

V	PV MATERIAL SUMMARY: DISTRIBUTOR				
1	SIL-430 QD	27			
	MCI-2	10			
	Tesla PW3 1707000-xx-y	1			
	Tesla GW3 1841000-01-y	1			
	XR-10-168B	8			
	XR-10-204B	6	_		
	XR10-BOSS-01-M1	8	(		
	UFO-CL-01-B1	46	3 E		
	UFO-END-01-B1	16	F		
	XR-LUG-03-A1	5	P		
+	4 IN QB2	51	D		
1	GC66803 Geocel Sealant	3	D		
\	SOLADECK 0799-5B	1			
	SOLAR MESH-P-8	2			
	SNRAC 242-04105	48			
			ł		







LORENZO CAPEL 323 WINTERBERRY WAY FUQUAY-VARINA, NC 27526

### PROJECT INFO

AC OUTPUT: DOI INSPT. METHOD: OPTION 2

## **Model Energy**

300 Fayetteville St. #1430 Raleigh, NC 27602 919-274-9905 ModelEnergy.com

NC FIRE PROTECTION CODE v. 2018 NC BUILDING CODE v. 2018 NC RESIDENTIAL CODE v. 2018 ACSE v. 7-10

### SITE CONDITIONS

WIND SPEED: 120 MPH RISK CATEGORY: EXPOSURE: SNOW: 15 PSF

PV-1: COVER SHEET
PV-2: PV STRUCTURAL
PV-3: PV ELECTRICAL
PV-4: PV EQUIPMENT LABELS
PV-5: PV INSTALL GUIDE

<b>VERSION</b>	VERSIONS					
FOR:	DESIGNER	DATE				
CONSTRUCTION	CRM	3/18/2025				

PV SYSTEM COVER PAGE

PV-1.1

-PV MODULE FRAME

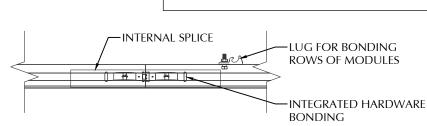
**FASTENING OBJECT** 

IRONRIDGE UNIVERSAL

# STATEMENT OF STRUCTURAL COMPLIANCE

THE EXISTING ROOF STRUCTURE HAS BEEN DESIGNED TO SUPPORT THE ADDITIONAL LOADS OF THE PROPOSED PV SYSTEM. IN ADDITION, THE RACKING AND FASTENING SYSTEM SHALL BE CAPABLE OF SECURING THE SYSTEM TO THE STRUCTURE UNDER DESIGN CONDITIONS WHEN INSTALLED PROPERLY AND IN ACCORDANCE WITH THE RACKING AND FASTENING ARRANGEMENT DETAILED WITHIN THESE DRAWINGS.

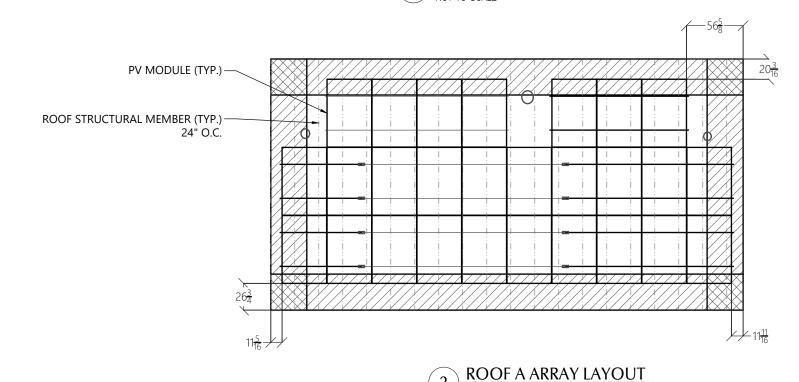




### -INTEGRATED HARDWARE -IRONRIDGE STOPPER -PV MODULE, BONDING SLEEVE BY OTHERS PV MODULE FRAME -INTEGRATED HARDWARE -IRONRIDGE BONDING RAIL -INTEGRATED HARDWARE -PV MODULE FRAME **BONDING** -BUILDING -IRONRIDGE RAIL IRONRIDGE STRUCTURE RAIL -QUICKBOLT

VARIES

# 1 ROOF FASTENER DETAIL NOT TO SCALE



IRONRIDGE RAIL-

**OUICKBOLT ROOF HOOKS** 

**PV MODULE** 

- WOOD RAFTER OR TRUSS MEMBER

	PV M	ODULES
MAKE MODEL		SILFAB
		SIL-430 QD
	WIDTH	44.60 IN
LENGTH THICKNESS		67.80 IN
		35 MM
	WEIGHT	46.30 LBS.
ARRAY AREA		567 SQFT.
	ARRAY WEIGHT	1417 LBS.

