

SCOPE OF WORK:

TO INSTALL A ROOF MOUNTED SOLAR PHOTOVOLTAIC SYSTEM LOCATED AT 325 TURNER DAVIS DR, MADISON, FL 32340, USA. THE POWER GENERATED BY THE PV SYSTEM WILL BE INTERCONNECTED WITH THE UTILITY GRID THROUGH THE EXISTING ELECTRICAL SERVICE EQUIPMENT. THE PV SYSTEM DOES NOT INCLUDE STORAGE BATTERIES

NEW EQUIPMENT SUMMARY
274 JA SOALR JAM72S30-550/MR/1500V MODULES
02 SUNNY TRIPower CORE1 62-US (480V) INVERTERS
2 100A NON-FUSED AC DISCONNECT , NEMA 3R, UL LISTED

SYSTEM RATING
150.70 KWDC
125.00 KWAC
139.09 CEC KAWC

GOVERNING CODES

2021 NFPA 1 (FIRE CODE)
 2020 NATIONAL ELECTRICAL CODE
 2023 FLORIDA BUILDING CODE (8TH EDITION)
 2023 FLORIDA FIRE PREVENTION CODE (8TH EDITION)
 FLORIDA ADMINISTRATIVE CODE(FAC)

AHJ NAME: CITY OF MADISON

SHEET INDEX

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GENERAL NOTES:

- THESE CONSTRUCTION DOCUMENTS HAVE BEEN BASED ON FIELD INSPECTIONS AND OTHER INFORMATION AVAILABLE AT THE TIME. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS IN CONSTRUCTION DETAILS.
- ARCHITECT HAS NOT BEEN RETAINED TO SUPERVISE ANY CONSTRUCTION OR INSTALLATION OF ANY EQUIPMENT AT SITE.
- CONTRACTOR SHALL FURNISH ALL LABOR, MATERIAL, EQUIPMENT, TOOLS, OBTAINS ALL PERMITS, LICENSES AND PAY ALL REQUIRED FEES AND COMPLETE INSTALLATION.
- CONTRACTOR HAS THE FULL RESPONSIBILITY TO CHECK AND VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK. ANY WORK STARTED BEFORE CONSULTATION AND ACCEPTANCE BY THE ENGINEER SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE SUBJECT TO CORRECTION BY THEM WITHOUT ADDITIONAL COMPENSATION.
- DAMAGE CAUSED TO THE EXISTING STRUCTURE, PIPES, DUCTS, WINDOWS, WALL, FLOORS, ETC. SHALL BE REPAIRED TO THE ORIGINAL CONDITION OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST.
- THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THE PROPER INSTALLATION AND COMPLETION OF THE WORK WITH APPROVED MATERIALS.
- NO CHANGES ARE TO BE MADE WITHOUT THE CONSULTATION AND APPROVAL OF THE ARCHITECT.
- CONTRACTOR SHALL OBTAIN BUILDING PERMIT. NO WORK TO START UNLESS BUILDING PERMIT IS PROPERLY DISPLAYED.
- ALL WORKMANSHIP AND MATERIALS SHALL BE OF FIRST QUALITY AND IN COMPLIANCE WITH THE REQUIREMENTS OF THE FL BUILDING CODE, THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ALL PERTINENT AGENCIES.
- IT IS ESSENTIAL THAT ALL WORK PROCEED WITH THE MAXIMUM COOPERATION OF ALL PARTIES AND WITH MINIMUM INTERFERENCE TO THE OCCUPANTS WITHIN THE BUILDING. THE OWNER'S DIRECTIONS IN THIS REGARD SHALL BE FULLY COMPLIED WITH.
- THE CONTRACTOR SHALL PERFORM THE WORK IN STRICT CONFORMANCE WITH THE LOCAL LAWS, REGULATIONS AND THE NATIONAL ELECTRIC CODE.
- THE CONTRACTOR SHALL OBTAIN ALL PERMITS, APPROVALS, AFFIDAVITS, CERTIFICATIONS, ETC. AND PAY ALL FEES AS REQUIRED BY THE LOCAL AUTHORITIES.
- CONTRACTORS SHALL OBTAIN FIRE CERTIFICATE. UPON COMPLETION OF WORK.

WIRING AND CONDUIT NOTES:

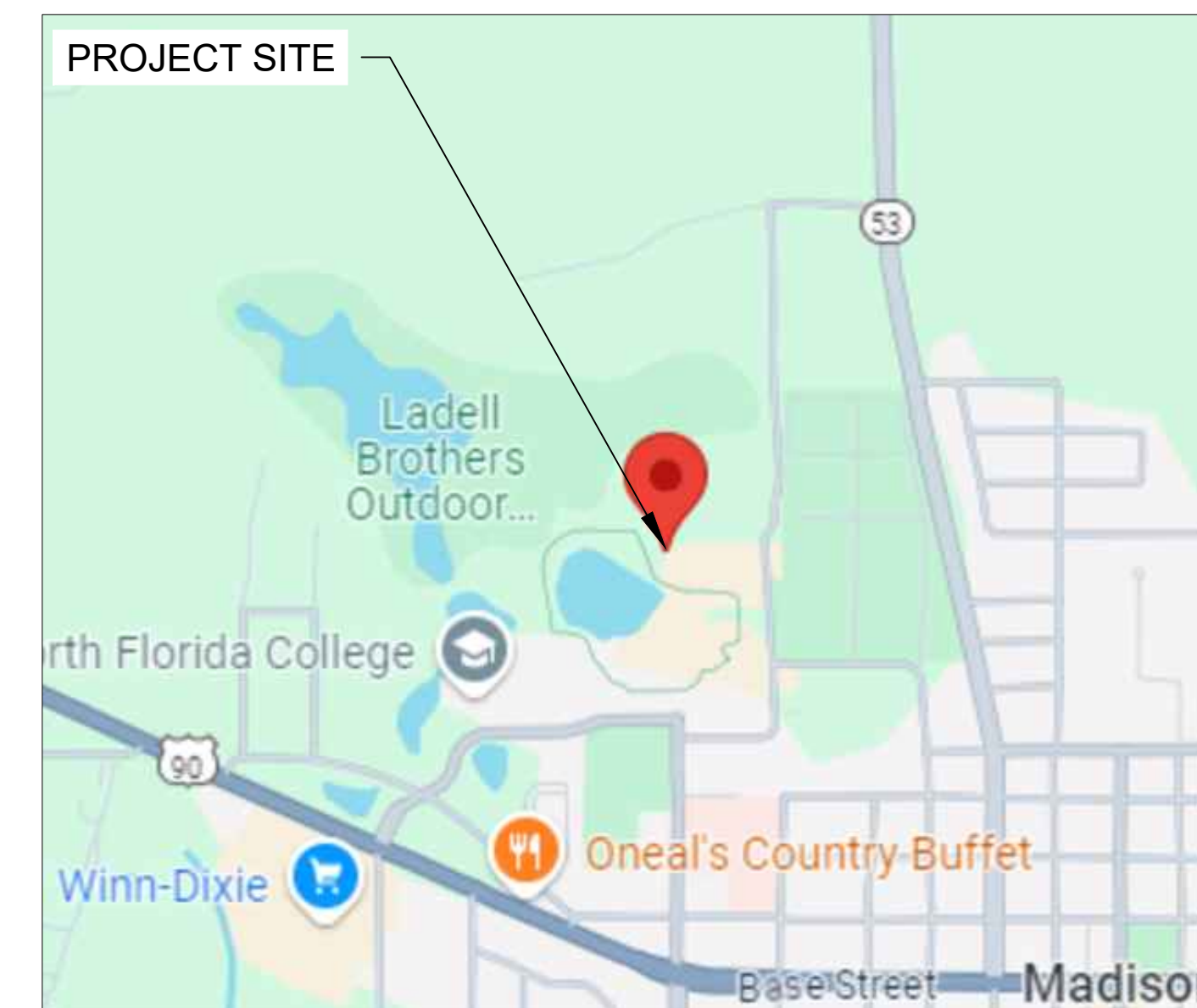
- ALL CONDUIT SIZES AND TYPES, SHALL BE LISTED FOR ITS PURPOSE AND APPROVED FOR THE SITE APPLICATIONS
- ALL PV CABLES AND HOMERUN WIRES BE #10AWG *USE-2, PV WIRE, OR PROPRIETARY SOLAR CABLING SPECIFIED BY MFR, OR EQUIVALENT; ROUTED TO SOURCE CIRCUIT COMBINER BOXES AS REQUIRED
- ALL CONDUCTORS AND OCPD SIZES AND TYPES SPECIFIED ACCORDING TO [NEC 690.8 (A)(1) & (B)(1)], [NEC 240] [NEC 690.7] FOR MULTIPLE CONDUCTORS
- ALL PV DC CONDUCTORS IN CONDUIT EXPOSED TO SUNLIGHT SHALL BE DERATED ACCORDING TO [NEC TABLE 310.15 (B)(2)(C)] BLACK ONLY**
- EXPOSED ROOF PV DC CONDUCTORS SHALL BE USE-2, 90°C RATED, WET AND UV RESISTANT, AND UL LISTED RATED FOR 600V, UV RATED SPIRAL WRAP SHALL BE USED TO PROTECT WIRE FROM SHARP EDGES
- PHASE AND NEUTRAL CONDUCTORS SHALL BE DUAL RATED THHN/THWN-2 INSULATED, 90°C RATED, WET AND UV RESISTANT, RATED FOR 600V PER NEC 2023 OR 1000V PER NEC 2023
- 4-WIRE DELTA CONNECTED SYSTEMS HAVE THE PHASE WITH THE HIGHER VOLTAGE TO GROUND MARKED ORANGE OR IDENTIFIED BY OTHER EFFECTIVE MEANS
- ALL SOURCE CIRCUITS SHALL HAVE INDIVIDUAL SOURCE CIRCUIT PROTECTION
- VOLTAGE DROP LIMITED TO 5% FOR DC CIRCUITS AND 3% FOR AC CIRCUITS
- AC CONDUCTORS >4AWG COLOR CODED OR MARKED: PHASE A OR L1- BLACK, PHASE B OR L2- RED, PHASE C OR L3- BLUE, NEUTRAL- WHITE/GRAY

