IQ8PLUS-72-2-US 290W MICRO INVERTERS
EQUIPPED WITH RAPID SHUTDOWN

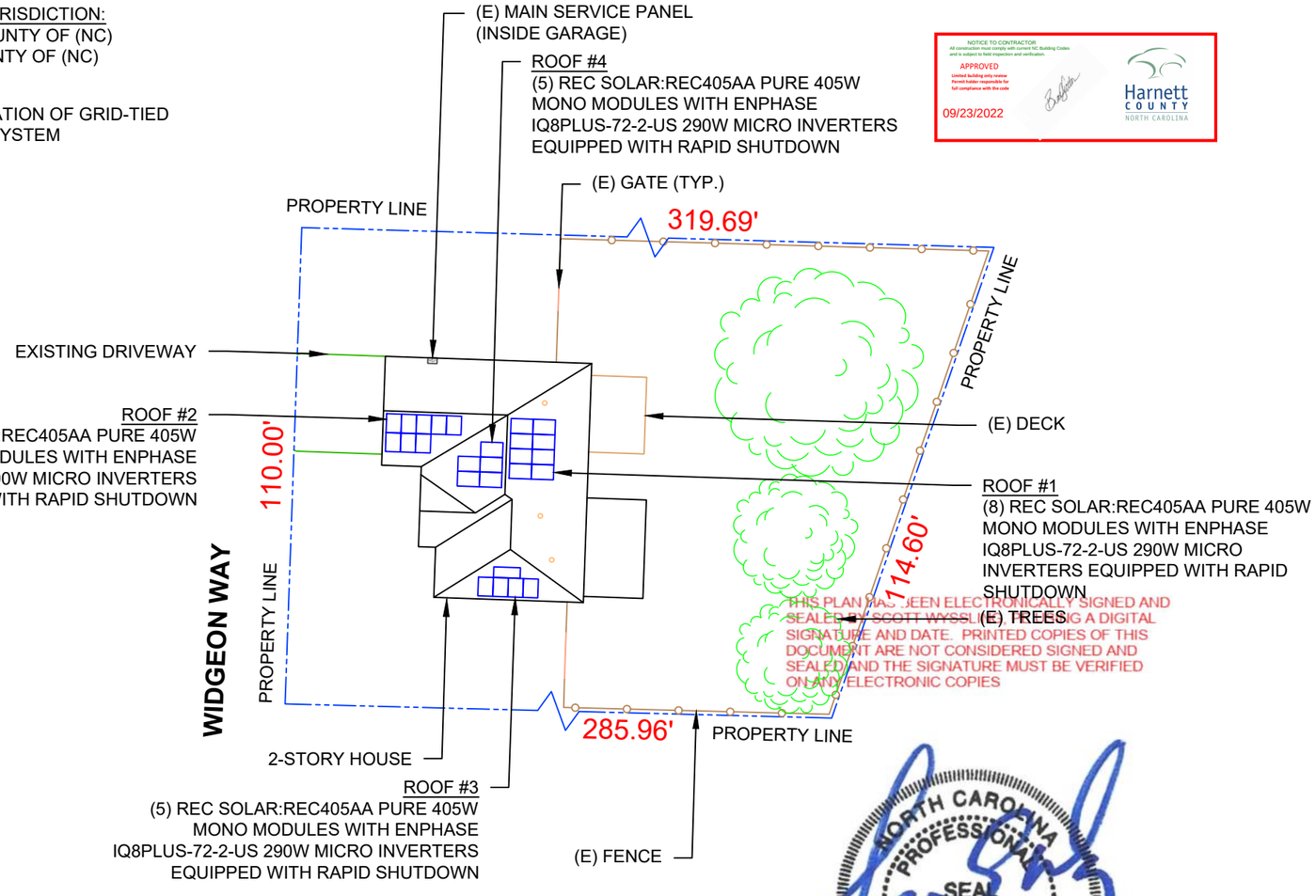
ROOF ARRAY AREA #1:- 159.28 SQ FT.
ROOF ARRAY AREA #2:- 159.28 SQ FT.
ROOF ARRAY AREA #3:- 99.55 SQ FT.
ROOF ARRAY AREA #4:- 99.55 SQ FT.

AUTHORITIES HAVING JURISDICTION:
BUILDING: HARNETT, COUNTY OF (NC)
ZONING: HARNETT, COUNTY OF (NC)

SCOPE OF WORK:
DESIGNED FOR INSTALLATION OF GRID-TIED PHOTOVOLTAIC SOLAR SYSTEM

APPLICABLE CODES & STANDARDS
NCBC 2018
NEC 2017

DESIGN SPECIFICATION
OCCUPANCY: II
CONSTRUCTION: SINGLE-FAMILY
ZONING: RESIDENTIAL
GROUND SNOW LOAD: REFER STRUCTURAL LETTER
WIND EXPOSURE: REFER STRUCTURAL LETTER
WIND SPEED: REFER STRUCTURAL LETTER



NOTICE TO CONTRACTOR
All construction must comply with current NC Building Codes and is subject to field inspection and verification.
APPROVED
Limited building only review
Permit holder responsible for full compliance with the code
09/23/2022
Harnett COUNTY NORTH CAROLINA

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Wyssling Consulting, PLLC
76 N Meadowbrook Drive
Alpine UT 84004 COA # P-2308
Date Signed 8/24/2022

1 PLOT PLAN WITH ROOF PLAN
PV-1 SCALE: 1/32" = 1'-0"

2 HOUSE PHOTO
PV-1 SCALE: NTS

3 VICINITY MAP
PV-1 SCALE: NTS

SHEET INDEX

SIGORA SOLAR
SIGORA SOLAR LLC
490 WESTFIELD RD STE A
CHARLOTTESVILLE, VA 22901

REVISIONS

DESCRIPTION	DATE	REV
INITIAL	08/19/2022	

DATE:08/19/2022

PROJECT NAME & ADDRESS
MICHAEL RANZ RESIDENCE
189 WIDGEON WAY, LILLINGTON, NC 27546

DRAWN BY
ESR

SHEET NAME
PLOT PLAN WITH ROOF PLAN

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-1

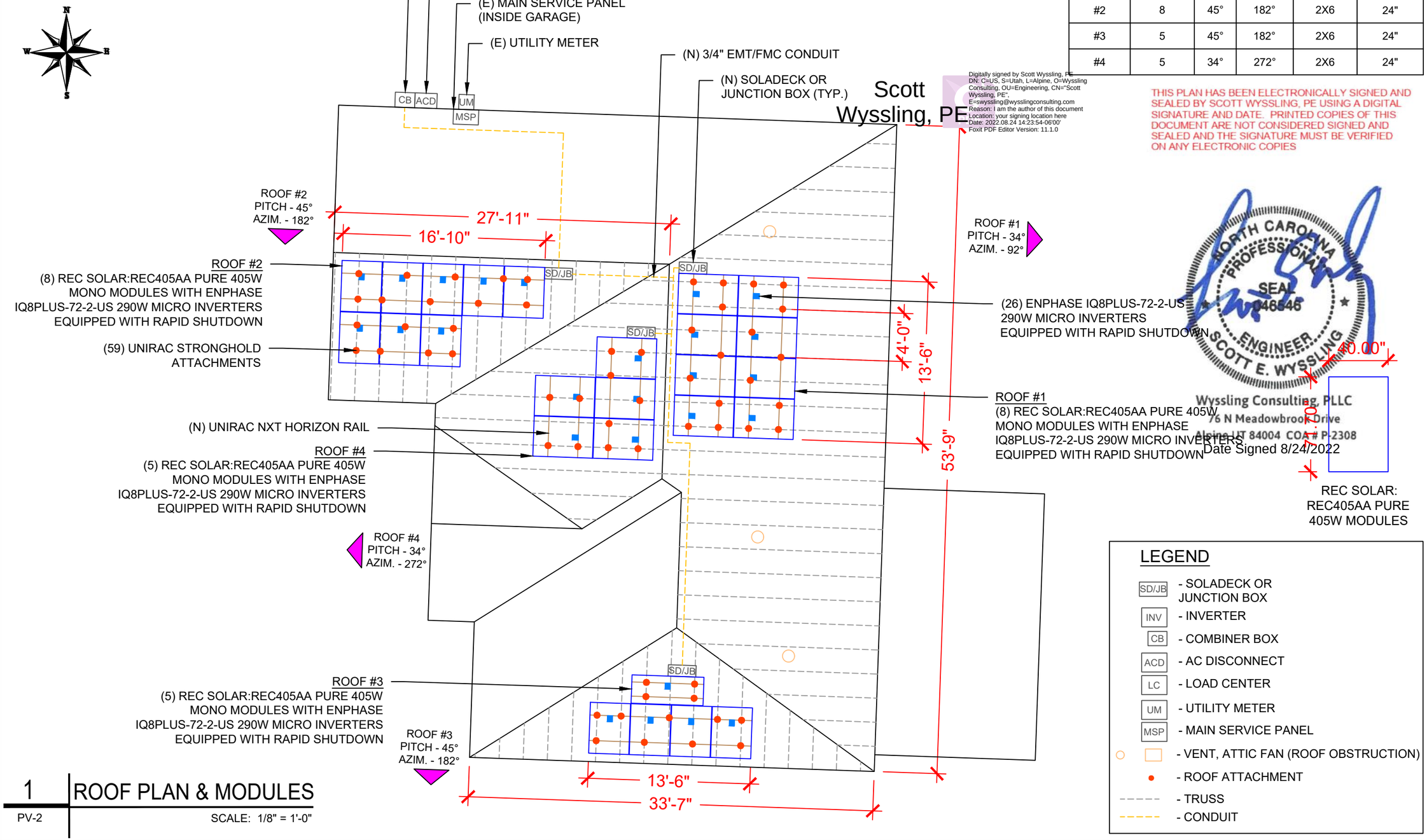
MODULE TYPE, DIMENSIONS & WEIGHT

NUMBER OF MODULES = 26 MODULES
MODULE TYPE = REC SOLAR:REC405AA PURE 405W MONO MODULES
MODULE WEIGHT = 45.19 LBS / 20.5KG
MODULE DIMENSIONS = 71.70"x 40.00" = 19.91 SF

