

PROJECT DETAILS	
PV Modules	27 x REC 365AA BLACK
Optimizers	27 x P370
Inverter	1 x SE10000H-US(RGM)
Roof Type	Asphalt Shingles
Racking	IronRidge XR10
Mounting Type	Flashfoot 2
DC SIZE	9.855 kW
AC SIZE	10.0 kVA

DRAWING INDEX			
Item	Drawing #	Rev	Description
1	2178SS00-0	A	Drawing Index
2	2178SS00-1	A	Site Layout
3	2178SS00-2	A	String Mapping
4	2178SS00-3	A	Electrical One Line Diagram
5	2178SS00-4	A	Detailed Electrical Wiring Schematic
6	2178SS00-5	A	PV Labels
7	2178SS00-6	A	Bill of Materials

Salcia Slack-Perry
 44 Scotland Dr.,
 Spring Lake NC 28390



1	05/04/2021	A
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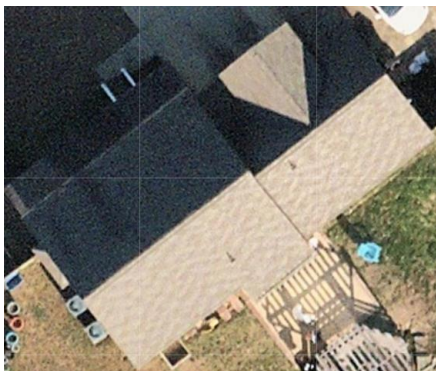
JOB NUMBER
21-78-SS00

DATE ISSUED
05/04/2021

PROJECT STATUS
PERMITTING

SHEET
DRAWING INDEX

TOP VIEW OF BUILDING



FRONT VIEW OF BUILDING



DRAWING INDEX
SCALE: NTS



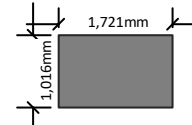
SS
2178SS00-0

PV System Dead Load
(Panel + Racking weight) / PV System Area
 (27 modules x 43 lbs./panel + 237 ft. of racking x 1.15 lb.ft.) /
 (27 panels x 67.8" x 40") = 2.82 psf



Utility
Meter

Module
Dimension



Roofs	Pitch	Azimuth
A	30°	142°
B	30°	142°

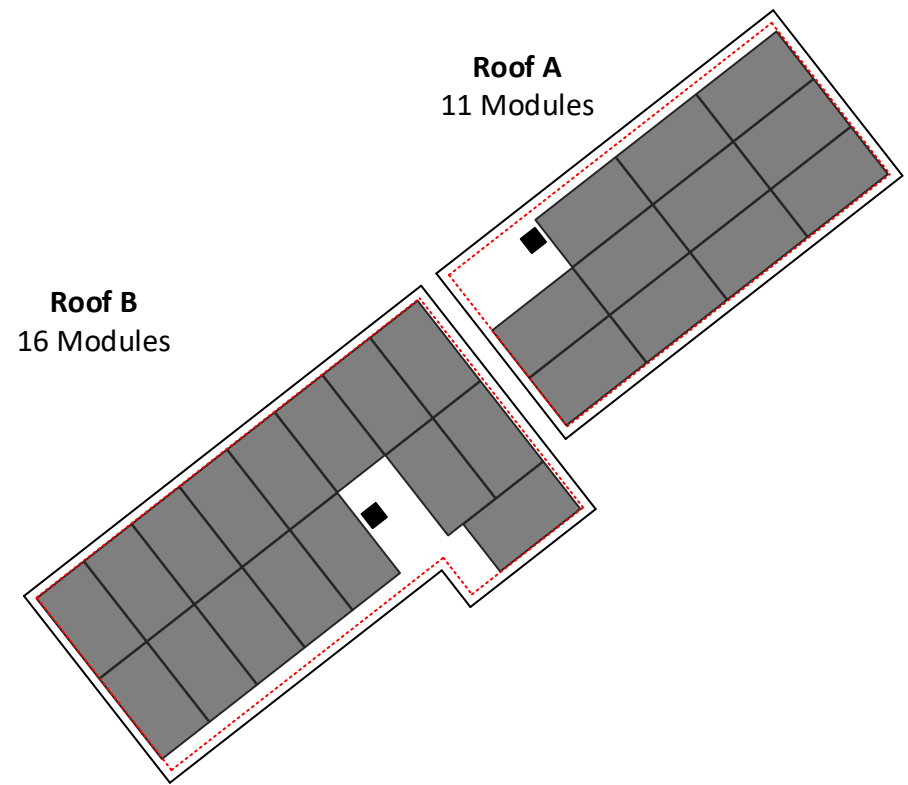
The roof is located in 119mph wind zone

There is one layer of shingles
 Roofing material is asphalt shingles

1600 Heritage Commerce Ct. Ste 104,
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 O: 919.948.6474
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SYSTEM DETAILS