ELECTRICAL NOTES:

- THE EQUIPMENT AND ALL ASSOCIATED WIRING AND INTERCONNECTION SHALL BE INSTALLED ONLY BY QUALIFIED PEOPLE. A QUALIFIED PERSON IS ONE WHO HAS SKILLS AND KNOWLEDGE RELATED TO THE CONSTRUCTION AND OPERATION OF THE ELECTRICAL EQUIPMENT AND INSTALLATIONS AND HAS RECEIVED SAFETY TRAINING TO RECOGNIZE AND AVOID THE HAZARDS INVOLVED. (NEC 690.4(E) AND 705.6)
- LOCAL UTILITY PROVIDER SHALL BE NOTIFIED PRIOR TO USE AND ACTIVATION OF ANY SOLAR PHOTOVOLTAIC INSTALLATION. FOR A LINE SIDE TAP CONNECTION, UTILITY NEEDS TO BE NOTIFIED WELL IN ADVANCE TO COORDINATE BUILDING ELECTRICAL SHUT OFF.
- NEW CONDUIT ROUTING SHOWN IS ESSENTIALLY SCHEMATIC. SUBCONTRACTOR SHALL LAY OUT RUNS TO SUIT FIELD CONDITIONS AND THE COORDINATION REQUIREMENTS OF OTHER TRADES.
- ARRAY WIRING SHOULD NOT BE READILY ACCESSIBLE EXCEPT TO QUALIFIED PERSONNEL.
- ALL EXTERIOR CONDUIT, FITTINGS, AND BOXES SHALL BE WATERTIGHT AND APPROVED FOR USE IN WET LOCATIONS. (NEC 314.15A).
- WIRING METHODS FOR PV SYSTEM CONDUCTORS AREN'T PERMITTED WITHIN 10 IN. OF THE ROOF DECKING OR SHEATHING EXCEPT WHERE LOCATED DIRECTLY BELOW THE ROOF SURFACE THAT'S COVERED BY PV MODULES AND ASSOCIATED EQUIPMENT WIRING
- BACK-FED BREAKER MUST BE AT THE OPPOSITE END OF BUS BAR FROM THE MAIN BREAKER OR MAIN LUG SUPPLYING CURRENT FROM THE UTILITIES.
- ALL CONDUCTORS AND WIRE TIES EXPOSED TO SUNLIGHT ARE LISTED AS UV RESISTANT.
- CONTRACTOR SHALL FOLLOW ALL ELECTRICAL EQUIPMENT LABELING REQUIREMENTS IN NEC 690 AND NEC 2023
- MEASURE THE LINE-TO-LINE AND LINE-TO-NEUTRAL VOLTAGE OF ALL SERVICE ENTRANCE CONDUCTORS PRIOR TO INSTALLING ANY SOLAR EQUIPMENT.



1 BUILDING PHOTO SCALE: NTS
 PV-0



2 VICINITY MAP SCALE: NTS
 PV-0

IGT Solar
 INDEPENDENT GREEN TECHNOLOGIES LLC
 3954 WEST PENSACOLA STREET, TALLAHASSEE, FL 32304
 (850) 576-7657
 CONTRACTOR LIC#: CVC56732

REVISIONS		
DESCRIPTION	DATE	REV
REVISION	09/19/2024	A
REVISION	09/27/2024	B

Signature with Seal

PROJECT NAME & ADDRESS

NFC BUILDING 13 COMMERCIAL
325 TURNER DAVIS DR
MADISON, FL 32340, USA
PH.# : (850) 576-7657
Email ID : CADEN@IGTSOLAR.COM

DATE: 09/27/2024

SHEET NAME

COVER PAGE

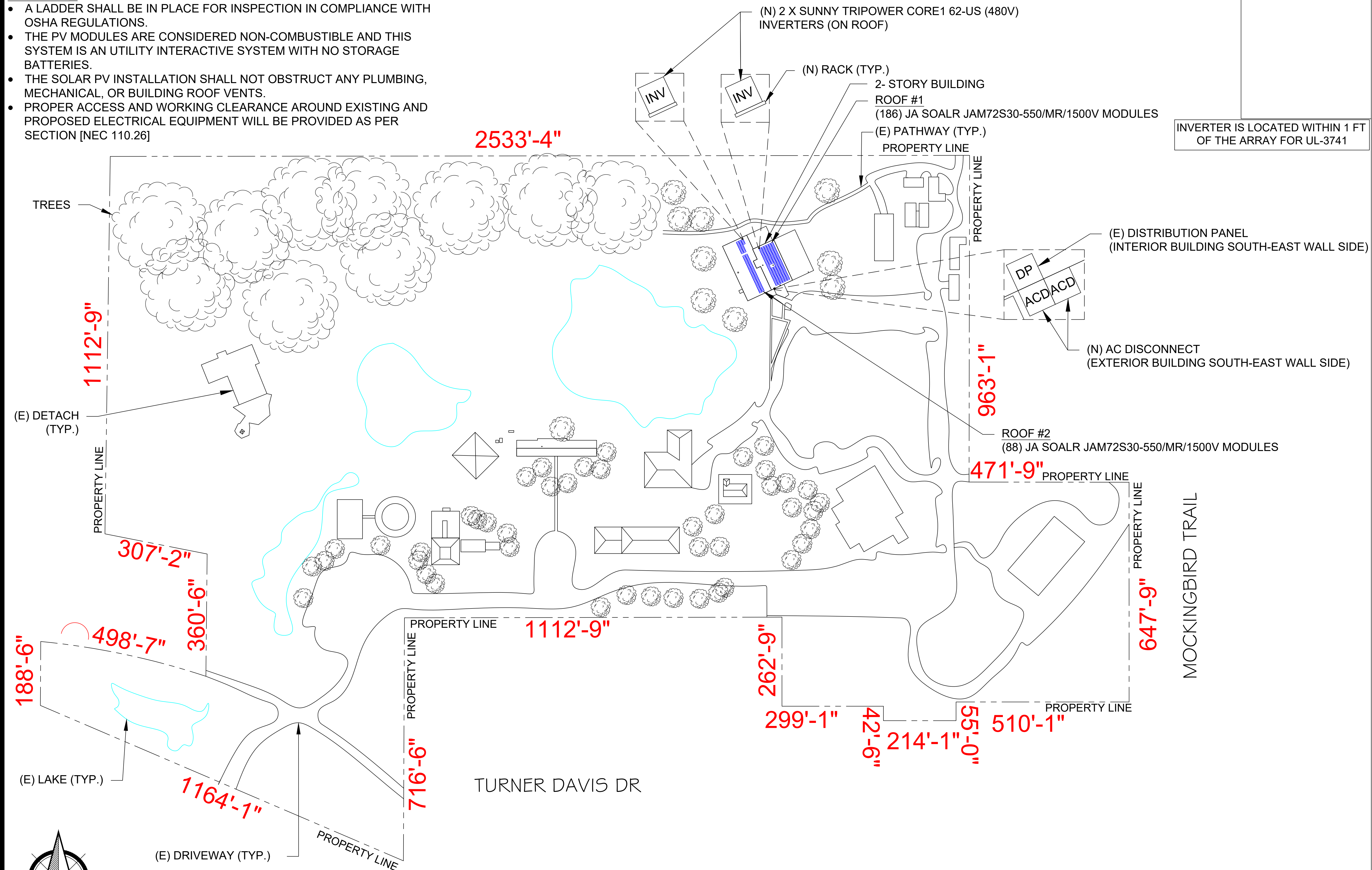
SHEET SIZE
ARCH FULL BLEED D 24" X 36"