ROOF	SUMMARY
STRUCTURE:	
TYPE	TRUSSES
MATERIAL	SOUTHERN PINE #2
SIZE	2 X 4
SPACING	24 IN O.C.
ALLOWABLE SPAN	88 IN
PITCH	6/12
DENSITY	30 LBS./CU.FT.
DECKING:	
TYPE	OSB
MATERIAL	COMPOSITE
THICKNESS	7/16 IN
WEIGHT	1.60 LBS/SQFT
ROOFING:	
TYPE	ASPHALT SHINGLE
MATERIAL	ASPHALT
WEIGHT	2.30 LBS./SQFT.

ROOF MOUNT SUMMARY							
MAXIMUM (IN)	MOUNT SPACING	RAIL OVERHANG					
WIND ZONE 1	72 IN	24 IN					
WIND ZONE 2	48 IN	24 IN					
WIND ZONE 3	48 IN	22 IN					

ROOF LOADING						
GROUND SNOW LOAD:	15 LBS./SQFT.					
LIVE LOAD	20 LBS./SQFT.					
DEAD LOAD						
ROOFING	3.9 LBS/SQFT.					
PV ARRAY	2.5 LBS./SQFT.					
TOTAL	6.4 LBS./SQFT.					
WIND LOAD:						
UPLIFT ZONE 1	-24.6 LBS./SQFT.					
UPLIFT ZONE 2	-29.0 LBS./SQFT.					
UPLIFT ZONE 3	-29.0 LBS./SQFT.					
DOWNWARD	23.0 LBS./SQFT.					
FASTENER LOAD:						
UPLIFT ZONE 1	-414 LBS.					
UPLIFT ZONE 2	-325 LBS.					
UPLIFT ZONE 3	-325 LBS.					
DOWNWARD	387 LBS.					

Roof Mount & Fastener					
ROOF MOUNT:					
MAKE	QUICKBOLT				
MODEL	4 IN QB2				
MATERIAL	STAINLESS / EPDM				
FASTENER:					
MAKE	QUICK SCREWS				
MODEL	HEX LAG BOLT				
MATERIAL	304 SS				
SIZE	5/16" X 4" (1/2" HEX)				
GENERAL:					
WEIGHT	0.65 LBS.				
FASTENERS PER MOUNT	1				
MAX. PULL-OUT FORCE	960.0 LBS.				
SAFETY FACTOR	2				
DESIGN PULL-OUT FORCE	480.0 LBS.				

MOUNTING RAILS			
IRONRIDGE			
XR10			
ALUMINUM			
0.425 LBS/IN			
34 IN			



### CLIENT INFO

LORENZO CAPEL 323 WINTERBERRY WAY FUQUAY-VARINA, NC 27526

### PROJECT INFO

DC INPUT: 11.610 kW AC OUTPUT: 11.500 kW DOI INSPT. METHOD: OPTION 2

## Model Energy

300 Fayetteville St. #1430 Raleigh, NC 27602 919-274-9905 ModelEnergy.com



### CODE REFERENCES

NATIONAL ELECTRICAL CODE V. 2017 NC FIRE PROTECTION CODE v. 2018 NC BUILDING CODE v. 2018 NC RESIDENTIAL CODE v. 2018 ACSE v. 7-10