NUMBER OF PANELS : 27
 PANELS MODEL : REC 365AA BLK
 DC SIZE : 9.855 KW
 AC SIZE : 10.0 KVA



6" clearance
 from each side
 of the roof

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 Spring Lake NC 28390









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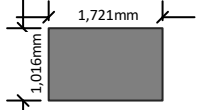
SHEET
SITE LAYOUT

SITE LAYOUT
 SCALE: 3/32" - 1' 0"

SS
 2178SS00-1

String Layout					
Inverter: SE10000H-US(RGM)					
Strings #	No. of Modules	Color Code	Strings #	No. of Modules	Color Code
String 1	16				
String 2	11				
					



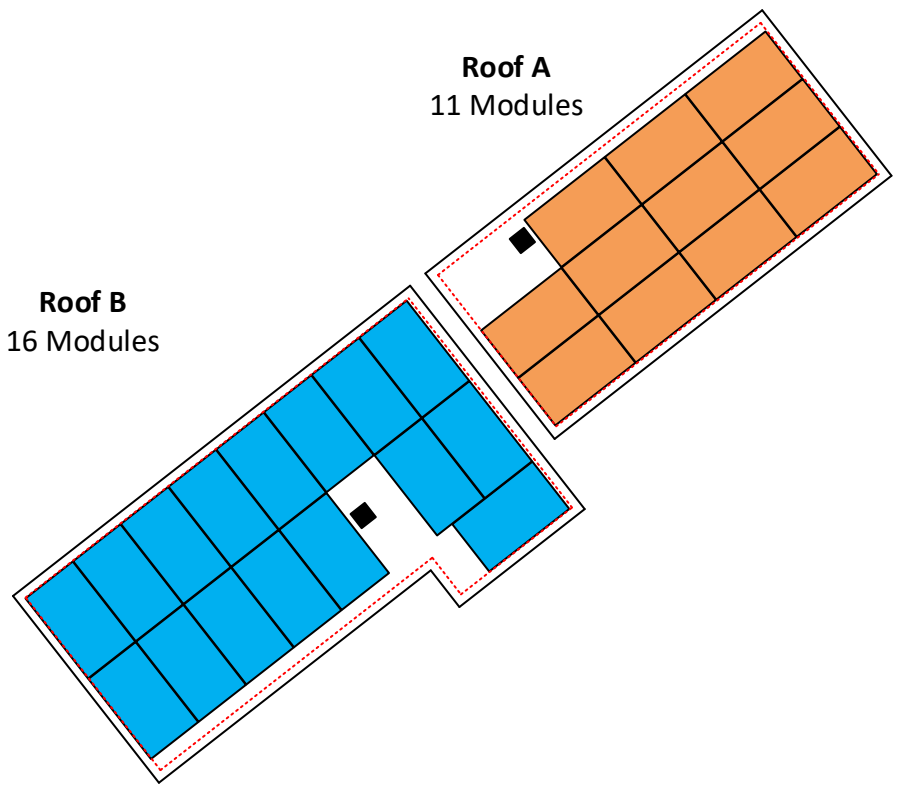
Module Dimension		
	Pitch	Azimuth
Roofs		
A	30°	142°
B	30°	142°



8MSOLAR
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SYSTEM DETAILS

NUMBER OF PANELS : 27
 PANELS MODEL : REC 365AA BLK
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6" clearance
from each side
of the roof

STRING MAPPING
SCALE: 3/32" - 1' 0"



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44 Scotland Dr.,
Spring Lake NC 28390



PV Installation Professional
Ali Buttar
PVIP #031310-32

1	05/04/2021	A
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JOB NUMBER
21-78-SS00