SHEET NUMBER

PV-0

SITE NOTES

- A LADDER SHALL BE IN PLACE FOR INSPECTION IN COMPLIANCE WITH OSHA REGULATIONS.
- THE PV MODULES ARE CONSIDERED NON-COMBUSTIBLE AND THIS SYSTEM IS AN UTILITY INTERACTIVE SYSTEM WITH NO STORAGE BATTERIES.
- THE SOLAR PV INSTALLATION SHALL NOT OBSTRUCT ANY PLUMBING, MECHANICAL, OR BUILDING ROOF VENTS.
- PROPER ACCESS AND WORKING CLEARANCE AROUND EXISTING AND PROPOSED ELECTRICAL EQUIPMENT WILL BE PROVIDED AS PER SECTION [NEC 110.26]



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SHEET NAME
SITE PLAN

SHEET SIZE
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 24" X 36"

SHEET NUMBER

PV-1

MODULE TYPE, DIMENSIONS & WEIGHT	
NUMBER OF MODULES:	274 MODULES
MODULE TYPE:	JA SOALR JAM72S30-550/MR/1500V
MODULE WEIGHT:	63.05 LBS
MODULE DIMENSIONS:	89.72" X 44.64" = 27.81 SF
UNIT WEIGHT OF AREA:	2.27 PSF

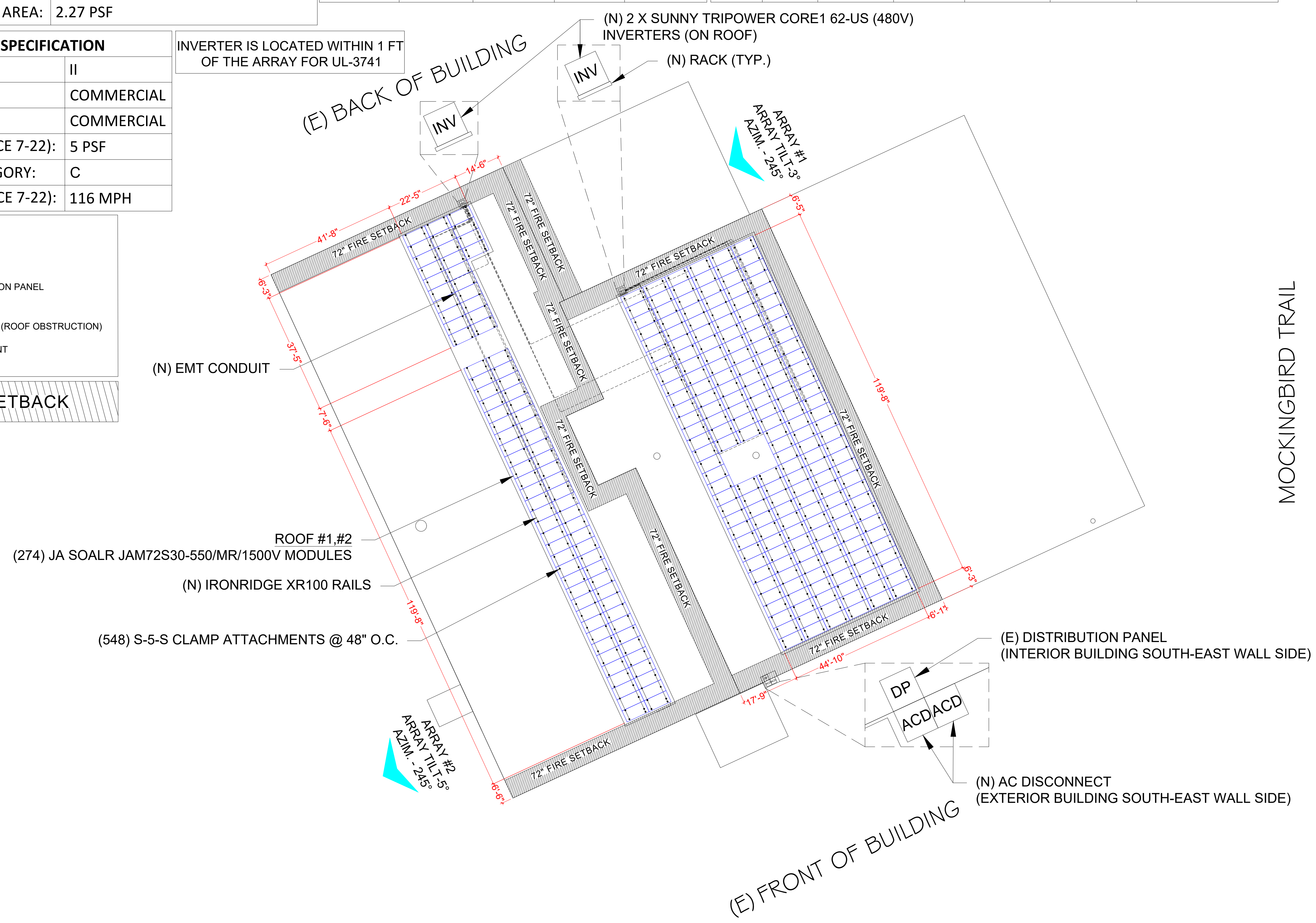
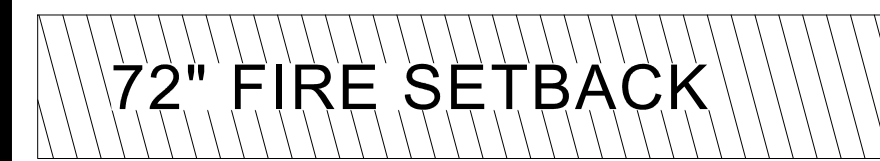
ARRAY AREA & ROOF AREA CALC'S				
ROOF	# OF MODULES	ARRAY AREA (Sq. Ft.)	ROOF AREA (Sq. Ft.)	ROOF AREA COVERED BY ARRAY (%)
#1	186	5173	9379.13	55
#2	88	2447	13413.52	18

ARRAY DESCRIPTION						
ARRAY	ARRAY TILT	AZIMUTH	RAFTER SIZE	RAFTER SPACING	SEAM SPACING	ROOF MATERIAL
#1	3°	245°	2" X 6"	24" O.C.	12" O.C.	STANDING SEAM METAL
#2	5°	245°	2" X 6"	24" O.C.	12" O.C.	STANDING SEAM METAL

DESIGN SPECIFICATION	
RISK CATEGORY:	II
CONSTRUCTION:	COMMERCIAL
ZONING:	COMMERCIAL
SNOW LOAD (ASCE 7-22):	5 PSF
EXPOSURE CATEGORY:	C
WIND SPEED (ASCE 7-22):	116 MPH

INVERTER IS LOCATED WITHIN 1 FT OF THE ARRAY FOR UL-3741

- LEGEND**
- INV - INVERTER
 - ACD - AC DISCONNECT
 - DP - MAIN DISTRIBUTION PANEL
 - - CONDUIT
 - □ - VENT, ATTIC FAN (ROOF OBSTRUCTION)
 - - ROOF ATTACHMENT
 - - RAIL



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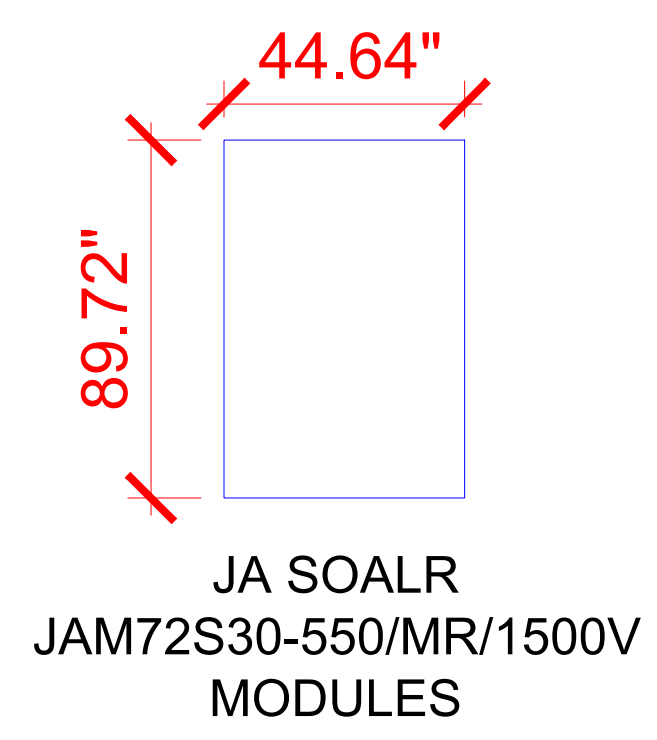
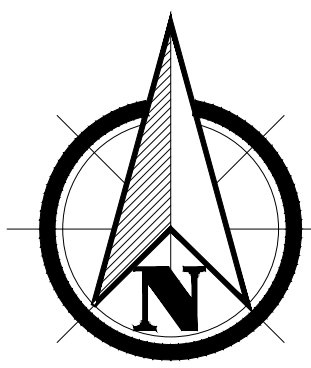
DATE: 09/27/2024