- TOTAL WEIGHT OF PV MODULES AND RAILS = 1553.0 LBS
- WEIGHT PER ATTACHMENT POINT = 26 LBS
- DISTRIBUTED WEIGHT OF PV MODULE = 2.27 LBS/SF

ARRAY AREA & ROOF AREA CALC'S		
TOTAL PLAN VIEW PV ARRAY AREA (SQ. FT.)	TOTAL PLAN VIEW ROOF AREA (SQ. FT.)	ROOF AREA COVERED BY ARRAY (%)
397.67	2481.40	16

ROOF DESCRIPTION					
ROOF TYPE				ASPHALT SHINGLE	
ROOF LAYER				1 LAYER	
ROOF	# OF MODULES	ROOF PITCH	AZIMUTH	TRUSS SIZE	TRUSS SPACING
#1	8	34°	92°	2X6	24"
#2	8	45°	182°	2X6	24"
#3	5	45°	182°	2X6	24"
#4	5	34°	272°	2X6	24"



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NORTH CAROLINA PROFESSIONAL SEAL 046846 ENGINEER SCOTT E. WYSSLING

Wyssling Consulting, PLLC
76 N Meadowbrook Drive
Alpine UT 84004 COA# P-2308
Date Signed 8/24/2022

LEGEND

- SD/JB - SOLADECK OR JUNCTION BOX
- INV - INVERTER
- CB - COMBINER BOX
- ACD - AC DISCONNECT
- LC - LOAD CENTER
- UM - UTILITY METER
- MSP - MAIN SERVICE PANEL
- VENT, ATTIC FAN (ROOF OBSTRUCTION)
- ROOF ATTACHMENT
- TRUSS
- CONDUIT

1 ROOF PLAN & MODULES
PV-2 SCALE: 1/8" = 1'-0"

SIGORA SOLAR
SIGORA SOLAR LLC
490 WESTFIELD RD STE A
CHARLOTTESVILLE, VA 22901

REVISIONS		
DESCRIPTION	DATE	REV
INITIAL	08/19/2022	

DATE:08/19/2022

PROJECT NAME & ADDRESS

MICHAEL RANZ RESIDENCE
189 WIDGEON WAY, LILLINGTON, NC 27546

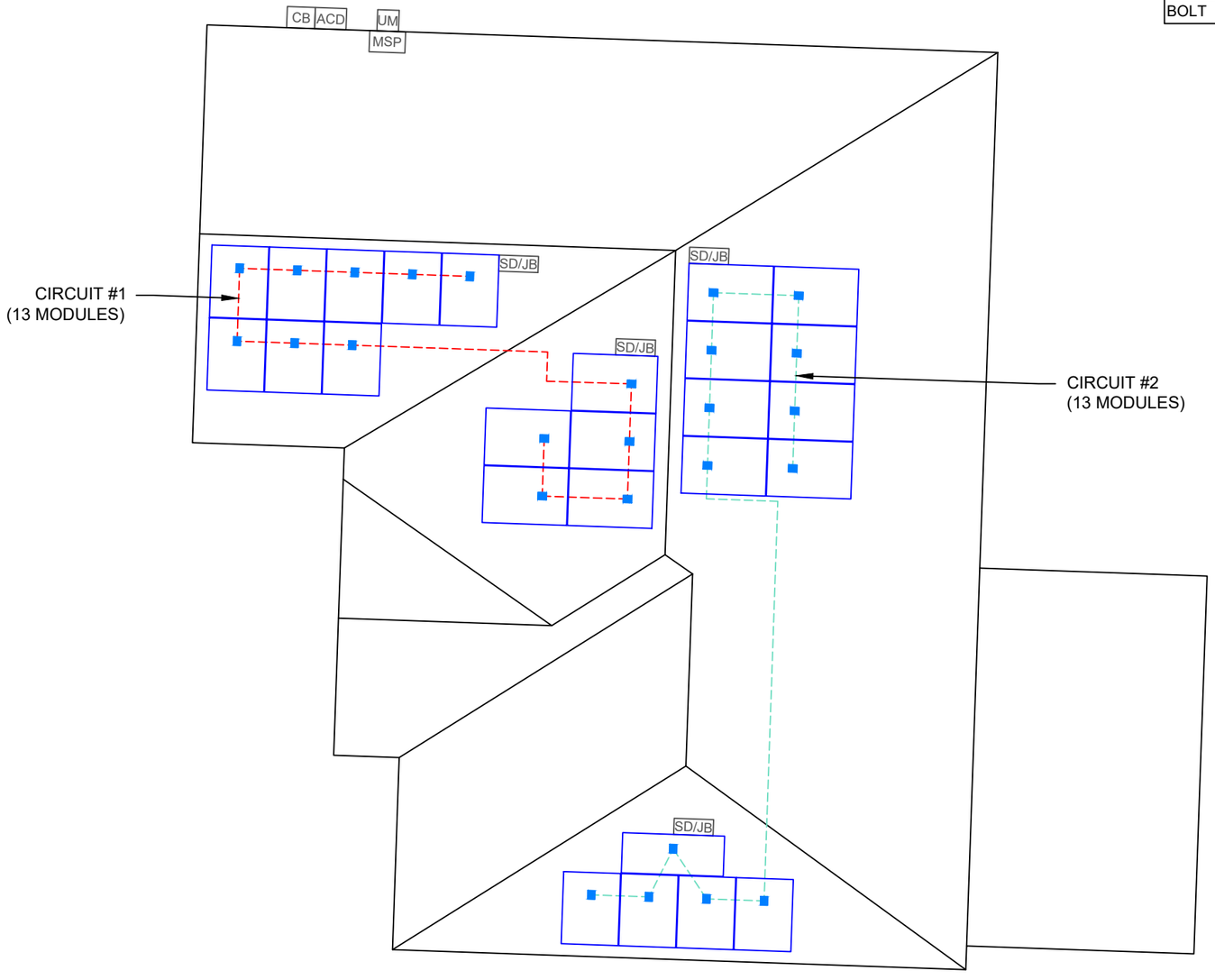
DRAWN BY
ESR

SHEET NAME
ROOF PLAN & MODULES

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-2

CIRCUIT LEGENDS
CIRCUIT #1
CIRCUIT #2



BILL OF MATERIALS		
EQUIPMENT	QTY	DESCRIPTION
SOLAR PV MODULES	26	REC SOLAR:REC405AA PURE 405W
MICRO INVERTERS	26	ENPHASE IQ8PLUS-72-2-US 290W MICRO INVERTERS EQUIPPED WITH RAPID SHUTDOWN
SOLADECKS OR JUNCTION BOXES	4	SOLADECKS OR JUNCTION BOXES
MODULE CLAMPS	36	MID MODULE CLAMPS
END CLAMPS	32	END CLAMPS / STOPPER SLEEVE
ATTACHMENT	59	UNIRAC STRONGHOLD ATTACHMENT
BOLT	59	LAG BOLT

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Wyssling Consulting, PLLC
76 N Meadowbrook Drive
Alpine UT 84004 COA # P-2308
Date Signed 8/24/2022