### SITE CONDITIONS

WIND SPEED: 120 MPH
RISK CATEGORY: II
EXPOSURE: B
SNOW: 15 PSF

## SHEET INDEX PV-1: COVER SHEET

PV-4: PV STRUCTURAL
PV-3: PV ELECTRICAL
PV-4: PV EQUIPMENT LABELS
PV-5: PV INSTALL GUIDE

### VERSIONS

	FOR:	DESIGNER	DATE
	CONSTRUCTION	CRM	3/18/2025

PV SYSTEM STRUCTURAL

PV-2.1

	CONDUCTOR SCHEDULE									
TAG		CURRENT CARRYING CO	NT CARRYING CONDUCTORS		GROUNDING CONDUCTORS		CONDUIT/RACEWAY		NOTES	
IAU	QTY.	SIZE	INSULATION	QTY.	SIZE	INSULATION	QTY.	SIZE	LOCATION	NOTES
C1	6	10 AWG	PV WIRE	1	6 AWG	BARE	-	-	FREE AIR	1
C2	6	10 AWG	THWN-2	1	10 AWG	THWN-2	1	3/4"	EXT/INT	2,4
C3	3	6 AWG	THWN-2	1	10 AWG	THWN-2	1	1"	EXTERIOR	2,4
C4	3	4/0 AWG ALUMINUM	XHHW	1	6 AWG	THWN-2	1	2"	EXT/INT	2,4
C5	3	4/0 AWG ALUMINUM	XHHW	-	-	=	1	2"	EXTERIOR	2,4
XC	-	-	•	-	-	-	-	-	-	3

### NOTE:

- MANUFACTURER PROVIDED, UL LISTED WIRING HARNESS FOR USE ON EXPOSED ROOFS
- CONDUIT SIZE SHOWN IS CODE MINIMUM. LARGER SIZES ARE ALLOWED.
- 3. EXISTING CONDUCTORS, FIELD VERIFY
- 4. EQUIPMENT TERMINAL RATING SHALL BE A MINIMUM OF 75°C AT BOTH END OF CONDUCTOR

			LATERIOR	-, .				
	-	-	-	3				
Εl	ENERGY MANAGEMENT							
	MAKE		TESLA					
MODEL			BACKUP GATEWAY 3					
ENCL. RATING			NEMA 3R					
VOLT. RATING			240 VOLTS	6				
DISCONNECT CURR.			200 AMPS					
UL LIST. (Y/N)			YES					
MAIN BREAKER (Y/N)			YFS					

TROUGH MAY BE USED IF NECESSARY

MAIN BREAKER RATING

 INSTALL 200A MAIN BREAKER THAT WILL SERVE AS THE NEW SERVICE DISCONNECT SWITCH

200 AMPS

- LAND POWERWALL 3 VIA 60A BREAKER ON INTERNAL PANELBOARD
- INSTALL BONDING JUMPER FROM NEUTRAL TO GROUND
- FEED BACKED-UP LOADS PANEL VIA BACKUP LUGS

PV MODULE						
SILFAB						
SIL-430 QD						
430 WATTS						
33.3 VOLTS						
38.9 VOLTS						
1000 VOLTS						
12.9 AMPS						
13.9 AMPS						
-0.29 %/C						
-0.24 %/C						
25 AMPS						
YES						

MAX. DC VOLTAGE CALCULATION			
$V_{OC}MAX = V_{OC} * (1 +$	$AX = V_{OC} * (1 + (TMIN - TSTC) * (VTC / 100))$		
V <sub>OC</sub> MAX	42.04		
MAX STRING VOLTAGE	504.5		
MAX. DC CURR	ENT CALCULATION		
$I_{SC}MAX = I_{SC} * TCX$			
I <sub>SC</sub> MAX (AMPS)	17.34		

MID-CIRCUIT INTERRUPTER		
MAKE	TESLA	
MODEL	MCI-2	
ENCL. RATING	NEMA 4X / IP65	
DC INPUT:		
CONNECTOR TYPE	MC4	
MAX IN-LINE PV MODULES	3	
MAX MCI PER STRING	5	
MAX. SYSTEM VOLTAGE	1000 VOLTS	
NOM. CURRENT (Imp)	13.00 AMPS	
MAX. CURRENT (Isc)	17.00 AMPS	
RSD COMPLIANT (Y/N)	YES	
UL COMPLIANT (Y/N)	YES	

JUNCTION BOX		
MAKE	SOLADECK	
PROTECT. RATING	NEMA TYPE 3R	
UL LIST. (Y/N)	YES	
RACKED-LIPTOADS PANEL		

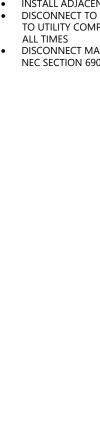
BACKED-UP LOADS PANEL			
(EXISTING)			
MAKE	SQUARE D		
MODEL	HOMC30UC		
ENCL. RATING	NEMA TYPE 1		
VOLT. RATING	240		
BUS RATING	225 AMPS		
UL LIST. (Y/N)	YES		
MAIN BREAKER (Y/N)	YES		
MAIN BREAKER RATING	N BREAKER RATING 200 AMPS		