SHEET NAME
ARRAY PLAN & MODULES

SHEET SIZE
ARCH FULL BLEED D
24" X 36"

SHEET NUMBER

PV-2



BILL OF MATERIALS		
EQUIPMENT	QTY	DESCRIPTION
SOLAR PV MODULE	274	JA SOALR JAM72S30-550/MR/1500V MODULES
INVERTER	2	SUNNY TRIPOWER CORE1 62-US (480V) INVERTERS
AC DISCONNECT	2	100A NON FUSED AC DISCONNECT, NEMA 3R, UL LISTED
ATTACHMENT	548	S5! S-5-S SEAM CLAMPS (STANDING SEAM) METAL ROOFING ATTACHMENTS
ATTACHMENT	1096	M8-1.25 STAINLESS STEEL HEX FLANGE BOLT (13MM SOCKET)
ATTACHMENT	1096	3/8-24 STAINLESS STEEL ROUND POINT SETSCREW (3/16 HEX DRIVE)
RAILS	189	IRONRIDGE XR-100 14FT (168")
BONDED SPLICE	150	SPLICE KIT
CLAMP	522	UNIVERSAL FASTENING OBJECT (UFO)
CLAMP	52	STOPPER SLEEVES
GROUNDING LUG	13	GROUNDING LUG

INVERTER IS LOCATED WITHIN 1 FT OF THE ARRAY FOR UL-3741

STRING INFORMATION WITH INVERTERS	
	INVERTER #1 8 x STRINGS OF 17 MODULES =136 MODULES
	INVERTER #2 4 x STRINGS OF 18 MODULES 2 x STRINGS OF 17 MODULES 2 x STRINGS OF 16 MODULES =138 MODULES

(E) BACK OF BUILDING



(E) FRONT OF BUILDING
TURNER DAVIS DR

MOCKINGBIRD TRAIL



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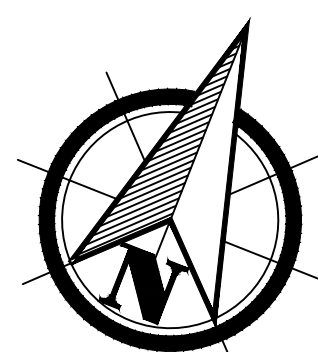
DATE: 09/27/2024

SHEET NAME
STRING LAYOUT
& BOM

SHEET SIZE
ARCH FULL
BLEED D
24" X 36"

SHEET NUMBER

PV-2A



1 ROOF PLAN WITH STRING LAYOUT & BOM

PV-2A

SCALE: 1/16" = 1'-0"

LEGEND

- WIND ZONE 1
- WIND ZONE 2
- WIND ZONE 3
- SEAM
- JA SOALR JAM72S30-550/MR/1500V
- IRONRIDGE XR-100 14FT (168")
- ROOF ATTACHMENT
- VENT, ATTIC FAN (ROOF OBSTRUCTION)
- GABLE ROOF
- e - EXPOSED MODULES/ EDGE MODULES

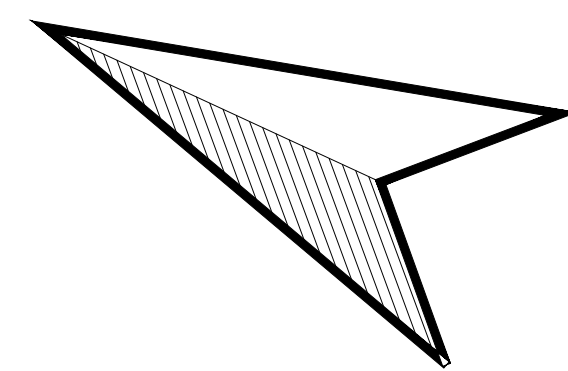
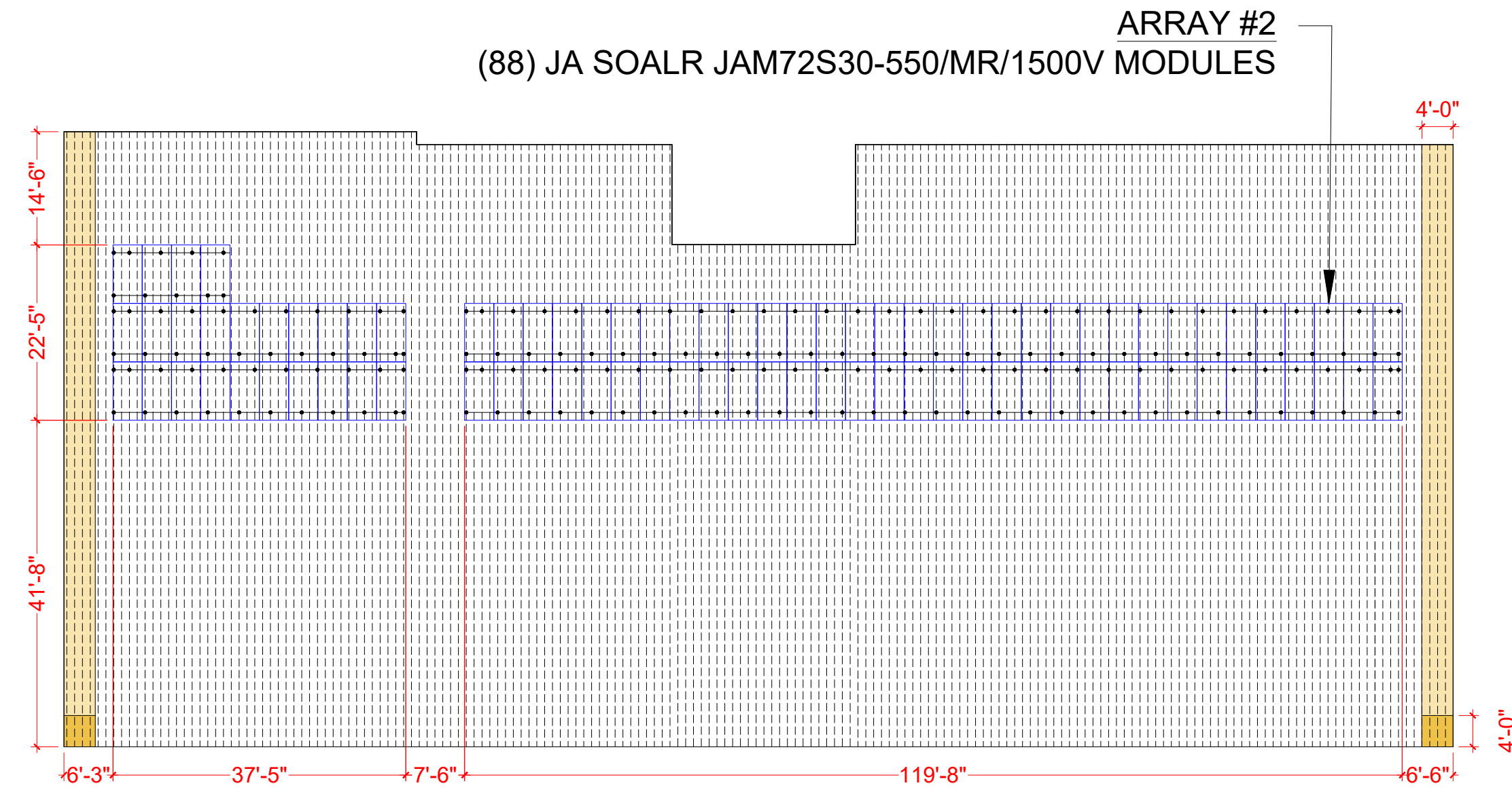
PANEL HEIGHT OF ROOF (H2) 6"