1 ROOF PLAN WITH CIRCUIT LAYOUT
PV-2A SCALE: 1/8" = 1'-0"

SIGORA SOLAR

SIGORA SOLAR LLC
490 WESTFIELD RD STE A
CHARLOTTESVILLE, VA 22901

REVISIONS		
DESCRIPTION	DATE	REV
INITIAL	08/19/2022	

DATE:08/19/2022

PROJECT NAME & ADDRESS

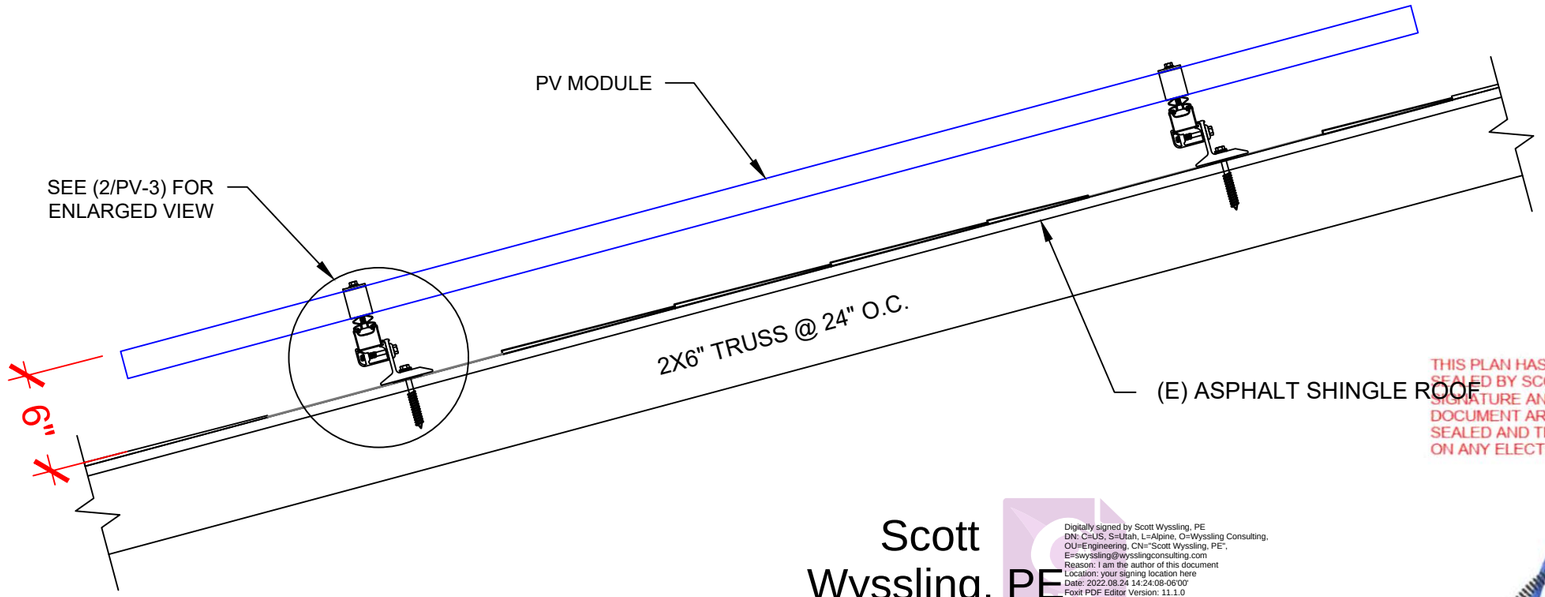
MICHAEL RANZ RESIDENCE
189 WIDGEON WAY, LILLINGTON, NC 27546

DRAWN BY
ESR

SHEET NAME
CIRCUIT LAYOUT

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-2A



1 | PV-3 STRUCTURAL ATTACMENT (SIDE VIEW)

SCALE: N.T.S

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NORTH CAROLINA PROFESSIONAL SEAL 048646 ENGINEER SCOTT E. WYSSLING

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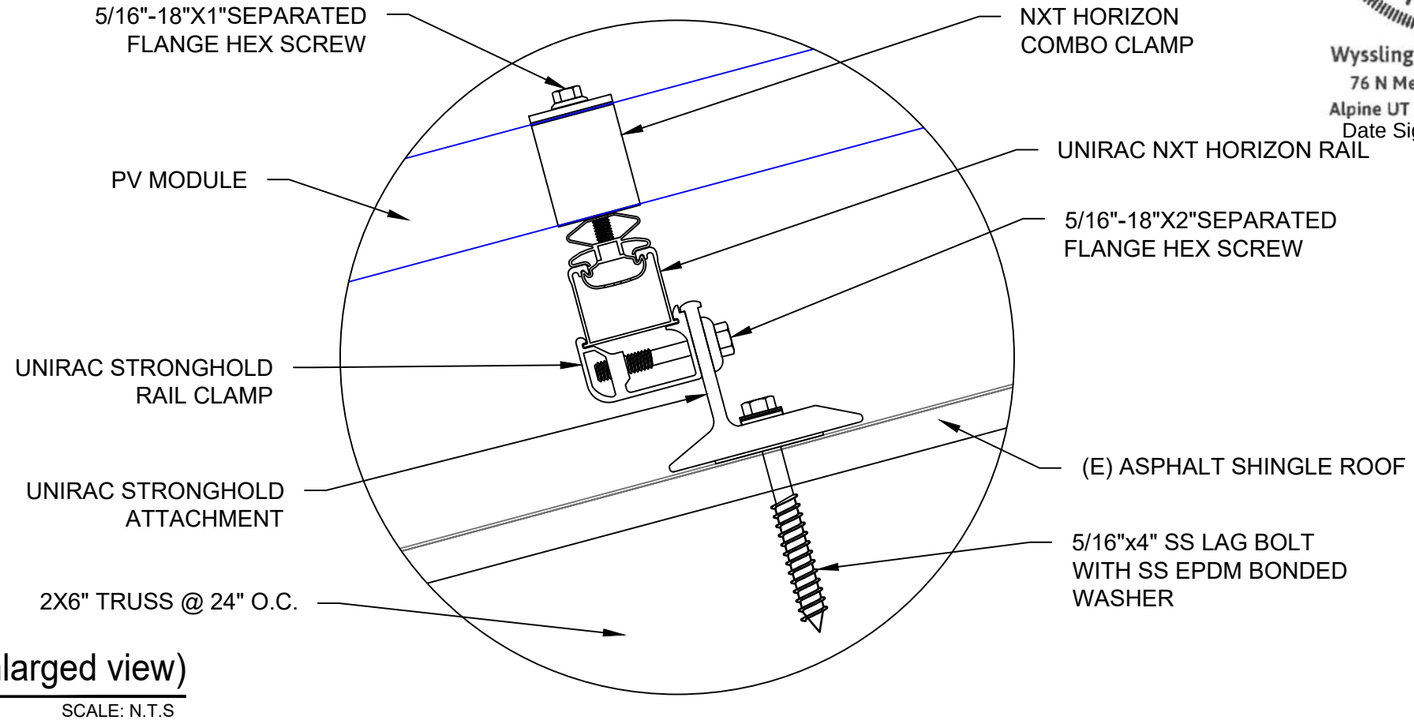
Date Signed 8/24/2022



2 | PV-3 ATTACHMENT DETAIL (enlarged view)

SCALE: N.T.S

SIGORA SOLAR

SIGORA SOLAR LLC
490 WESTFIELD RD STE A
CHARLOTTESVILLE, VA 22901

REVISIONS

DESCRIPTION	DATE	REV
INITIAL	08/19/2022	

DATE:08/19/2022

PROJECT NAME & ADDRESS

MICHAEL RANZ RESIDENCE

189 WIDGEON WAY, LILLINGTON, NC 27546

DRAWN BY
ESR

SHEET NAME
ATTACHMENT DETAIL

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-3

DC SYSTEM SIZE: 10.530 kW DC
AC SYSTEM SIZE: 7.540 kW AC

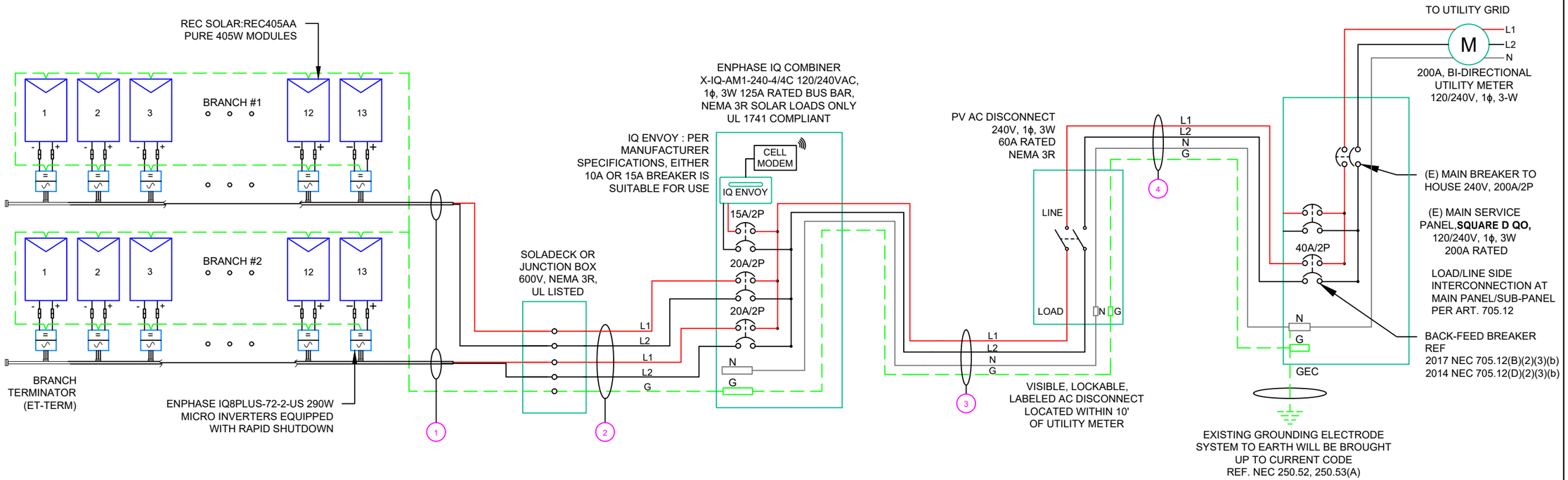
(26) REC SOLAR:REC405AA PURE 405W MONO MODULES
WITH (26) ENPHASE IQ8PLUS-72-2-US 290W MICRO INVERTERS
EQUIPPED WITH RAPID SHUTDOWN
(2) BRANCH CIRCUITS OF 13 MODULES CONNECTED IN PARALLEL

INTERCONNECTION NOTES:
1. INTERCONNECTION SIZING, LIMITATIONS AND COMPLIANCE DETERMINED IN ACCORDANCE WITH [NEC 705.12], AND [NEC 690.64].
2. GROUND FAULT PROTECTION IN ACCORDANCE WITH [NEC 215.9], [NEC 230.95] AND [NEC 690.5]
3. ALL EQUIPMENT TO BE RATED FOR BACKFEEDING.
4. PV BREAKER TO BE POSITIONED AT THE OPPOSITE END OF THE BUSBAR RELATIVE TO THE MAIN BREAKER.