- RE-FEED BACKED-UP LOADS PANEL VIA GATEWAY OUTPUTS
- REMOVE N/G BOND, SEPARATE NEUTRALS AND GROUNDS

DC/AC INVERTER & BATTERY		
MAKE	TESLA POWERWALL 3	
MODEL	1707000-XX-Y	
DC INPUT:		
MAX POWER	20000 WATTS	
INPUT VOLT. RANGE	60-550 VOLTS	
MPPT VOLT. RANGE	60-480 VOLTS	
MAX. CURR. (Imp/Isc)	13 / 15 AMPS	
STRING INPUTS	6 MPPTs	
AC OUTPUT:		
MAX. CONT. POWER	11500 WATTS	
NOM. VOLT.	120 / 240 VOLTS	
MAX. CONT. CURRENT	48.00 AMPS	
RAPID SHUTDOWN (Y/N)	YES	
PROTECT. RATING	NEMA TYPE 3R	
BATTERY INFO:		
USABLE ENERGY	13.5 kWh	
NOM. VOLT.	240 VOLTS	
MAX. CONT. CHARGE	5000 WATTS	
MAX. CONT. DISCHARGE	11500 WATTS	
UL LIST. (Y/N)	YES	

AC DISCONNECT		
MAKE	GENERIC	
MODEL	NA	
ENCL. RATING	NEMA 3R	
VOLT. RATING	240 VOLTS	
AMP RATING	60 AMPS	
UL LIST. (Y/N)	YES	
FUSED (Y/N)	NO	
FUSE RATING	N/A	

- LOAD-BREAK RATED
- VISIBLE OPEN
- LOCKABLE IN OPEN POSITION
- INSTALL ADJACENT TO METER
- DISCONNECT TO BE READILY ACCESSIBLE TO UTILITY COMPANY PERSONNEL AT ALL TIMES
- DISCONNECT MARKED AND RATED PER NEC SECTION 690.13 AND 705.10





323 WINTERBERRY WAY FUQUAY-VARINA, NC 27526

### PROJECT INFO

DC INPUT: 11.610 kW
AC OUTPUT: 11.500 kW
DOI INSPT. METHOD: OPTION 2



Raleigh, NC 27602 919-274-9905 ModelEnergy.com



### CODE REFERENCES

NATIONAL ELECTRICAL CODE V. 2017 NC FIRE PROTECTION CODE v. 2018 NC BUILDING CODE v. 2018 NC RESIDENTIAL CODE v. 2018 ACSE v. 7-10

### SITE CONDITIONS

WIND SPEED: 120 MPH
RISK CATEGORY: II
EXPOSURE: B
SNOW: 15 PSF

## SHEET INDEX PV-1: COVER SHEET

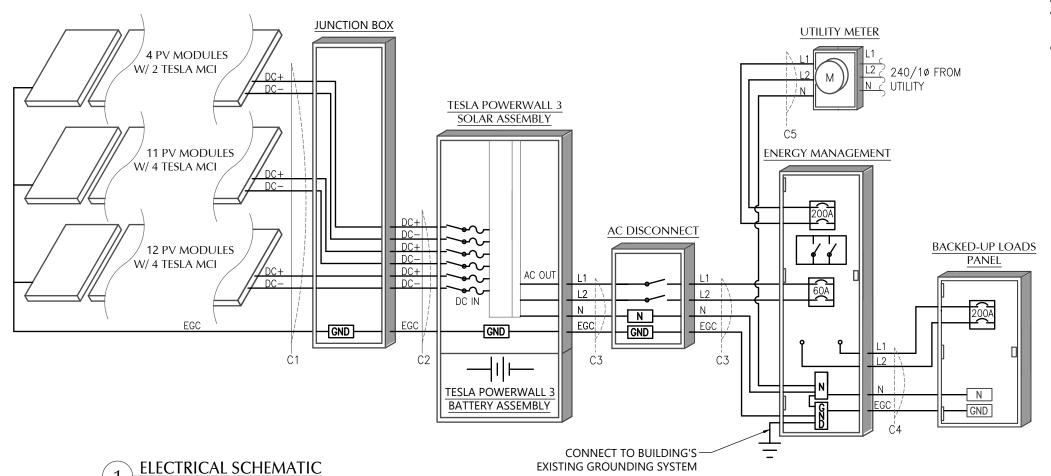
PV-2: PV STRUCTURAL
PV-3: PV ELECTRICAL
PV-4: PV EQUIPMENT LABELS
PV-5: PV INSTALL GUIDE