AVERAGE ROOF HEIGHT: 25 FEET

ARRAY DESCRIPTION

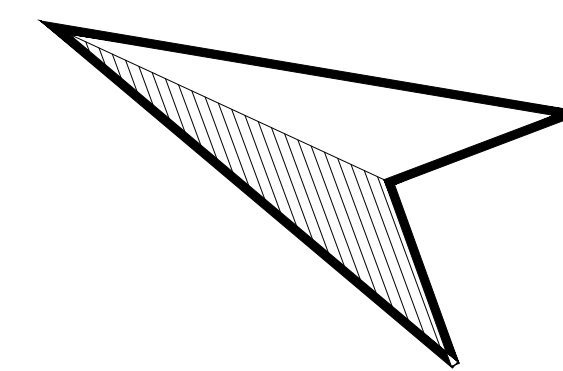
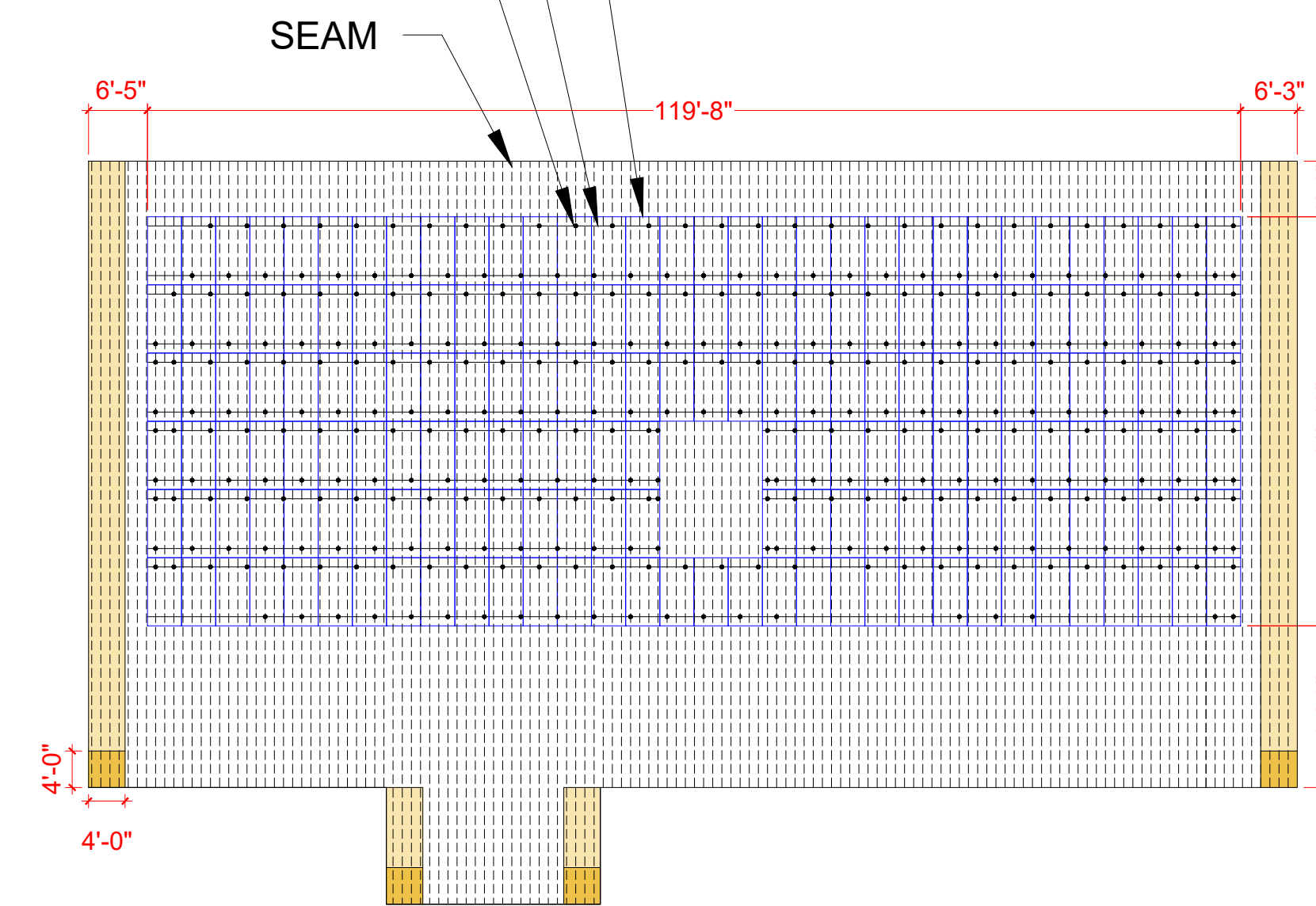
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#1	3°	245°	2" X 6"	24"O.C.	12"O.C	STANDING SEAM METAL
#2	5°	245°	2" X 6"	24"O.C.	12"O.C	STANDING SEAM METAL

INVERTER IS LOCATED WITHIN 1 FT OF THE ARRAY FOR UL-3741

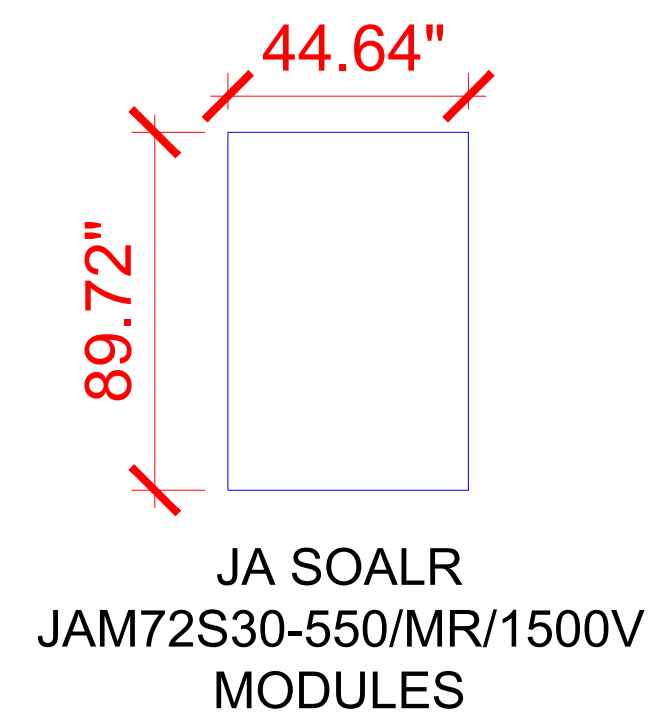


ROOF- 1

ARRAY #1
(186) JA SOALR JAM72S30-550/MR/1500V MODULES
(N) IRONRIDGE XR100 RAILS
(548) S-5-S CLAMP ATTACHMENTS @ 48" O.C.



ROOF- 2



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SHEET NAME
**WIND ZONE
CALCULATION**