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PROJECT STATUS
PERMITTING

SHEET
STRING MAPPING

SS
2178SS00-2

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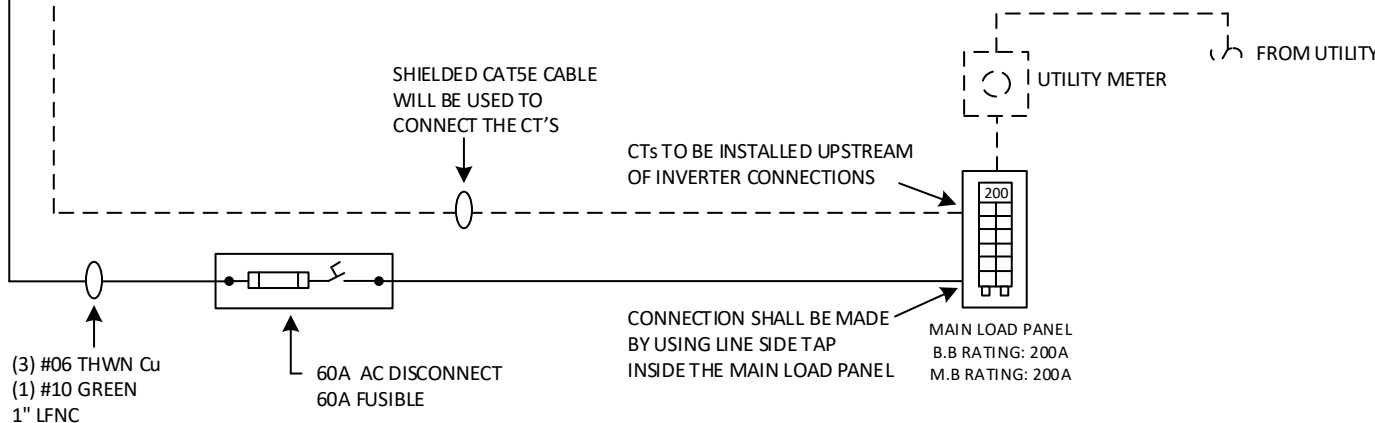
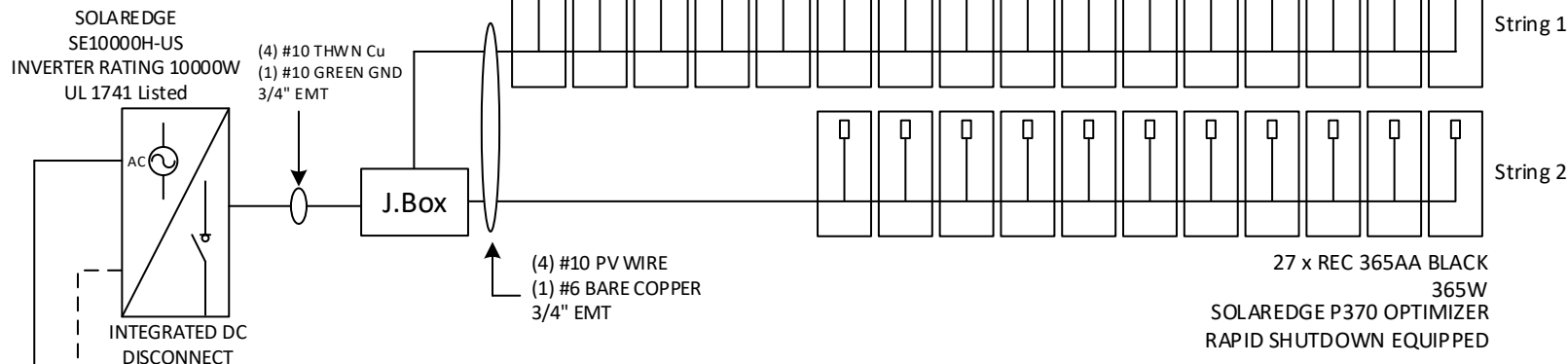


1	05/04/2021	A

JOB NUMBER	21-78-SS00
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PROJECT STATUS	PERMITTING

SHEET
**ELECTRICAL ONE LINE
DIAGRAM**

SS
2178SS00-3



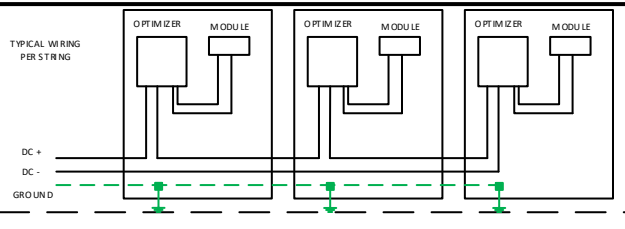
ELECTRICAL NOTES

- System Size: 9,855 W DC
- (27) REC 365AA BLACK
- (27) SOLAREEDGE P370 OPTIMIZERS
- (01) SOLAREEDGE SE10000H-US
- Inverter Output: 42A max @ 240 VAC
- 10.0 kVA AC output max