DISCONNECT NOTES:
1. DISCONNECTING SWITCHES SHALL BE WIRED SUCH THAT WHEN THE SWITCH IS OPENED THE CONDUCTORS REMAINING LIVE ARE CONNECTED TO THE TERMINALS MARKED “LINE SIDE” (TYPICALLY THE UPPER TERMINALS)
2. AC DISCONNECT MUST BE ACCESSIBLE TO QUALIFIED UTILITY PERSONNEL, BE LOCKABLE, AND BE A VISIBLE-BREAK SWITCH

RACKING NOTE:
1. BOND EVERY RAIL WITH #6 BARE COPPER

GROUNDING & GENERAL NOTES:
1. A SECOND FACILITY GROUNDING ELECTRODE IS NOT REQUIRED PER [NEC 690.47(C)(3)]
2. PV INVERTER IS UNGROUNDED, TRANSFORMER-LESS TYPE.
3. DC GEC AND AC EGC TO REMAIN UNSPLICED, OR SPLICED TO EXISTING ELECTRODE
4. ANY EXISTING WIRING INVOLVED WITH PV SYSTEM CONNECTION THAT IS FOUND TO BE INADEQUATE PER CODE SHALL BE CORRECTED PRIOR TO FINAL INSPECTION.
5. SOLADECK OR JUNCTION BOX QUANTITIES, AND PLACEMENT SUBJECT TO CHANGE IN THE FIELD - SOLADECK OR JUNCTION BOX DEPICTED ON ELECTRICAL DIAGRAM REPRESENT WIRE
TYPE TRANSITIONS.
6. AC DISCONNECT NOTED IN EQUIPMENT SCHEDULE OPTIONAL IF OTHER AC DISCONNECTING MEANS IS LOCATED WITHIN 10' OF SERVICE DISCONNECT
7. RACEWAYS AND CABLES EXPOSED TO SUNLIGHT ON ROOFTOPS SHOULD BE INSTALLED MORE THAN 7/8" ABOVE THE ROOF USING CONDUIT SUPPORTS.
8. TEMPERATURE RATINGS OF ALL CONDUCTORS, TERMINATIONS, BREAKERS, OR OTHER DEVICES ASSOCIATED WITH THE SOLAR PV SYSTEM SHALL BE RATED FOR AT LEAST 75 DEGREE C.



	QTY	CONDUCTOR INFORMATION		CONDUIT TYPE	CONDUIT SIZE
1	(4)	#12AWG -	ENPHASE ENGAGE CABLE (L1 & L2 NO NEUTRAL)	N/A	N/A
	(1)	#6AWG -	BARE COPPER IN FREE AIR		
2	(4)	#10AWG -	CU,THWN-2	EMT OR FMC IN ATTIC	3/4"
	(1)	#10AWG -	CU,THWN-2 GND		
3	(2)	#8AWG -	CU,THWN-2	EMT,LFMC OR PVC	3/4"
	(1)	#8AWG -	CU,THWN-2 N		
	(1)	#10AWG -	CU,THWN-2 GND		
4	(2)	#8AWG -	CU,THWN-2	EMT, LFMC OR PVC	3/4"
	(1)	#8AWG -	CU,THWN-2 N		
	(1)	#10AWG -	CU,THWN-2 GND		

1 ELECTRICAL LINE DIAGRAM
PV-4 SCALE: NTS

SIGORA SOLAR
SIGORA SOLAR LLC
490 WESTFIELD RD STE A
CHARLOTTESVILLE, VA 22901

REVISIONS

DESCRIPTION	DATE	REV
INITIAL	08/19/2022	

DATE:08/19/2022

PROJECT NAME & ADDRESS

MICHAEL RANZ
RESIDENCE
189 WIDGEON WAY,
LILLINGTON, NC 27546

DRAWN BY
ESR

SHEET NAME
ELECTRICAL LINE DIAGRAM

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-4

WARNING:PHOTOVOLTAIC POWER SOURCE

LABEL 1

AT DIRECT-CURRENT EXPOSED RACEWAYS, CABLE TRAYS, COVERS AND ENCLOSURES OF JUNCTION BOXES, AND OTHER WIRING METHODS; SPACED AT MAXIMUM 10FT SECTION OR WHERE SEPARATED BY ENCLOSURES, WALLS, PARTITIONS, CEILINGS, OR FLOORS.

NEC 690.31(G)(3&4)

(NOT USED FOR ENPHASE MICROINVERTERS)

PHOTOVOLTAIC

DC DISONNECT

LABEL 2

AT EACH PV DISCONNECTING MEANS

NEC 690.13(B)

(NOT USED FOR ENPHASE MICROINVERTERS)

MAXIMUM VOLTAGE

MAXIMUM CIRCUIT CURRENT

MAX RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER OR DC-TO-DC CONVERTER (IF INSTALLED)

LABEL 3

AT DC PV SYSTEM DISCONNECT

NEC 690.53

(NOT USED FOR ENPHASE MICROINVERTERS)

PHOTOVOLTAIC

AC DISONNECT

LABEL 4

AT AC DISCONNECT

NEC 690.13(B)

PHOTOVOLTAIC AC DISCONNECT

RATED AC OUTPUT CURRENT: 31.46A

NOMINAL OPERATING AC VOLTAGE: 240V

LABEL 5

AT AC DISCONNECT

NEC 690.54

26 MICROS X 1.21 AMP/MICRO = 31.46AMP

LABELING NOTES:

1. LABELS CALLED OUT ACCORDING TO ALL COMMON CONFIGURATIONS. ELECTRICIAN TO DETERMINE EXACT REQUIREMENTS IN THE FIELD PER CURRENT NEC AND LOCAL CODES AND MAKE APPROPRIATE ADJUSTMENTS.
2. LABELING REQUIREMENTS BASED ON THE 2017 NATIONAL ELECTRIC CODE, OSHA STANDARD 19010.145, ANSI Z535.
3. MATERIAL BASED ON THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
4. LABELS TO BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED [NEC 110.21]
5. LABELS TO BE A MINIMUM LETTER HEIGHT OF 3/8", WHITE ON RED BACKGROUND; REFLECTIVE, AND PERMANENTLY AFFIXED [IFC 605.11.1.1]

WARNING

INVERTER OUTPUT CONNECTION

DO NOT RELOCATE THIS OVERCURRENT DEVICE

LABEL 6

PLACED ADJACENT TO THE BACK-FED BREAKER FROM THE INVERTER IF TIE IN CONSISTS OF LOAD SIDE CONNECTION TO BUSBAR.
NEC 705.12(D)(2)(3)(B)

WARNING: DUAL POWER SOURCE
SECOND SOURCE IS PHOTOVOLTAIC SYSTEM

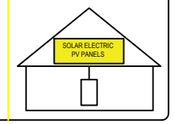
LABEL 7

SIGN LOCATED AT LOAD CENTER

NEC 705.12(B)(3-4) & NEC 690.59

SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN

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



LABEL 8

FOR PV SYSTEMS THAT SHUT DOWN THE ARRAY AND CONDUCTORS LEAVING THE ARRAY:
SIGN TO BE LOCATED ON OR NO MORE THAN 3 FT AWAY FROM SERVICE DISCONNECTING MEANS TO WHICH THE PV SYSTEMS ARE CONNECTED AND SHALL INDICATE THE LOCATION OF ALL IDENTIFIED RAPID SHUTDOWN SWITCHES IF NOT AT THE SAME LOCATION.
[NEC 690.56(C)(1)(A)]

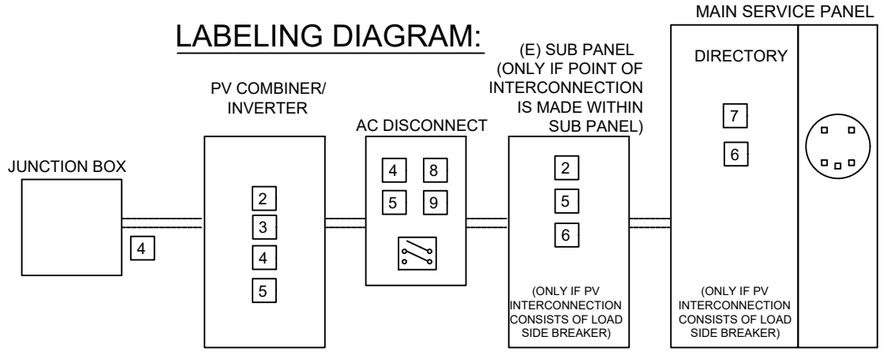
RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

LABEL 9

AT AC DISCONNECT

NEC 690.56(C)(3)

LABELING DIAGRAM:



** ELECTRICAL DIAGRAM SHOWN ABOVE IS FOR LABELING PURPOSES ONLY. NOT AN ACTUAL REPRESENATION OF EQUIPMENT AND CONNECTIONS TO BE INSTALLED. LABEL LOCATIONS PRESENTED MAY VERY DEPENDING ON TYPE OF INTERCONNECTION METHOD AND LOCATION PRESENTED ELECTRICAL DIAGRAM PAGE. **