SHEET SIZE
**ARCH FULL
BLEED D
24" X 36"**

SHEET NUMBER

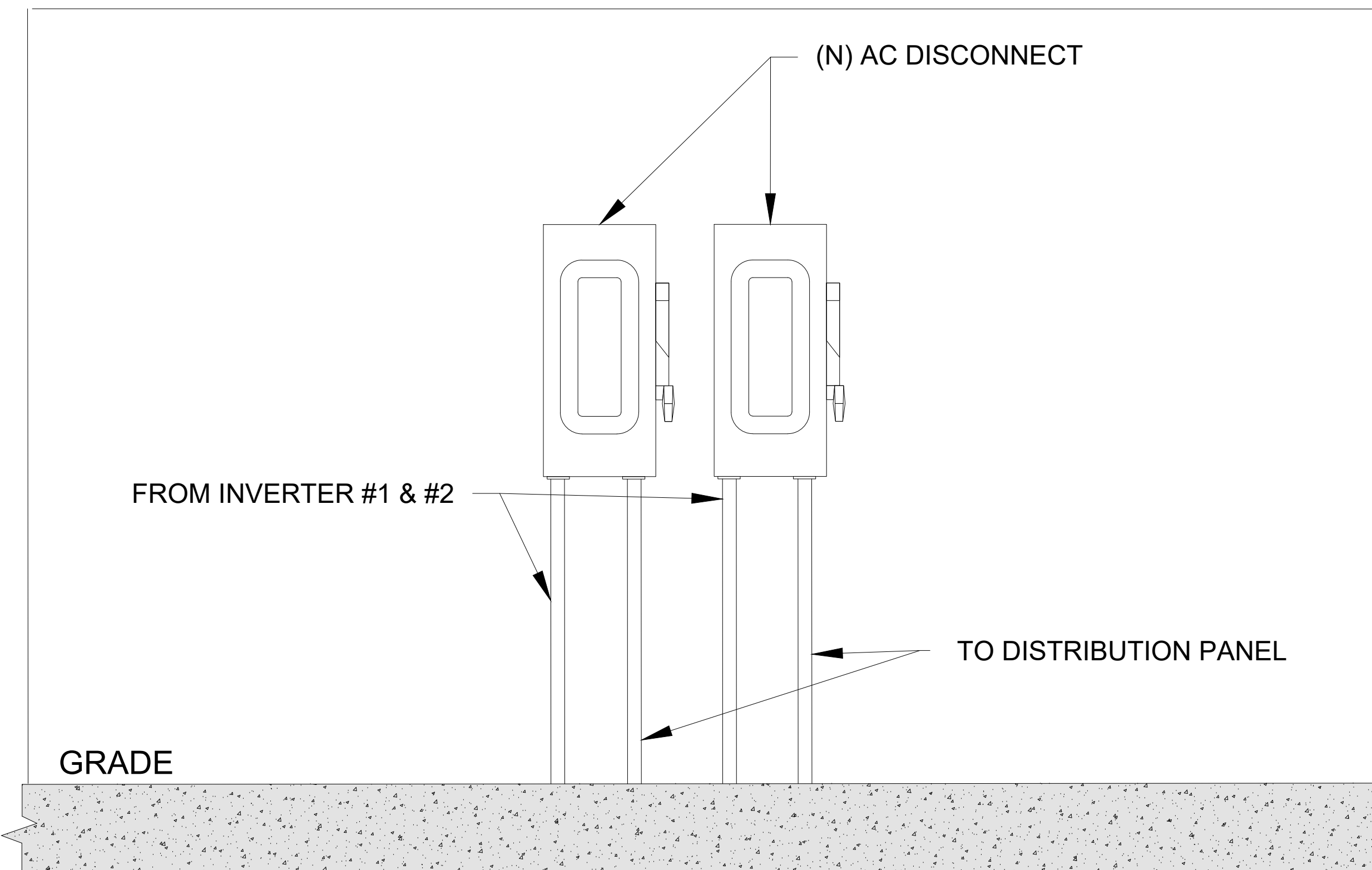
PV-2B

1 WIND ZONE CALCULATION

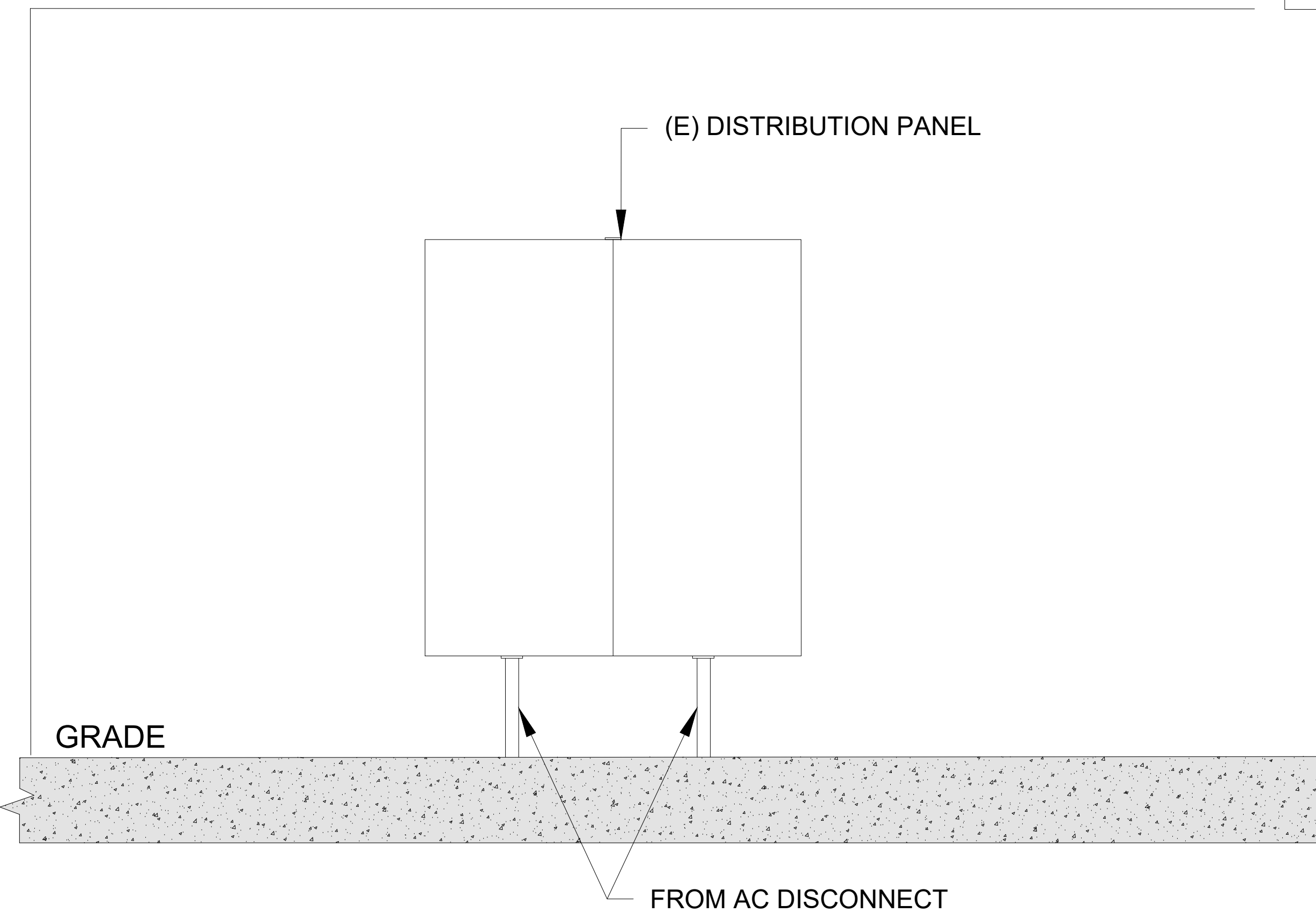
PV-2B

SCALE: 1/16" = 1'-0"

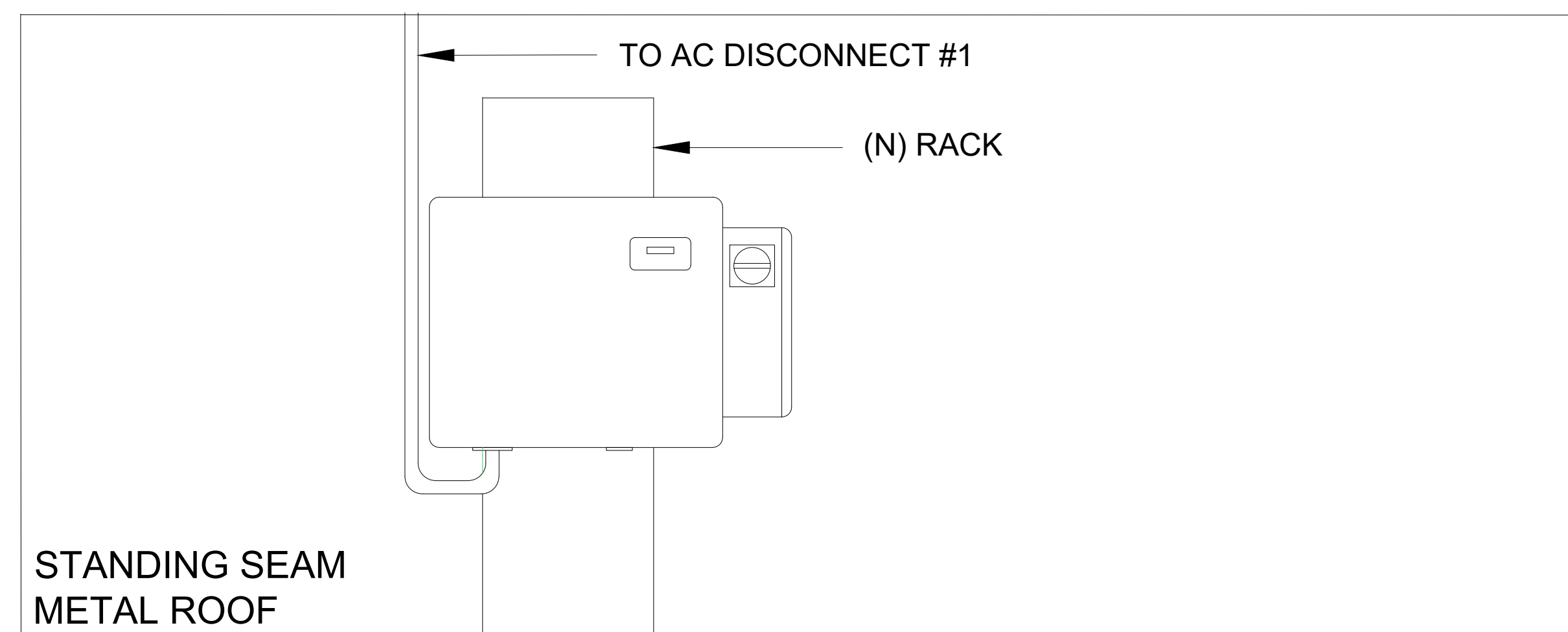
EQUIPMENT ELEVATION OUTSIDE BUILDING SOUTH-EAST SIDE