STRING 1:
16 x 365W = 5,840W ea
I_{mpp} = 14.6 Adc
I_{max} = 23.4 Adc
V_{mpp} = 400 Vdc
V_{oc} = 16 Vdc

STRING 2:
11 x 365W = 4,015W ea
I_{mpp} = 10.03 Adc
I_{max} = 23.4 Adc
V_{mpp} = 400 Vdc
V_{oc} = 11 Vdc

- Grounding will be done via IronRidge grounding mid-clamps and WEEB bonding jumpers to ensure the rail and panels are continuously grounded.
- Rapid Shutdown is included in the inverter, refer to inverter & optimizer attached datasheets.
- The load center / disconnect will be visible, lockable accessible to utility linesmen and will be properly labelled as per NEC requirements. It will be located on the exterior wall of the building, next to the utility meter.



DIP SWITCH CONFIGURATION

■	0	OFF
□	1	ON

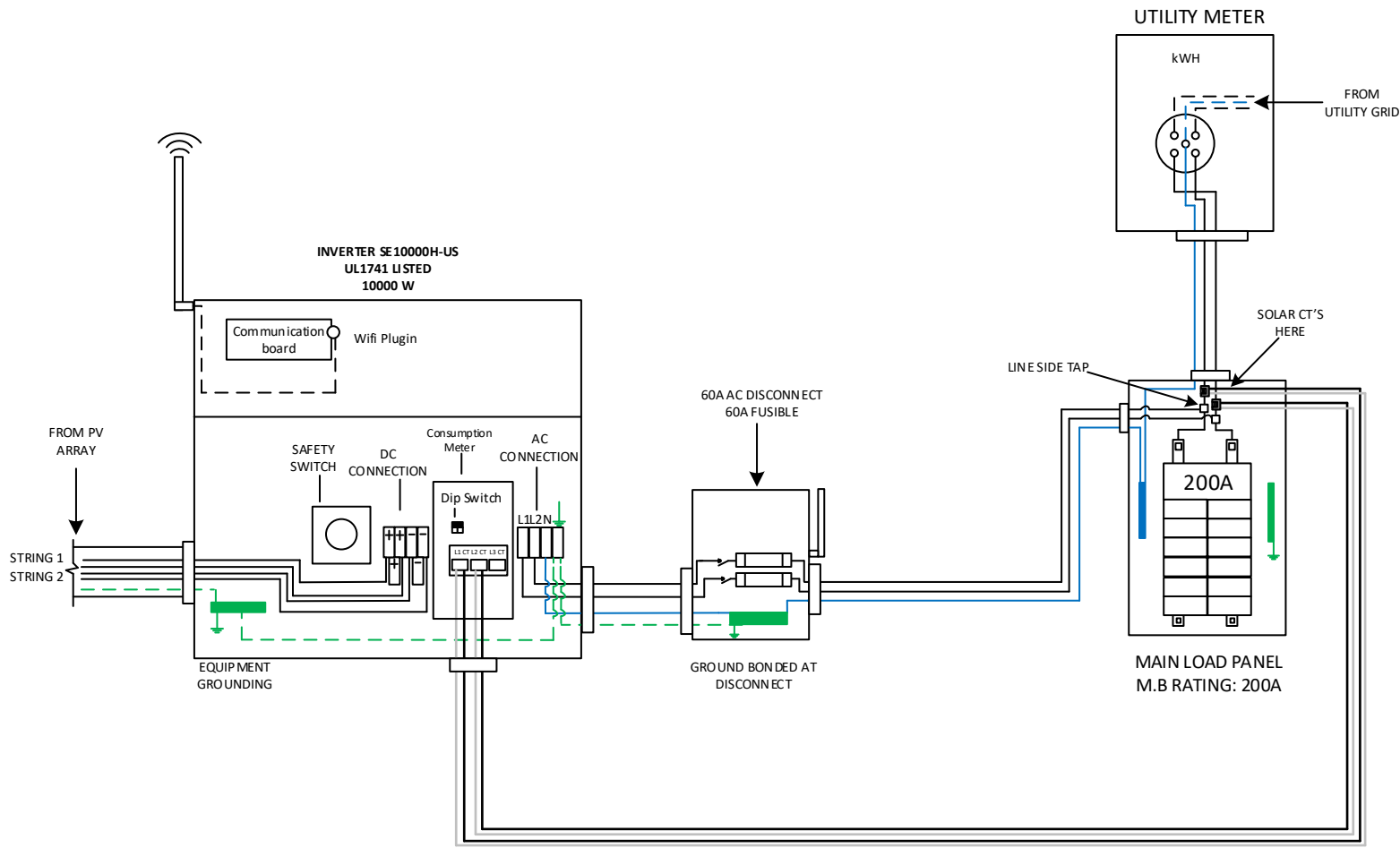
Note

- The arrow on the CTs should face the grid.