### VERSIONS

FUK:	DESIGNER	DATE
CONSTRUCTION	CRM	3/18/2025

PV SYSTEM ELECTRICAL

PV-3.1



# WARNING: PHOTOVOLTAIC POWER SOURCE

NEC 690.31 (G)(3)&(4)
PLACE ON ALL JUNCTION BOXES, EXPOSED RACEWAYS, AND OTHER
WIRING METHODS EVERY 10' AND ON EVERY SECTION SEPARATED BY
ENCLOSURES, WALLS, PARTITIONS, CEILINGS, OR FLOORS.

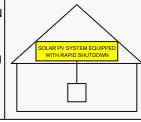
# RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

NEC 690.56 (C)(3)
PLACE ON RAPID SHUTDOWN SWITCH OR EQUIPMENT
WITH INTEGRATED RAPID SHUTDOWN \*REFLECTIVE\*

# 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



NEC 690.56 (C)(1)(a)
PLACE WITHIN 3FT OF SERVICE DISCONNECTING MEANS TO WHICH THE PV SYSTEMS ARE CONNECTED AND SHALL

INDICATE THE LOCATIONS OF RAPID SHUTDOWN SWITCHES

# PV SYSTEM

DISCONNECT

NEC 690.13 (B)
PLACE ON PV SYSTEM DISCONNECTING MEANS.

### **MARNING**

THIS EQUIPMENT FED BY MULTIPLE SOURCES. TOTAL RATING OF ALL OVERCURRENT DEVICES EXCLUDING MAIN SUPPLY OVERCURRENT DEVICE SHALL NOT EXCEED AMPACITY OF BUSBAR.

NEC 705.12 (B)(2)(3)(c)

**⚠WARNING**THREE POWER SOURCES

SOURCES: UTILITY GRID, BATTERY AND PV SOLAR ELECTRIC SYSTEM

NEC 705.12(B)(3)
PLACE ON ALL EQUIPMENT THAT IS SUPPLIED
BY THREE POWER SOURCES

DIRECT CURRENT
PHOTOVOLTAIC POWER SOURCE

MAXIMUM VOLTAGE 600 VDC
MAX CIRCUIT CURRENT 52 AMPS

NEC 690.53
PLACE ON ALL DC DISCONNECTING MEANS

PHOTOVOLTAIC POWER SOURCE

OPERATING AC VOLTAGE 240

MAXIMUM OPERATING AC OUTPUT CURRENT 48.0 A

NEC 690.54
PLACE ON INTERCONNECTION
DISCONNECTING MEANS

SERVICE DISCONNECT LOCATED:

PV/BATTERY DISCONNECT LOCATED:

NEC 705.10
PLACE AT SERVICE EQUIPMENT AND
PV SYSTEM DISCONNECTING MEANS.

### LABEL NOTES

- 1. LABELS SHOWN ARE HALF THEIR ACTUAL REQUIRED SIZE.
- LABEL MATERIAL SHALL BE SUITABLE FOR THE EQUIPMENT ENVIRONMENT.
- DC CONDUIT SHALL BE MARKED WITH REQUIRED LABEL EVERY 10 FEET.
- 4. LABELS WILL BE APPLIED IN ACCORDANCE WITH THE NEC. SOME LABELS MAY NOT BE NECESSARY.