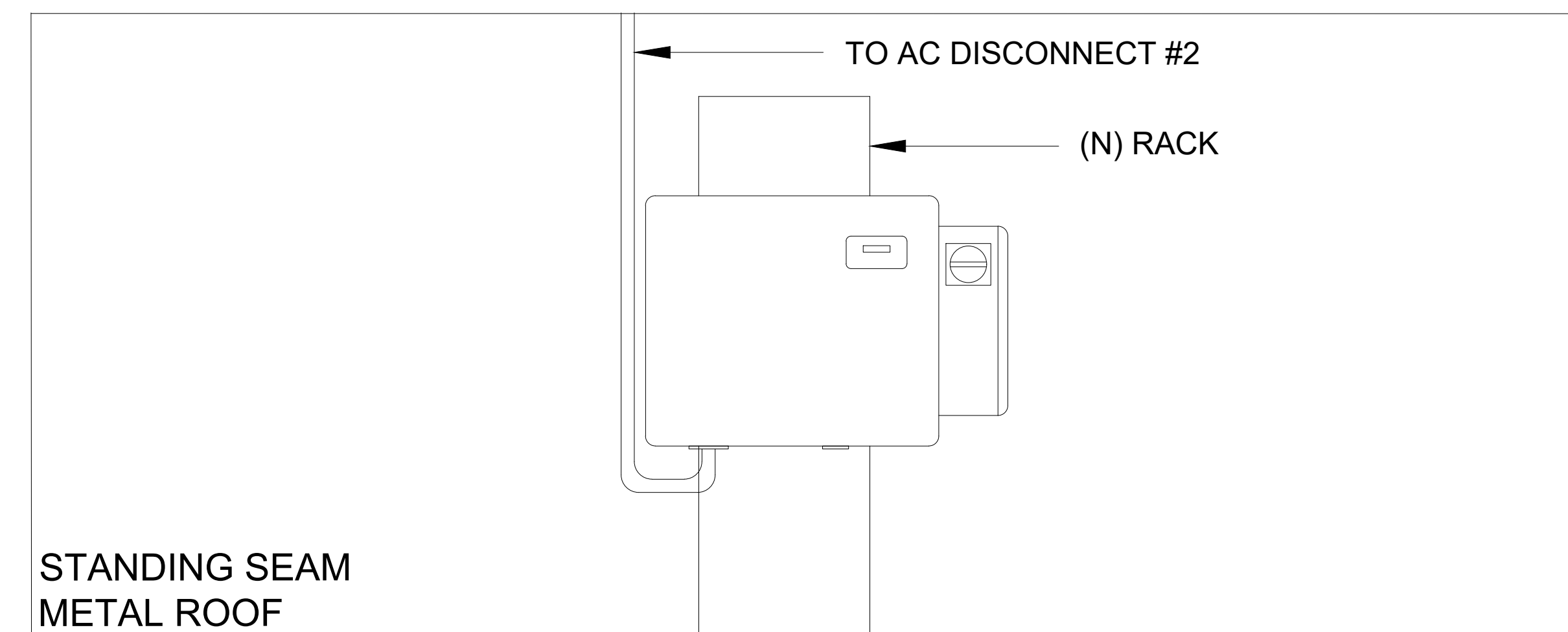
EQUIPMENT ELEVATION INSIDE BUILDING SOUTH-EAST SIDE



EQUIPMENT ELEVATION OF INVERTER ON NORTH SIDE OF ROOF



EQUIPMENT ELEVATION OF INVERTER ON NORTH SIDE OF ROOF



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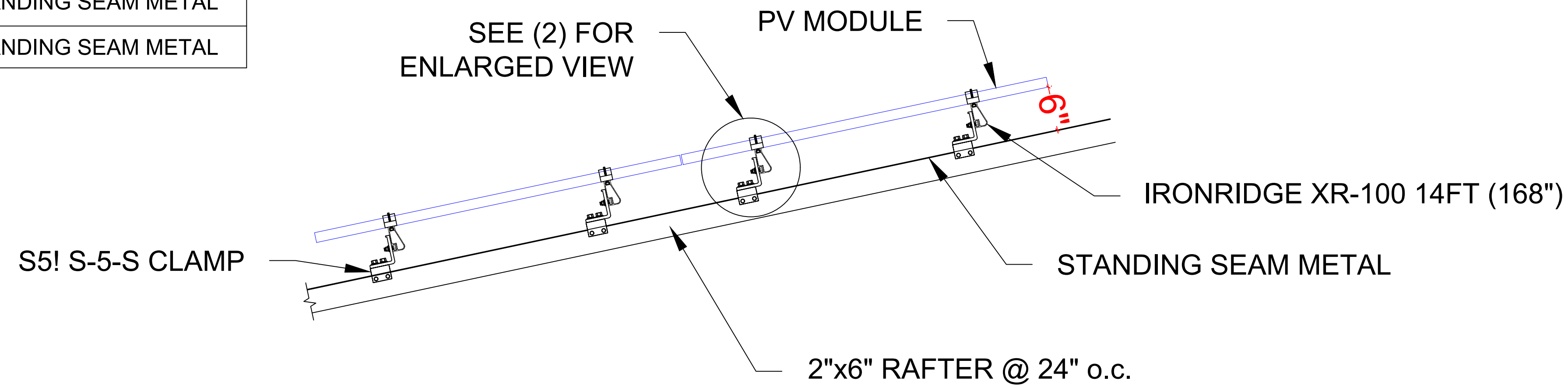
SHEET NAME
EQUIPMENT ELEVATION

SHEET SIZE
ARCH FULL BLEED D
24" X 36"

SHEET NUMBER

PV-2C

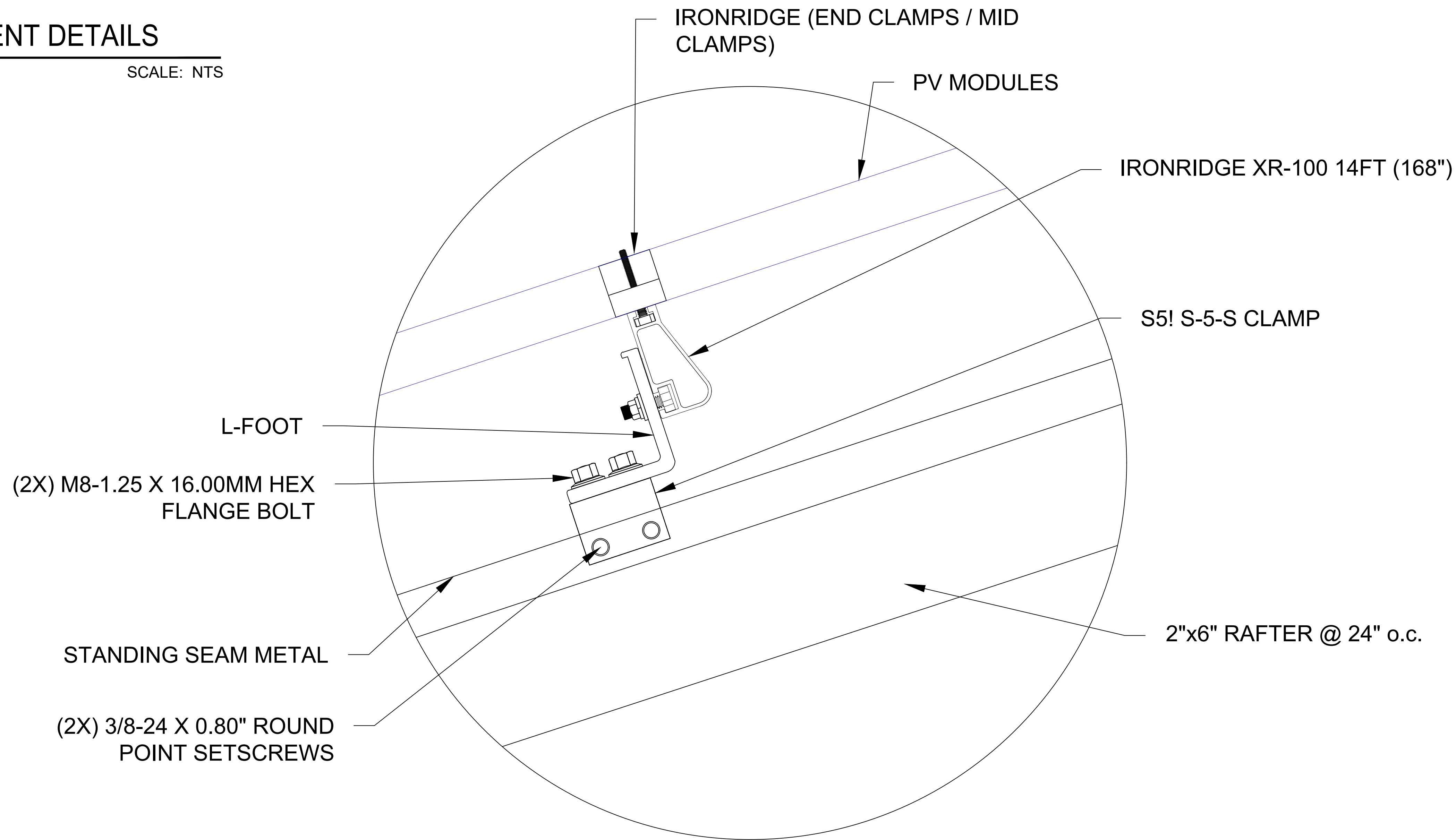
RAFTER SIZE	RAFTER SPACING	SEAM SPACING	ROOF MATERIAL
2" X 6"	24"O.C.	12"O.C	STANDING SEAM METAL
2" X 6"	24"O.C.	12"O.C	STANDING SEAM METAL