SIGORA SOLAR

SIGORA SOLAR LLC
490 WESTFIELD RD STE A
CHARLOTTESVILLE, VA 22901

REVISIONS

DESCRIPTION	DATE	REV
INITIAL	08/19/2022	

DATE:08/19/2022

PROJECT NAME & ADDRESS

MICHAEL RANZ RESIDENCE

189 WIDGEON WAY, LILLINGTON, NC 27546

DRAWN BY

ESR

SHEET NAME

LABELS

SHEET SIZE

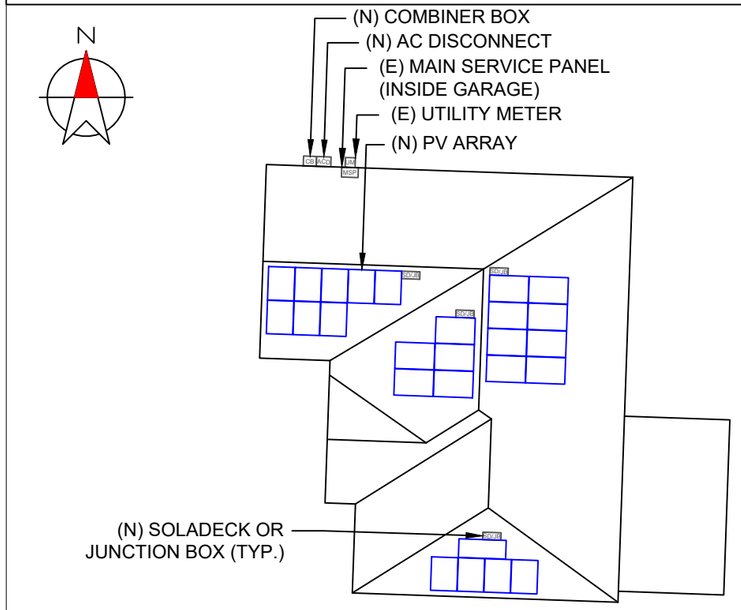
ANSI B
11" X 17"

SHEET NUMBER

PV-5

CAUTION

POWER TO THIS BUILDING IS ALSO SUPPLIED FROM MULTIPLE SOURCES OF POWER WITH SAFETY DISCONNECTS AS SHOWN:



189 WIDGEON WAY,LILLINGTON, NC 27546

DIRECTORY

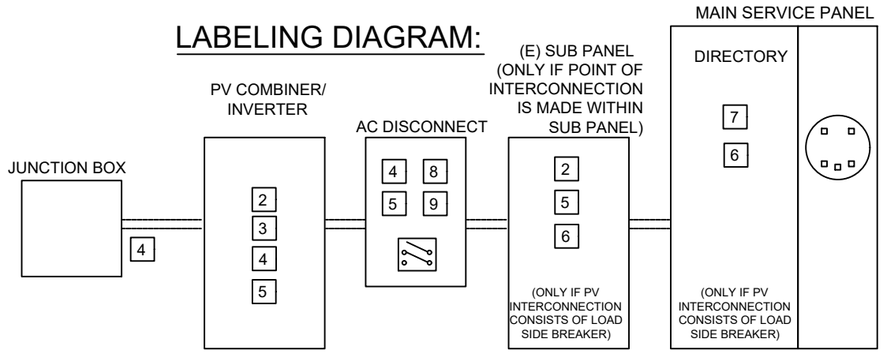
PERMANENT PLAQUE OR DIRECTORY PROVIDING THE LOCATION OF THE SERVICE DISCONNECTING MEANS AND THE PHOTOVOLTAIC SYSTEM.

(ALL PLAQUES AND SIGNAGE WILL BE INSTALLED AS OUTLINED WITHIN: NEC 690.56(B)&(C), [NEC 705.10])

LABELING NOTES:

1. LABELS CALLED OUT ACCORDING TO ALL COMMON CONFIGURATIONS. ELECTRICIAN TO DETERMINE EXACT REQUIREMENTS IN THE FIELD PER CURRENT NEC AND LOCAL CODES AND MAKE APPROPRIATE ADJUSTMENTS.
2. LABELING REQUIREMENTS BASED ON THE 2017 NATIONAL ELECTRIC CODE, OSHA STANDARD 19010.145, ANSI Z535.
3. MATERIAL BASED ON THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
4. LABELS TO BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED [NEC 110.21]
5. LABELS TO BE A MINIMUM LETTER HEIGHT OF 3/8", WHITE ON RED BACKGROUND; REFLECTIVE, AND PERMANENTLY AFFIXED [IFC 605.11.1.1]

LABELING DIAGRAM:



** ELECTRICAL DIAGRAM SHOWN ABOVE IS FOR LABELING PURPOSES ONLY. NOT AN ACTUAL REPRESENATION OF EQUIPMENT AND CONNECTIONS TO BE INSTALLED. LABEL LOCATIONS PRESENTED MAY VERY DEPENDING ON TYPE OF INTERCONNECTION METHOD AND LOCATION PRESENTED ELECTRICAL DIAGRAM PAGE. **

SIGORA SOLAR

SIGORA SOLAR LLC
490 WESTFIELD RD STE A
CHARLOTTESVILLE, VA 22901

REVISIONS

DESCRIPTION	DATE	REV
INITIAL	08/19/2022	

DATE:08/19/2022

PROJECT NAME & ADDRESS

MICHAEL RANZ RESIDENCE

189 WIDGEON WAY, LILLINGTON, NC 27546

DRAWN BY

ESR

SHEET NAME

PLACARD

SHEET SIZE

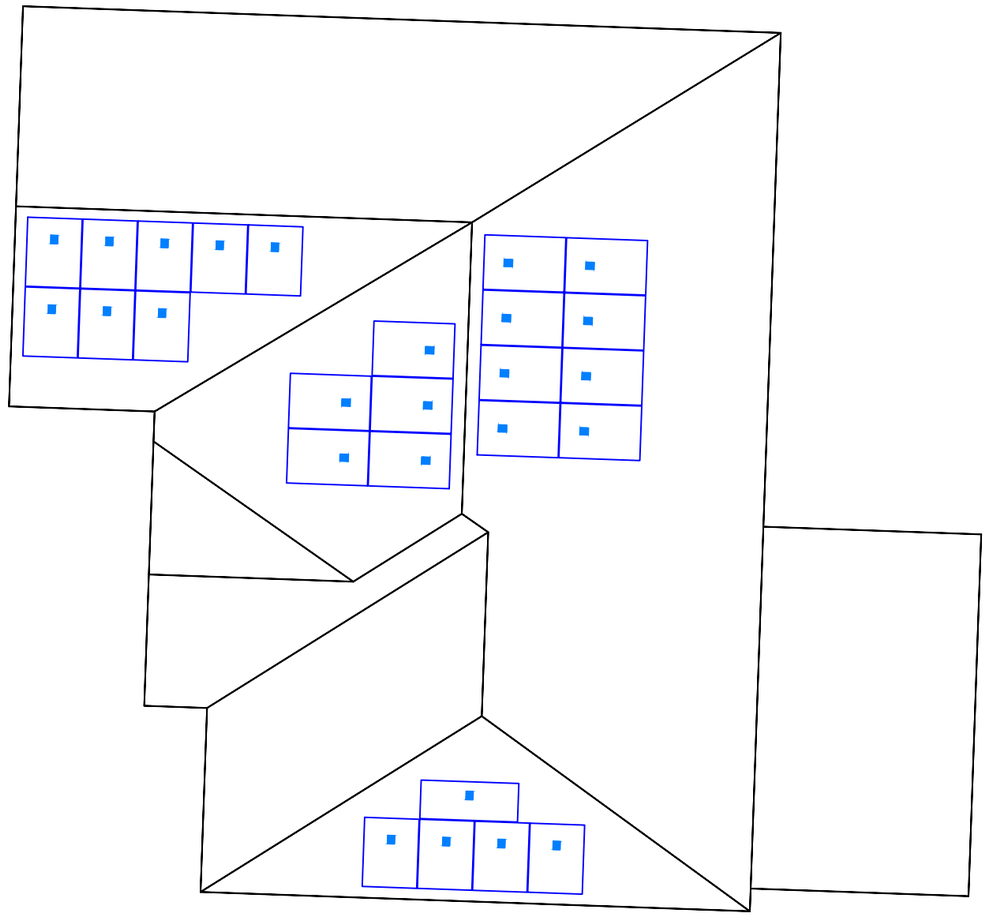
ANSI B
11" X 17"

SHEET NUMBER

PV-6

	1-10	11-20	21-30	31-40	41-50	51-60	61-70
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

MICRO INVERTER CHART



SIGORA SOLAR LLC
490 WESTFIELD RD STE A
CHARLOTTESVILLE, VA 22901

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189 WIDGEON WAY,
LILLINGTON, NC 27546

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ESR

SHEET NAME

MICRO INVERTER CHART

SHEET SIZE

ANSI B
11" X 17"