### DC WIRING NOTES

- CONDUCTORS SHALL BE COPPER, RATED AT NOT LESS THAN 600 VOLTS FOR RESIDENTIAL CONSTRUCTION AND NOT LESS THAN 1000 VOLTS FOR COMMERCIAL CONSTRUCTION.
- MINIMUM SIZE SHALL BE #10 AWG UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- EXPOSED WIRING CONDUCTOR INSULATION SHALL BE TYPE PV WIRE, USE-2, OR RHW-2 WHERE THE OUTER LAYER OF THE INSULATION IS UV, SUNLIGHT, AND MOISTURE RESISTANT.
- 6. EXTERIOR WIRING CONDUCTOR INSULATION SHALL BE TYPE THWN-2 AND INSTALLED IN ELECTRICAL METALLIC TUBING(EMT) OR RIGID POLYVINYL CHLORIDE CONDUIT(PVC). ALTERNATIVELY, METAL CLAD CABLE(MC) CAN BE USED AS WELL WHEN RATED FOR USE IN WET LOCATIONS.
- INTERIOR WIRING CONDUCTOR INSULATION SHALL BE TYPE THHN-2 AND INSTALLED IN ELECTRICAL METALLIC TUBING(EMT), FLEXIBLE METAL CONDUIT(FMC), OR METAL CLAD CABLE(MC).
- USE SCHEDULE 40 PVC OUTDOORS WHERE NOT SUBJECT TO PHYSICAL DAMAGE OR BELOW FLOOR SLAB. USE SCHEDULE 80 PVC OUTDOORS WHERE SUBJECT TO PHYSICAL DAMMAGE
- MINIMUM CONDUIT SIZE TO BE 1/2".

DRAWINGS

 WIRING METHODS TO CONFORM TO ARTICLES 330, 334, 348, 350, 352, 356, AND 358 OF THE 2017 NEC.

### **AC WIRING NOTES**

- CONDUCTORS SHALL BE COPPER RATED AT NOT LESS THAN 600 VOLTS.
   MINIMUM SIZE SHALL BE #14 AWG UNLESS OTHERWISE NOTED ON THE
- EXTERIOR WIRING CONDUCTOR INSULATION SHALL BE TYPE THWN AND INSTALLED IN ELECTRICAL METALLIC TUBING(EMT), RIGID POLYVINYL CHLORIDE CONDUIT(PVC), LIQUID-TIGHT FLEXIBLE METAL CONDUIT(LFMC), OR LIQUID-TIGHT FLEXIBLE NON-METALLIC CONDUIT(LFNC). ALTERNATIVELY, METAL CLAD CABLE(MC) CAN BE USED
- INTERIOR WIRING CONDUCTOR INSULATION SHALL BE TYPE THHN AND INSTALLED IN ELECTRICAL METALLIC TUBING(EMT), FLEXIBLE METAL CONDUIT(FMC), METAL CLAD CABLE(MC), OR ROMEX.

AS WELL WHEN RATED FOR USE IN WET LOCATIONS.

- USE SCHEDULE 40 PVC OUTDOORS WHERE NOT SUBJECT TO PHYSICAL DAMAGE OR BELOW FLOOR SLAB. USE SCHEDULE 80 PVC OUTDOORS WHERE SUBJECT TO PHYSICAL DAMMAGE
- MINIMUM CONDUIT SIZE TO BE 1/2".
- WIRING METHODS TO CONFORM TO ARTICLES 330, 334, 348, 350, 352, 356, AND 358 OF THE 2017 NEC.