Note

- Dip switch settings are factory set to address 1

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NABCEP
CERTIFIED
 PV Installation
 Professional
 Ali Buttar
 PVIP #031310-32

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SHEET: **DETAILED ELECTRICAL WIRING SCHEMATIC**

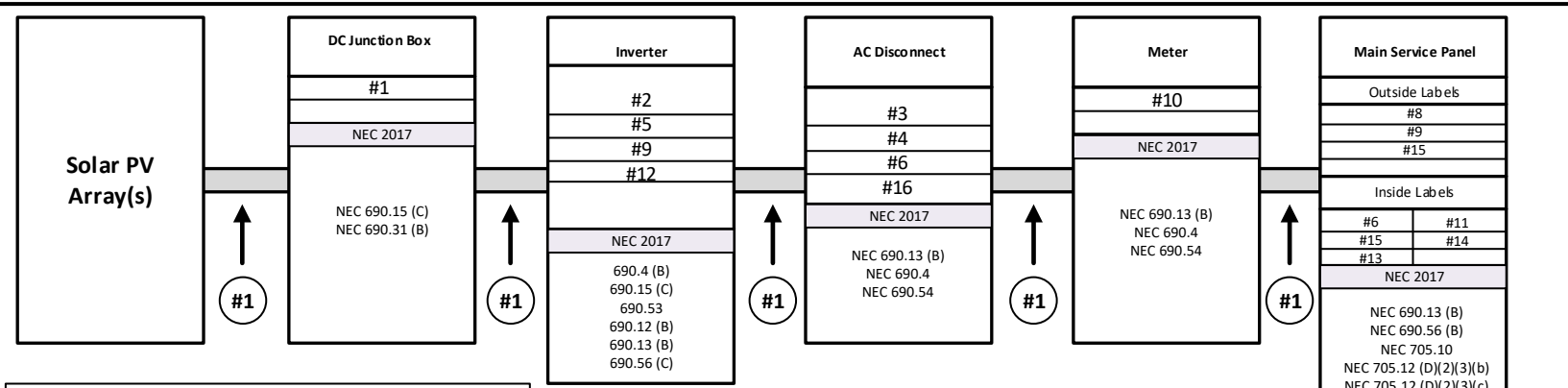
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1	05/04/2021	A

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SHEET
PV LABELS



LABELING AND WARNING SIGNS

A. PURPOSE
PROVIDE EMERGENCY RESPONDERS WITH APPROPRIATE WARNING AND GUIDANCE WITH RESPECT TO ISOLATING THE SOLAR ELECTRIC SYSTEM. THIS CAN FACILITATE IDENTIFYING ENERGIZED ELECTRICAL LINES THAT CONNECT THE SOLAR PANELS TO THE INVERTER, AS SHOULD NOT BE CUT WHEN VENTING FOR SMOKE REMOVAL.