SHEET NUMBER

PV-7

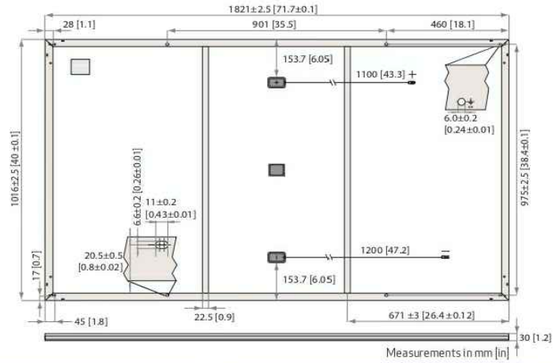
REC ALPHA PURE SERIES

PRODUCT SPECIFICATIONS

REC
SOLAR'S MOST TRUSTED

GENERAL DATA

Cell type:	132 half-cut REC heterojunction cells with lead-free, gapless technology, 6 strings of 22 cells in series
Glass:	3.2 mm solar glass with anti-reflective surface treatment in accordance with EN 12150
Backsheet:	Highly resistant polymer (black)
Frame:	Anodized aluminum (black)
Junction box:	3-part, 3 bypass diodes, lead-free IP68 rated, in accordance with IEC 62790
Connectors:	Stäubli MC4 PV-KBT4/KST4 (4 mm²) in accordance with IEC 62852, IP68 only when connected
Cable:	4 mm² solar cable, 1.1 m + 1.2 m in accordance with EN 50618
Dimensions:	1821 x 1016 x 30 mm (1.85 m²)
Weight:	20.5 kg
Origin:	Made in Singapore



Measurements in mm [in]

ELECTRICAL DATA — Product Code*: RECxxxAA Pure

STC						
Power Output - P_{MAX} (Wp)	385	390	395	400	405	410
Watt Class Sorting - (W)	0/+5	0/+5	0/+5	0/+5	0/+5	0/+5
Nominal Power Voltage - V_{MPP} (V)	41.2	41.5	41.8	42.1	42.4	42.7
Nominal Power Current - I_{MPP} (A)	9.35	9.40	9.45	9.51	9.56	9.61
Open Circuit Voltage - V_{OC} (V)	48.5	48.6	48.7	48.8	48.9	49.0
Short Circuit Current - I_{SC} (A)	10.18	10.19	10.20	10.25	10.30	10.35
Power Density (W/m²)	208	211	214	216	219	222
Panel Efficiency (%)	20.8	21.1	21.4	21.6	21.9	22.2
NMOT						
Power Output - P_{MAX} (Wp)	293	297	301	305	309	312
Nominal Power Voltage - V_{MPP} (V)	38.8	39.1	39.4	39.7	40.0	40.2
Nominal Power Current - I_{MPP} (A)	7.55	7.59	7.63	7.68	7.72	7.76
Open Circuit Voltage - V_{OC} (V)	45.7	45.8	45.9	46.0	46.1	46.2
Short Circuit Current - I_{SC} (A)	8.16	8.20	8.24	8.28	8.32	8.36

Values at standard test conditions (STC: air mass AM 1.5, irradiance 1000 W/m², temperature 25°C), based on a production spread with a tolerance of P_{MAX}, V_{OC} & I_{SC} ±3% within one watt class. Nominal module operating temperature (NMOT: air mass AM 1.5, irradiance 800 W/m², temperature 20°C, windspeed 1 m/s). * Where xxx indicates the nominal power class (P_{MAX}) at STC above.

CERTIFICATIONS

IEC 61215:2016, IEC 61730:2016, UL 61730	
IEC 62804	PID
IEC 61701	Salt Mist
IEC 62716	Ammonia Resistance
ISO 11925-2	Ignitability (Class E)
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	

Lead-Free
take-e-way WEEE-compliant recycling scheme

TEMPERATURE RATINGS*

Nominal Module Operating Temperature:	44°C (±2°C)
Temperature coefficient of P_{MAX}:	-0.26 %/°C
Temperature coefficient of V_{OC}:	-0.24 %/°C
Temperature coefficient of I_{SC}:	0.04 %/°C

*The temperature coefficients stated are linear values

MAXIMUM RATINGS

Operational temperature:	-40 ... +85°C
Maximum system voltage:	1000 V
Maximum test load (front):	+7000 Pa (713 kg/m²)*
Maximum test load (rear):	-4000 Pa (407 kg/m²)*
Max series fuse rating:	25 A
Max reverse current:	25 A

* See installation manual for mounting instructions. Design load = Test load / 1.5 (safety factor)

WARRANTY

	Standard	REC ProTrust	
Installed by an REC Certified Solar Professional	No	Yes	Yes
System Size	All	≤25 kW	25-500 kW
Product Warranty (yrs)	20	25	25
Power Warranty (yrs)	25	25	25
Labor Warranty (yrs)	0	25	10
Power in Year 1	98%	98%	98%
Annual Degradation	0.25%	0.25%	0.25%
Power in Year 25	92%	92%	92%

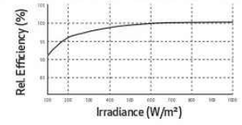
See warranty documents for details. Conditions apply

DELIVERY INFORMATION

Panels per pallet:	33
Panels per 40 ft GP/high cube container:	792 (24 pallets)
Panels per 13.6 m truck:	924 (28 pallets)
Panels per 53 ft truck:	891 (27 pallets)

LOW LIGHT BEHAVIOUR

Typical low irradiance performance of module at STC:



Specifications subject to change without notice.

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.

www.recgroup.com

Ref: PM-DS-12-06-Rev- E 11.21

SIGORA SOLAR

SIGORA SOLAR LLC
490 WESTFIELD RD STE A
CHARLOTTESVILLE, VA 22901

REVISIONS

DESCRIPTION	DATE	REV
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DATE:08/19/2022

PROJECT NAME & ADDRESS

MICHAEL RANZ RESIDENCE

189 WIDGEON WAY, LILLINGTON, NC 27546

DRAWN BY

ESR

SHEET NAME

MODULE SPECIFICATION

SHEET SIZE

ANSI B
11" X 17"

SHEET NUMBER

PV-8

ENPHASE

DATA SHEET

IQ8 and IQ8+ Microinverters

Our newest IQ8 Microinverters are the industry's first microgrid-forming, software-defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently. The brain of the semiconductor-based microinverter is our proprietary application-specific integrated circuit (ASIC) which enables the microinverter to operate in grid-tied or off-grid modes. This chip is built in advanced 55nm technology with high speed digital logic and has super-fast response times to changing loads and grid events, alleviating constraints on battery sizing for home energy systems.

Part of the Enphase Energy System, IQ8 Series Microinverters integrate with the Enphase IQ Battery, Enphase IQ Gateway, and the Enphase App monitoring and analysis software.

Enphase 25 year limited warranty

IQ8 Series Microinverters redefine reliability standards with more than one million cumulative hours of power-on testing, enabling an industry-leading limited warranty of up to 25 years.

Connect PV modules quickly and easily to IQ8 Series Microinverters using the included Q-DCC-2 adapter cable with plug-n-play MC4 connectors.

UL CERTIFIED SAFETY

IQ8 Series Microinverters are UL Listed as PV Rapid Shut Down Equipment and conform with various regulations, when installed according to manufacturer's instructions.

Easy to install

- Lightweight and compact with plug-n-play connectors
- Power Line Communication (PLC) between components
- Faster installation with simple two-wire cabling

High productivity and reliability

- Produce power even when the grid is down*
- More than one million cumulative hours of testing
- Class II double-insulated enclosure
- Optimized for the latest high-powered PV modules

Microgrid-forming

- Complies with the latest advanced grid support**
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA) requirements

IQ8SP-DS-0002-01-EN-US-2022-03-17

* Only when installed with IQ System Controller 2, meets UL 1741.
** IQ8 and IQ8Plus supports split phase, 240V installations only.

IQ8 and IQ8+ Microinverters

INPUT DATA (DC)		IQ8-60-2-US	IQ8PLUS-72-2-US
Commonly used module pairings[1]	W	235 – 350	235 – 440
Module compatibility		60-cell/120 half-cell	60-cell/120 half-cell, 66-cell/132 half-cell and 72-cell/144 half-cell
MPPT voltage range	V	27 – 37	29 – 45
Operating range	V	25 – 48	25 – 58
Min/max start voltage	V	30 / 48	30 / 58
Max input DC voltage	V	50	60
Max DC current[2] [module Isc]	A	15	
Overvoltage class DC port		II	
DC port backfeed current	mA	0	
PV array configuration		1x1 Ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit	
OUTPUT DATA (AC)		**IQ8-60-2-US**	**IQ8PLUS-72-2-US**
Peak output power	VA	245	300
Max continuous output power	VA	240	290
Nominal (L-L) voltage/range[3]	V	240 / 211 – 264	
Max continuous output current	A	1.0	1.21
Nominal frequency	Hz	60	
Extended frequency range	Hz	50 – 68	
AC short circuit fault current over 3 cycles	Arms	2	
Max units per 20 A (L-L) branch circuit[4]		16	13
Total harmonic distortion		<5%	
Overvoltage class AC port		III	
AC port backfeed current	mA	30	
Power factor setting		1.0	
Grid-tied power factor (adjustable)		0.85 leading – 0.85 lagging	
Peak efficiency	%	97.5	97.6
CEC weighted efficiency	%	97	97
Night-time power consumption	mW	60	
MECHANICAL DATA			
Ambient temperature range		-40°C to +60°C (-40°F to +140°F)	
Relative humidity range		4% to 100% (condensing)	
DC Connector type		MC4	
Dimensions (HxWxD)		212 mm (8.3") x 175 mm (6.9") x 30.2 mm (1.2")	
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	
Environ. category / UV exposure rating		NEMA Type 6 / outdoor	
COMPLIANCE			
Certifications		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, NEC 2017, and NEC 2020 section 690.12 and C22.1-2018 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, when installed according to manufacturer's instructions.	