### CONSTRUCTION NOTES

- ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH THE NEC, STATE, AND LOCAL APPLICABLE CODES.
- FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS, BEST PRACTICES, AND SPECIFICATIONS.
- ENSURE REQUIRED MAINTENANCE ACCESS AND CLEARANCES ARE MAINTAINED.
- . WIRES SHALL BE RATED AND LABELED "SUNLIGHT RESISTANT" WHERE EXPOSED TO AMBIENT CONDITIONS.
- FUSES 0 600 AMPS SHALL BE UL CLASS "RK-1" LOW PEAK DUAL ELEMENT TIME DELAY WITH 200,000 AMPERE INTERRUPTING RATING AS MANUFACTURED BY BUSSMANN, UNLESS NOTED OTHERWISE.
- ALL TERMINALS/LUGS SHALL BE 75° RATED. ALL TERMINALS, SPLICING CONNECTORS, LUGS, ETC SHALL BE IDENTIFIED FOR USE WITH THE MATERIAL (CU/AL) OF THE CONDUCTOR AND SHALL BE PROPERLY INSTALLED.
- PROVIDE A PULLWIRE IN ALL EMPTY CONDUITS.
- 8. ALL PENETRATIONS THROUGH EXTERIOR ROOFS SHALL BE FLASHED IN A WATERPROOF MANNER.
- ALL PENETRATIONS THROUGH ATTIC FIRE BARRIERS SHALL BE SEALED WITH FIRE-BARRIER SEALANT CAULK.
- SUPPORT ALL CONDUIT AND EQUIPMENT IN ACCORDANCE W/ NEC. ANY SUSPENDED MATERIALS SHALL BE DIRECTLY SUPPORTED BY THE BUILDING STRUCTURE.
- METAL CONDUIT COUPLINGS CAN BE COMPRESSION TYPE, THREADED, OR BE SET-SCREW TYPE. PLASTIC CONDUIT COUPLINGS TO BE SOCKET GLUED TYPE.
- 12. A COMPLETE GROUNDING SYSTEM SHALL BE PRESENT OR PROVIDED AND INSTALLED IN ACCORDANCE WITH ARTICLE 250 OF THE NEC, AND AS SHOWN ON THE DRAWINGS.
- 13. EACH ELECTRICAL APPLIANCE SHALL BE PROVIDED WITH A NAMEPLATE GIVING THE IDENTIFYING NAME AND THE RATING IN VOLTS AND AMPERES, OR VOLTS AND WATTS. IF THE APPLIANCE IS TO BE USED ON A SPECIFIC FREQUENCY OR FREQUENCIES, IT SHALL BE SO MARKED. WHERE MOTOR OVERLOAD PROTECTION EXTERNAL TO THE APPLIANCES IS REQUIRED, THE APPLIANCE SHALL BE SO MARKED.
- WHERE APPLICABLE, GROUNDING ELECTRODE CONDUCTOR TO BE CONTINUOUS. GROUNDING CRIMPS TO BE IRREVERSIBLE.
- 15. PHOTOVOLTAIC SYSTEMS SHALL BE PERMANENTLY MARKED AT VARIOUS EQUIPMENT LOCATIONS TO IDENTIFY THAT A PHOTOVOLTAIC SYSTEM IS INSTALLED AND THAT VARIOUS DANGERS ARE PRESENT.
- 16. EACH PHOTOVOLTAIC SYSTEM DISCONNECTING MEANS SHALL BE PERMANENTLY MARKED TO IDENTIFY IT AS A PHOTOVOLTAIC SYSTEM DISCONNECT.
- 17. WHERE ALL TERMINALS OF A DISCONNECTING MEANS MAY BE ENERGIZED IN THE OPEN POSITION, A WARNING SIGN SHALL BE MOUNTED ON OR ADJACENT TO THE DISCONNECT.
- 18. A PERMANENT LABEL FOR THE DIRECT-CURRENT PHOTOVOLTAIC POWER SOURCE SHALL BE PROVIDED AT THE DC DISCONNECT MEANS.
- 19. A PERMANENT PLAQUE OR DIRECTORY, DENOTING ALL ELECTRIC POWER SOURCES SERVING THE PREMISES, SHALL BE INSTALLED AT EACH SERVICE EQUIPMENT LOCATION AND AT LOCATIONS OF ALL POWER PRODUCTION SOURCES.
- 20. ALL MODULE GROUND CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH NEC SECTION 690.4 (C)
- 21. A NORTH CAROLINA REGISTERED DESIGN PROFESSIONAL WILL BE REQUIRED TO SEAL THE STRUCTURAL DESIGN AT THE TIME OF PERMIT APPLICATION IF ANY OF THE FOLLOWING EXIST AND ARE ATTESTED TO BY THE APPLICANT:
  - I. THE WEIGHT OF THE PV SYSTEM EXCEEDS THREE (3) POUNDS PER SQUARE FOOT(PSF)
  - II. THE ROOF POSSESSES MORE THAN ONE (1) LAYER OF ASPHALT SHINGLES
  - III. THE ROOFING MATERIAL CONSISTS OF A TYPE OTHER THAN ASPHALT SHINGLES OR METAL
  - IV. THE ROOF IS LOCATED IN A 140 MPH OR GREATER WIND ZONE