B. MAIN SERVICE DISCONNECT:

- RESIDENTIAL BUILDINGS- THE MARKING MAY BE PLACED WITHIN THE MAIN SERVICE DISCONNECT. THE MARKING SHALL BE PLACED ON THE OUTSIDE COVER IF THE MAIN SERVICE DISCONNECT IS OPERABLE WITH THE SERVICE PANEL CLOSED.
- COMMERCIAL BUILDINGS- THE MARKINGS SHALL BE PLACED ADJACENT TO THE MAIN SERVICE DISCONNECT CLEARLY VISIBLE FROM THE LOCATION WHERE THE LEVER IS OPERATED
- MARKINGS, VERBIAGE, FORMAT AND TYPE OF MATERIAL
 - VERBIAGE: CAUTION; SOLAR ELECTRIC SYSTEM CONNECTED
 - FORMAT:
 - WHITE LETTERING ON A RED BACKGROUND
 - MINIMUM 3/8 INCH LETTER HEIGHT
 - ALL LETTERS SHALL BE CAPITALIZED
 - ARIAL OR SIMILAR FONT, NON-BOLD

C. MATERIAL:

- REFLECTIVE, WEATHER RESISTANT MATERIAL SUITABLE FOR THE ENVIRONMENT (USE UL-969) AS STANDARD FOR WEATHER RATING; DURABLE ADHESIVE MATERIALS MEET THIS REQUIREMENT.

C. MARKING REQUIREMENTS ON DC CONDUIT, RACEWAYS, ENCLOSURES, CABLE ASSEMBLIES, DC COMBINERS AND JUNCTION BOXES;

- MARKING: PLACEMENT, VERBIAGE, FORMAT AND TYPE OF MATERIAL.
 - PLACEMENT: MARKINGS SHALL BE PLACED EVERY 10 (TEN) FEET ON ALL INTERIOR AND EXTERIOR DC CONDUITS, RACEWAYS, ENCLOSURES AND CABLE ASSEMBLIES, AT TURNS ABOVE AND/OR BELOW PENETRATIONS, ALL DC COMBINERS AND JUNCTION BOXES.
 - VERBIAGE: CAUTION SOLAR CIRCUIT
 - THE FORMAT AND TYPE OF MATERIAL SHALL ADHERE TO SECTION B-3.8 & C ABOVE

D. INVERTERS ARE NOT REQUIRED TO HAVE CAUTION MARKINGS

#1 WARNING: PHOTOVOLTAIC POWER SOURCE

#2 PHOTOVOLTAIC
DC DISCONNECT

#3 PHOTOVOLTAIC
AC DISCONNECT

#4 RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

#5 MAXIMUM VOLTAGE
MAXIMUM CIRCUIT CURRENT
MAX. RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER OR DC-TO-DC CONVERTER (IF INSTALLED)

#6 PHOTOVOLTAIC POWER SOURCE
OPERATING AC VOLTAGE V
MAXIMUM OPERATING AC OUTPUT CURRENT A

#7 AC DISCONNECT PHOTOVOLTAIC SYSTEM POWER SOURCE
RATED AC OUTPUT CURRENT AMPS
NOMINAL OPERATING AC VOLTAGE VOLTS

#8 WARNING
ELECTRIC SHOCK HAZARD
TERMINALS ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

#9 WARNING
DUAL POWER SUPPLY
SOURCES: UTILITY GRID AND PV SOLAR ELECTRIC SYSTEM

#10 WARNING
THIS SERVICE METER IS ALSO SERVED BY A PHOTOVOLTAIC SYSTEM

#11 WARNING
TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL

#12 WARNING
BIPOLAR PHOTOVOLTAIC ARRAY
DISCONNECTION OF NEUTRAL GROUNDED CONDUCTORS MAY RESULT IN OVERVOLTAGE ON ARRAY OR INVERTER