(1) No enforced DC/AC ratio. See the compatibility calculator at https://link.enphase.com/module-compatibility
(2) Maximum continuous input DC current is 10.6A (3) Nominal voltage range can be extended beyond nominal if required by the utility. (4) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

IQ8SP-DS-0002-01-EN-US-2022-03-17

SIGORA SOLAR

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CHARLOTTESVILLE, VA 22901

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MICHAEL RANZ RESIDENCE

189 WIDGEON WAY,
LILLINGTON, NC 27546

DRAWN BY

ESR

SHEET NAME

INVERTER SPECIFICATION

SHEET SIZE

ANSI B
11" X 17"

SHEET NUMBER

PV-9

Data Sheet
Enphase Networking

Enphase IQ Combiner 4/4C

X-IQ-AM1-240-4
X-IQ-AM1-240-4C

X-IQ-AM1-240-4C

X-IQ-AM1-240-4

The **Enphase IQ Combiner 4/4C** with Enphase IQ Gateway and integrated LTE-M1 cell modem (included only with IQ Combiner 4C) consolidates interconnection equipment into a single enclosure and streamlines IQ microinverters and storage installations by providing a consistent, pre-wired solution for residential applications. It offers up to four 2-pole input circuits and Eaton BR series busbar assembly.

Smart

- Includes IQ Gateway for communication and control
- Includes Enphase Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05), included only with IQ Combiner 4C
- Includes solar shield to match Enphase IQ Battery aesthetics and deflect heat
- Flexible networking supports Wi-Fi, Ethernet, or cellular
- Optional AC receptacle available for PLC bridge
- Provides production metering and consumption monitoring

Simple

- Centered mounting brackets support single stud mounting
- Supports bottom, back and side conduit entry
- Up to four 2-pole branch circuits for 240 VAC plug-in breakers (not included)
- 80A total PV or storage branch circuits

Reliable

- Durable NRTL-certified NEMA type 3R enclosure
- Five-year limited warranty
- Two years labor reimbursement program coverage included for both the IQ Combiner SKU's
- UL listed

UL LISTED

To learn more about Enphase offerings, visit **enphase.com**

ENPHASE

Enphase IQ Combiner 4/4C

MODEL NUMBER	
IQ Combiner 4 (X-IQ-AM1-240-4)	IQ Combiner 4 with Enphase IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSI C12.20 +/- 0.5%) and consumption monitoring (+/- 2.5%). Includes a silver solar shield to match the IQ Battery system and IQ System Controller 2 and to deflect heat.
IQ Combiner 4C (X-IQ-AM1-240-4C)	IQ Combiner 4C with Enphase IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSI C12.20 +/- 0.5%) and consumption monitoring (+/- 2.5%). Includes Enphase Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05), a plug-and-play industrial-grade cell modem for systems up to 60 microinverters. (Available in the US, Canada, Mexico, Puerto Rico, and the US Virgin Islands, where there is adequate cellular service in the installation area.) Includes a silver solar shield to match the IQ Battery and IQ System Controller and to deflect heat.
ACCESSORIES AND REPLACEMENT PARTS	(not included, order separately)
Ensemble Communications Kit COMMS-CELLMODEM-M1-06 CELLMODEM-M1-06-SP-05 CELLMODEM-M1-06-AT-05	- Includes COMMS-KIT-01 and CELLMODEM-M1-06-SP-05 with 5-year Sprint data plan for Ensemble sites - 4G based LTE-M1 cellular modem with 5-year Sprint data plan - 4G based LTE-M1 cellular modem with 5-year AT&T data plan
Circuit Breakers BRK-10A-2-240V BRK-15A-2-240V BRK-20A-2P-240V BRK-15A-2P-240V-B BRK-20A-2P-240V-B	Supports Eaton BR210, BR215, BR220, BR230, BR240, BR250, and BR260 circuit breakers. Circuit breaker, 2 pole, 10A, Eaton BR210 Circuit breaker, 2 pole, 15A, Eaton BR215 Circuit breaker, 2 pole, 20A, Eaton BR220 Circuit breaker, 2 pole, 15A, Eaton BR215B with hold down kit support Circuit breaker, 2 pole, 20A, Eaton BR220B with hold down kit support
EPLC-01	Power line carrier (communication bridge pair), quantity - one pair
XA-SOLARSHIELD-ES	Replacement solar shield for IQ Combiner 4/4C
XA-PLUG-120-3	Accessory receptacle for Power Line Carrier in IQ Combiner 4/4C (required for EPLC-01)
XA-ENV-PCBA-3	Replacement IQ Gateway printed circuit board (PCB) for Combiner 4/4C
X-IQ-NA-HD-125A	Hold down kit for Eaton circuit breaker with screws.
ELECTRICAL SPECIFICATIONS	
Rating	Continuous duty
System voltage	120/240 VAC, 60 Hz
Eaton BR series busbar rating	125 A
Max. continuous current rating	65 A
Max. continuous current rating (input from PV/storage)	64 A
Max. fuse/circuit rating (output)	90 A
Branch circuits (solar and/or storage)	Up to four 2-pole Eaton BR series Distributed Generation (DG) breakers only (not included)
Max. total branch circuit breaker rating (input)	80A of distributed generation / 95A with IQ Gateway breaker included
Envoy breaker	10A or 15A rating GE/Siemens/Eaton included
Production metering CT	200 A solid core pre-installed and wired to IQ Gateway
Consumption monitoring CT (CT-200-SPLIT)	A pair of 200 A split core current transformers
MECHANICAL DATA	
Dimensions (WxHxD)	37.5 x 49.5 x 16.8 cm (14.75" x 19.5" x 6.63"). Height is 21.06" (53.5 cm) with mounting brackets.
Weight	7.5 kg (16.5 lbs)
Ambient temperature range	-40° C to +46° C (-40° to 115° F)
Cooling	Natural convection, plus heat shield
Enclosure environmental rating	Outdoor, NRTL-certified, NEMA type 3R, polycarbonate construction
Wire sizes	• 20 A to 50 A breaker inputs: 14 to 4 AWG copper conductors • 60 A breaker branch input: 4 to 1/0 AWG copper conductors • Main lug combined output: 10 to 2/0 AWG copper conductors • Neutral and ground: 14 to 1/0 copper conductors Always follow local code requirements for conductor sizing.
Altitude	To 2000 meters (6,560 feet)
INTERNET CONNECTION OPTIONS	
Integrated Wi-Fi	802.11b/g/n
Cellular	CELLMODEM-M1-06-SP-05, CELLMODEM-M1-06-AT-05 (4G based LTE-M1 cellular modem). Note that an Enphase Mobile Connect cellular modem is required for all Ensemble installations.
Ethernet	Optional, 802.3, Cat5E (or Cat 6) UTP Ethernet cable (not included)
COMPLIANCE	
Compliance, IQ Combiner	UL 1741, CAN/CSA C22.2 No. 107.1, 47 CFR, Part 15, Class B, ICES 003 Production metering: ANSI C12.20 accuracy class 0.5 (PV production) Consumption metering: accuracy class 2.5
Compliance, IQ Gateway	UL 60601-1/CANCSA 22.2 No. 61010-1

To learn more about Enphase offerings, visit **enphase.com**

ENPHASE

SIGORA SOLAR

SIGORA SOLAR LLC
490 WESTFIELD RD STE A
CHARLOTTESVILLE, VA 22901

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PROJECT NAME & ADDRESS

MICHAEL RANZ RESIDENCE

189 WIDGEON WAY,
LILLINGTON, NC 27546

DRAWN BY

ESR

SHEET NAME

COMBINER SPECIFICATION

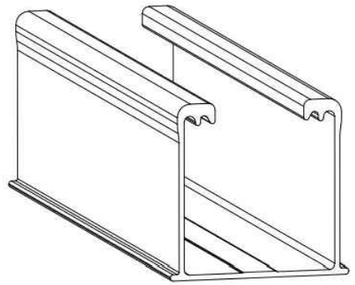
SHEET SIZE

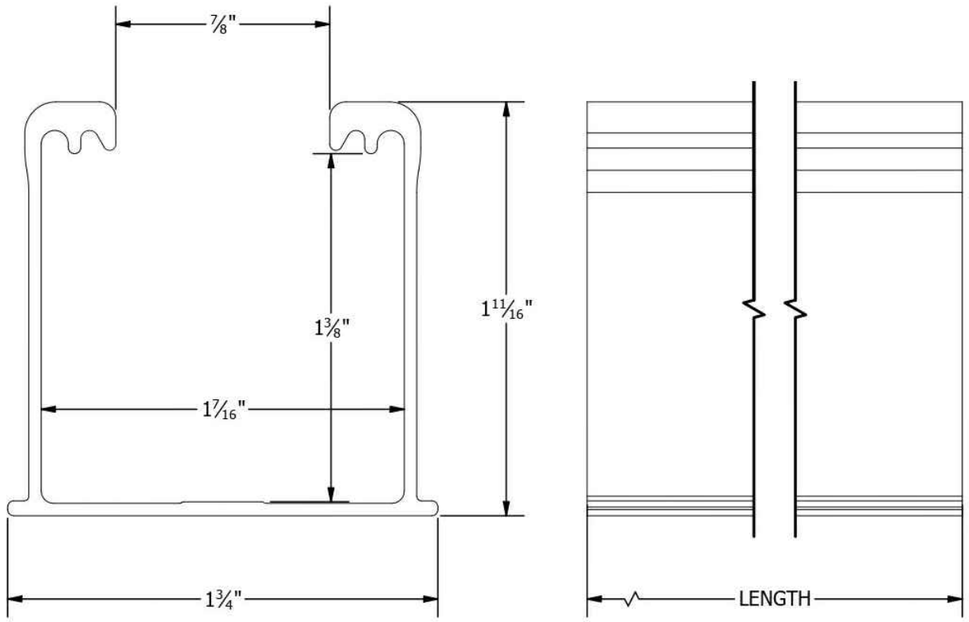
ANSI B
11" X 17"