### **CLIENT INFO**

LORENZO CAPEL 323 WINTERBERRY WAY FUQUAY-VARINA, NC 27526

### PROJECT INFO

DC INPUT: 11.610 kW
AC OUTPUT: 11.500 kW
DOI INSPT. METHOD: OPTION 2



Raleigh, NC 27602 919-274-9905 ModelEnergy.com



### CODE REFERENCES

NC FIRE PROTECTION CODE v. 2018 NC BUILDING CODE v. 2018 NC RESIDENTIAL CODE v. 2018 ACSE v. 7-10

### SITE CONDITIONS

WIND SPEED: 120 MPH
RISK CATEGORY: II
EXPOSURE: B
SNOW: 15 PSF

## SHEET INDEX PV-1: COVER SHEET

PV-2: PV STRUCTURAL
PV-3: PV ELECTRICAL
PV-4: PV EQUIPMENT LABELS

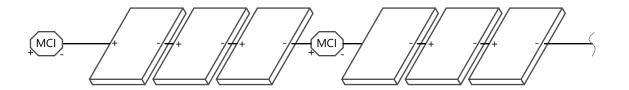
PV-5: PV INSTALL GUIDE

### VERSIONS

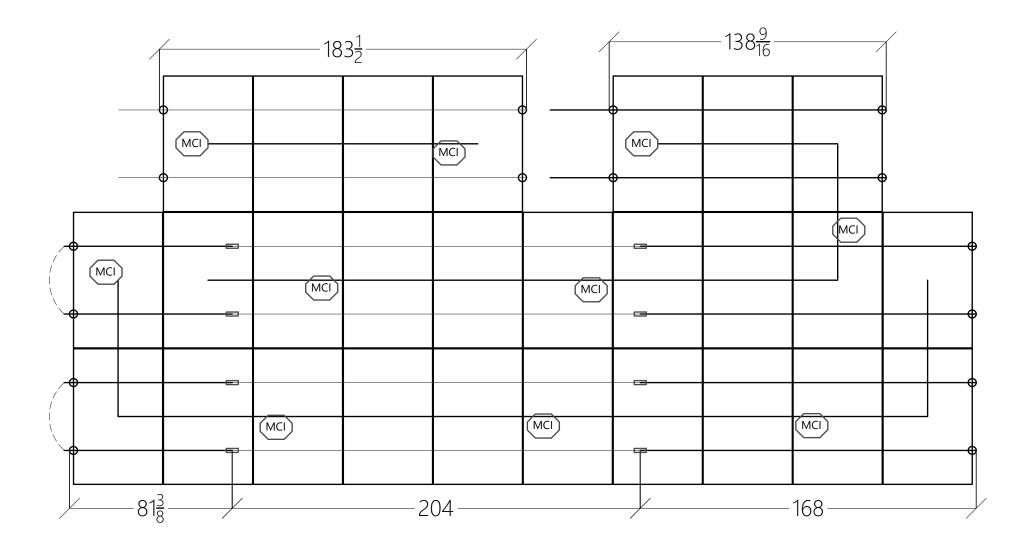
FOR: DESIGNER DATE
CONSTRUCTION CRM 3/18/2025

PV SYSTEM EQUIPMENT LABELS

PV-4.1



STRING WIRING + MCI DETAIL





LORENZO CAPEL 323 WINTERBERRY WAY FUQUAY-VARINA, NC 27526

### PROJECT INFO

DC INPUT: 11.610 kW AC OUTPUT: 11.500 kW DOI INSPT. METHOD: OPTION 2

# **Model Energy**

300 Fayetteville St. #1430 Raleigh, NC 27602 919-274-9905

ModelEnergy.com



NC FIRE PROTECTION CODE v. 2018 NC BUILDING CODE v. 2018 NC RESIDENTIAL CODE v. 2018 ACSE v. 7-10

### SITE CONDITIONS

WIND SPEED: 120 MPH RISK CATEGORY: EXPOSURE: 15 PSF SNOW:

### SHEET INDEX

PV-1: COVER SHEET PV-2: PV STRUCTURAL PV-3: PV ELECTRICAL PV-4: PV EQUIPMENT LABELS PV-5: PV INSTALL GUIDE

### VERSIONS

FOR:	DESIGNER	DATE
CONSTRUCTION	CRM	3/18/2025

PV SYSTEM INSTALL **GUIDE** 

PV-5.1