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

#14 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

#15 SOLAR AC DISCONNECT LOCATED AT NORTH-EAST SIDE WALL OF THE HOUSE BESIDE THE UTILITY METER

#16 SERVICE DISCONNECT LOCATED IN MAIN LOAD PANEL BEHIND THE UTILITY METER

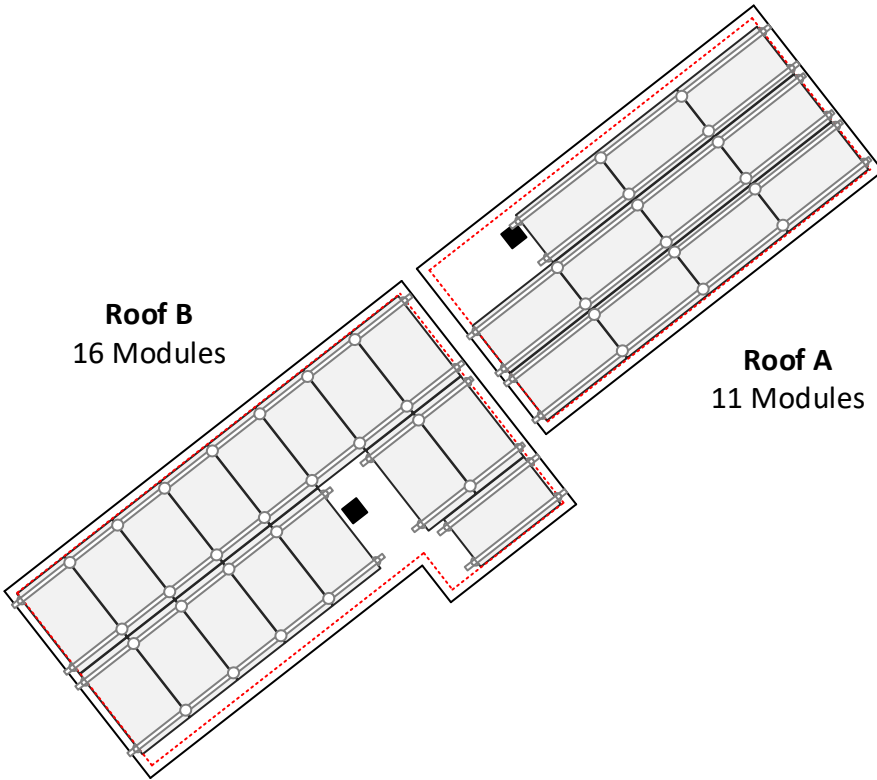
Rails and Splices : XR10	Roof Attachment : Flashfoot2
Rafter Spacing : 24 in	There is one layer of shingles Roofing material is asphalt shingles
Attachment Span: 4ft	The roof is located in 119 mph wind zone



Utility Meter

Module Dimension		
	Roofs	Pitch
A	30°	142°
B	30°	142°

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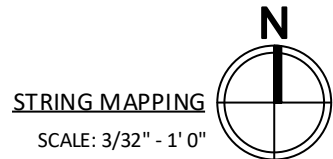
- RAILS AND SPLICES**
- 07 x XR-10-204B: XR10, Rail 204" (17 Feet) Black
 - 10 x XR-10-168B: XR10, Rail 168" (14 Feet) Black
 - 08 x XR-10-BOSS-01-M1: XR10 Bonded Splice (Incl. Self-tapping Screws)
- CLAMPS & GROUNDING**
- 40 x UFO-CL-01-B1: Universal Module Clamp, Black
 - 28 x CAMO-01-M1: Hidden End Cam (universal clamp)
 - 09 x XR-LUG-03-A1: Grounding Lug, Low Profile
- ATTACHMENTS**
- 66 x F2-01-M2: FlashFoot2, Mill
 - 66 x BHW-SQ-02-A1: Square-Bolt Bonding Hardware
- ACCESSORIES**
- 02 x XR-10-CAP: Kit, End Cap XR10 (10 sets per bag)
 - 27 x BHW-MI-01-A1: Microinverter Bonding Hardware, T-Bolt

- SOLAR MODULES**
- 27 x REC365AA BLACK
- INVERTER & SUPPORTING ITEMS**
- 01 x SolarEdge SE10000H-US (with Cons. Meter SE10000H-US00BN14)
 - 27 x SolarEdge Power Optimizer P370
 - 01 x SE-WFGW-B-S1-NA with Antenna kit
 - 02 x 200A SolarEdge CTs
 - 01 x PV Labels kit
- WIRE & DISCONNECTS**
- 500 ft x PV WIRE BLK (Cu)

Row: 5'10" (1 x 7') = 7'	
Mounts = 02 (Cantilever 11")	
Row: 17'2" (1 x 14' + 1 x 7') = 21'	
Mounts = 5 (Cantilever 7")	
Row: 22'10" (1 x 17' + 1 x 7') = 24'	
Mounts = 6 (Cantilever 1'5")	

6" clearance from each side of the roof

Row: 16'11" (1 x 17') = 17'		Row: 6'10" (1 x 8') = 8'	
Mounts = 05 (Cantilever 6")		Mounts = 02 (Cantilever 1'5")	
Row: 27'1" (2 x 14') = 28'		Mounts = 02 (Cantilever 1'5")	
Mounts = 07 (Cantilever 1'6")		Cut one 17' rail into half and use	



1	05/04/2021	A

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SHEET: STRING MAPPING
SS
2178SS00-2