SHEET NUMBER

PV-10

PART # TABLE		
P/N	DESCRIPTION	LENGTH
084RLM1	NXT HORIZON RAIL 84" MILL	84"
084RLD1	NXT HORIZON RAIL 84" DARK	84"
168RLM1	NXT HORIZON RAIL 168" MILL	168"
168RLD1	NXT HORIZON RAIL 168" DARK	168"
208RLM1	NXT HORIZON RAIL 208" MILL	208"
208RLD1	NXT HORIZON RAIL 208" DARK	208"
246RLM1	NXT HORIZON RAIL 246" MILL	246"
246RLD1	NXT HORIZON RAIL 246" DARK	246"





UNIRAC
1411 BROADWAY BLVD. NE
ALBUQUERQUE, NM 87102 USA
PHONE: 505.242.6411
WWW.UNIRAC.COM

PRODUCT LINE:	NXT HORIZON
DRAWING TYPE:	PART DETAIL
DESCRIPTION:	RAIL
REVISION DATE:	9/13/2021

DRAWING NOT TO SCALE
ALL DIMENSIONS ARE NOMINAL

PRODUCT PROTECTED BY ONE OR MORE US PATENTS
LEGAL NOTICE

NH-P01
SHEET

SIGORA SOLAR

SIGORA SOLAR LLC
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RESIDENCE

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DRAWN BY
ESR

SHEET NAME
RAIL
SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-11

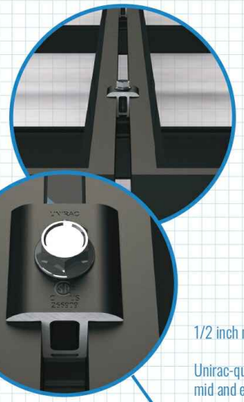
NXT HORIZON®

UNIRAC®
BETTER SOLAR STARTS HERE

UNIRAC 25 YEAR FULL-SYSTEM WARRANTY

DISCOVER YOUR **NXT** HORIZON®

The culmination of over two decades of experience. Thoughtful design, rigorous engineering, world-class support, and a reliable supply chain are the foundation of what makes us confident that NXT HORIZON® is the NXT Level of DESIGN, SIMPLICITY, and VALUE.



NXT HORIZON® COMBO CLAMP

DARK: CCLAMPD1
MILL: CCLAMPM1

Clicks into rail anywhere (even where there are cables!)
Self-standing clamp with spring combines as both mid and end clamp.
Clamps 30-40 mm modules

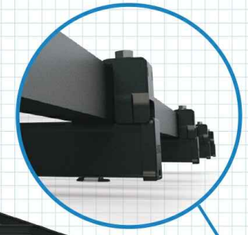
STRONGHOLD™ RAIL CLAMP

DARK: SHCLMPD1
MILL: SHCLMPM1

Adaptable rail connection to attachments allows click-in feature compatibility with almost all of Unirac's attachments.

1/2 inch module spacing for efficiency.

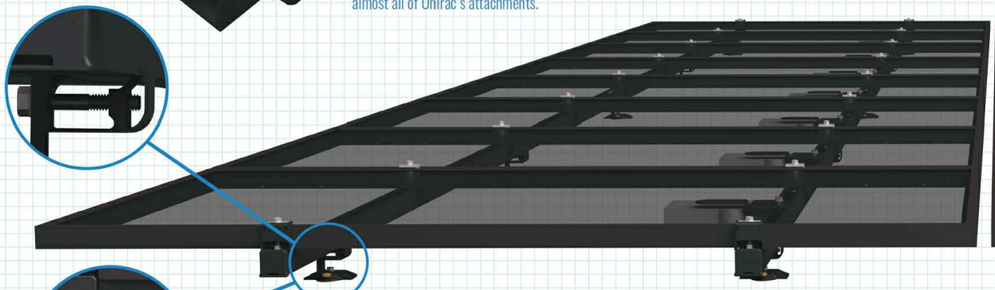
Unirac-quality bonding that works both as mid and end clamps.



NXT HORIZON® CAP KIT

ENDCAPD1

Make the install look clean with the end cap kit designed to complement the module end clamp and rail ends.

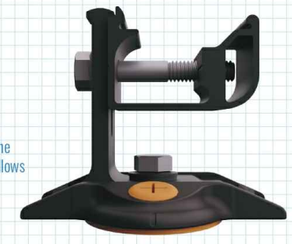


FlashLoc technology combined with new features: click-in rail & open slot L-Foot for the best flash-less install experience.

STRONGHOLD™ ATTACHMENT KIT

DARK: SHCPKTD1
MILL: SHCPKTM1

Rail clicks into the clamps attached to the Stronghold™ base. Open slot in L-foot allows drop-in rail clamp.



Alternative attachment options:

SOLARHOOKS
All varieties

FLASHKIT PRO
DARK: 004055D
MILL: 004055M

FLASHLOC™ DUO
DARK: 004275D
MILL: 004275M

NXT HORIZON® RAIL

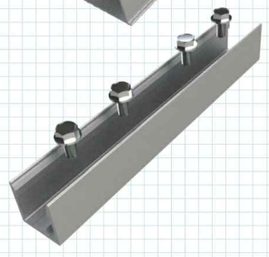
DARK: 168RLD1
MILL: 168RLM1

Strong, lightweight open channel rail with invisible, easy, unfailing and integrated wire management system.

NXT HORIZON® RAIL SPLICE

RLSPLCM1

Structural internal splice that does not interfere with roof connection nor module connection.
Pre-assembled thread cutting bolts.



WIRE MANAGEMENT OPTONS

NXT HORIZON® MLPE & LUG CLAMP

LUGMLPE1

Works as either MLPE Mount or Grounding Lug connection to the rail. Why source two parts when one can do the job?

NXT HORIZON® WIRE MANAGEMENT CLIP

WRMCLPD1

Aesthetic, yet functional accessory that works to help installers keep wires inside the rail.
No zip-ties required. Optional zip tie loop for extra wire management capabilities!

NXT HORIZON® NORTH/SOUTH WIRE MANAGEMENT CLIP

WRMCNSD1

An elegant solution to help installers get to the home run. The same hardware works to provide both easy entry to rail and adjustability for cable thickness.

ALL NXT HORIZON® SYSTEMS INCLUDE A FREE PERMITTING PLANSET DESIGN - FOR QUESTIONS OR CUSTOMER SERVICE VISIT UNIRAC.COM OR EMAIL NXTPERMITS@UNIRAC.COM

SIGORA SOLAR

SIGORA SOLAR LLC
490 WESTFIELD RD STE A
CHARLOTTESVILLE, VA 22901

REVISIONS		
DESCRIPTION	DATE	REV
INITIAL	08/19/2022	

DATE:08/19/2022

PROJECT NAME & ADDRESS

MICHAEL RANZ RESIDENCE

189 WIDGEON WAY, LILLINGTON, NC 27546

DRAWN BY
ESR

SHEET NAME
ATTACHMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-12

SolaDeck

FLASHED PV ROOF-MOUNT COMBINER/ENCLOSURE

Basic Features

- Stamped Seamless Construction
- 18 Gauge Galvanized Steel
- Powder Coated Surfaces
- Flashes into the roof deck
- 3 Roof deck knockouts .5", .75", 1"
- 5 Centering dimples for entry/exit fittings or conduit
- 2 Position Ground lug installed
- Mounting Hardware Included

SolaDeck Model SD 0783

SolaDeck UL50 Type 3R Enclosures

Available Models:
Model SD 0783 - (3" fixed Din Rail)
Model SD 0786 - (6" slotted Din Rail)

SolaDeck UL 1741 Combiner/Enclosures

Models SD 0783-41 and SD 0786-41 are labeled and ETL listed UL STD 1741 according to the UL STD 1741 for photovoltaic combiner enclosures.

Max Rated - 600VDC, 120AMPS

Model SD 0783-41 3" Fixed Din Rail fastened using Norlock System

****Typical System Configuration**

4- Din Rail Mounted Fuse Holders 600VDC 30 AMP
1- Power Distribution Block 600VDC 175AMP
1- Bus Bar with UL lug

Model SD 0786-41 6" Slotted Din Rail fastened using steel studs

****Typical System Configuration**

4- Din Rail Mounted Fuse Holders 600VDC 30 AMP
4- Din Rail Mounted Terminal Blocks
Bus Bars with UL lug

**Fuse holders and terminal blocks added in the field must be UL listed or recognized and meet 600 VDC 30 AMP 110C for fuse holders, 600V 50 AMP 90C for rail mounted terminal blocks and 600 V 175 AMP 90C for Power Distribution Blocks. Use Copper Wire Conductors.

Cover is trimmed to allow conduit or fittings, base is center dimpled for fitting locations.

Model SD 0783-41, wired with Din Rail mounted fuse holders, bus bar and power distribution block.

Model SD 0786-41, wired with Din Rail mounted fuse holders, terminal blocks and bus bars.

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MICHAEL RANZ
RESIDENCE

189 WIDGEON WAY,
LILLINGTON, NC 27546

DRAWN BY
ESR

SHEET NAME
SOLADECK
SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-13