2 ATTACHMENT DETAILS

PV-3

SCALE: NTS



2 ENLARGED VIEW OF ATTACHMENT

PV-3

SCALE: NTS

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SHEET NAME
ATTACHMENT DETAILS

SHEET SIZE
ARCH FULL BLEED D 24" X 36"

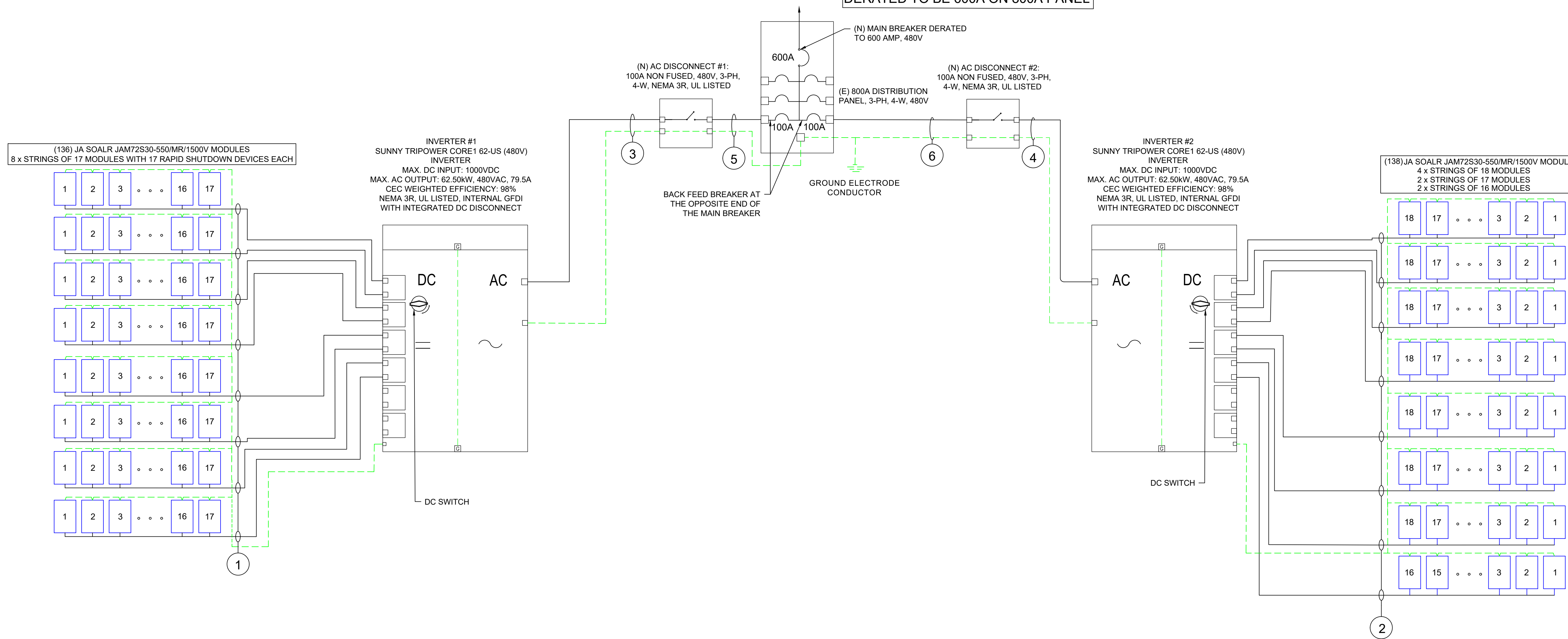
SHEET NUMBER
PV-3

ID	TYPICAL	INITIAL CONDUCTOR LOCATION	FINAL CONDUCTOR LOCATION	CONDUCTOR			CONDUIT	NO#OF CIRCUITS	CURRENT-CARRYING CONDUCTORS IN CONDUIT	CONDUIT FILL PERCENT	OCPD	EGC		TEMP. CORR. FACTOR		CONDUIT FILL FACTOR	CONT. CURRENT	MAX. CURRENT	BASE AMP.	DERATED AMP.	WIRE AMP. TEMP. RATING	LENGTH	VOLTAGE DROP
				THWN-2, COPPER	THWN-2, COPPER	(35°C)						(35°C)											
1	8	ARRAY	INVERTER 1	10 AWG	PV WIRE	COPPER	MIN 1.25" Dia EMT	8	16	24.93%	N/A	8 AWG	THWN-2, COPPER	0.96	(35°C)	0.5	14.00A	17.5A	40A	19.20A	90°C	98FT	0.48%
2	8	ARRAY	INVERTER 2	10 AWG	PV WIRE	COPPER	MIN 1.25" Dia EMT	8	16	24.93%	N/A	8 AWG	THWN-2, COPPER	0.96	(35°C)	0.5	14.00A	17.5A	40A	19.20A	90°C	109FT	0.53%
3	1	INVERTER 1	AC DISCONNECT 1	3 AWG	THWN-2	COPPER	MIN 1.25" Dia EMT	1	4	28.38%	N/A	8 AWG	THWN-2, COPPER	0.96	(35°C)	0.8	79.50A	99.38A	115A	88.32A	90°C	127FT	1.19%
4	1	INVERTER 2	AC DISCONNECT 2	3 AWG	THWN-2	COPPER	MIN 1.25" Dia EMT	1	4	28.38%	N/A	8 AWG	THWN-2, COPPER	0.96	(35°C)	0.8	79.50A	99.38A	115A	88.32A	90°C	193FT	1.57%
5	1	AC DISCONNECT- 1	DISTRIBUTION PANEL	3 AWG	THWN-2	COPPER	MIN 1.25" Dia EMT	1	4	28.38%	100A	8 AWG	THWN-2, COPPER	0.96	(35°C)	0.8	79.50A	99.38A	115A	88.32A	90°C	5FT	0.04%
6	1	AC DISCONNECT- 2	DISTRIBUTION PANEL	3 AWG	THWN-2	COPPER	MIN 1.25" Dia EMT	1	4	28.38%	100A	8 AWG	THWN-2, COPPER	0.96	(35°C)	0.8	79.50A	99.38A	115A	88.32A	90°C	5FT	0.04%

NOTE:- ALL EQUIPMENT TERMINAL TEMPERATURE RATINGS AT 75°C

INVERTER IS LOCATED WITHIN 1 FT OF THE ARRAY FOR UL-3741

NOTE : MAIN BREAKER DERATED TO BE 600A ON 800A PANEL



NEW EQUIPMENT SUMMARY

- 274 JA SOALR JAM72S30-550/MR/1500V MODULES
- 02 SUNNY TRIPOWER CORE1 62-US (480V) INVERTERS
- 2 100A NON-FUSED AC DISCONNECT , NEMA 3R, UL LISTED

SERVICE INFO

DISTRIBUTION PANEL: 800A
 DISTRIBUTION PANEL BRAND: SIEMENS
 MAIN DERATED BREAKER RATING: 600A
 MAIN SERVICE VOLTAGE: 480VAC
 MAIN SERVICE LOCATION: SOUTH

SYSTEM RATING

150.70 KWDC
 125.00 KWAC
 139.09 CEC KAWC

INTERCONNECTION

120% RULE - NEC 705.12(B)(3)
 UTILITY FEED + SOLAR BACKFEED
 600 A + 200A = 800A
 BUSS RATING x 120%
 800 A x 120% = 960A

1 ELECTRICAL LINE DIAGRAM

PV-4

SCALE: NTS



REVISIONS		
DESCRIPTION	DATE	REV
REVISION	09/19/2024	A
REVISION	09/27/2024	B

Signature with Seal

PROJECT NAME & ADDRESS

NFC BUILDING 13 COMMERCIAL
 325 TURNER DAVIS DR
 MADISON, FL 32340, USA
 PH.# : (850) 576-7657
 Email ID : CADEN@IGTSOLAR.COM

DATE: 09/27/2024

SHEET NAME
ELECTRICAL LINE DIAGRAM

SHEET SIZE
ARCH FULL BLEED D 24" X 36"

SHEET NUMBER

PV-4

SOLAR MODULE SPECIFICATIONS	
MANUFACTURER / MODEL	JA SOALR JAM72S30-550/MR/1500V
VMP	41.96 A
IMP	13.11 A
VOC	49.90 V
ISC	14.00A
TEMP. COEFF. VOC	-0.275%/°C
MODULE DIMENSION	89.72"(L) x 44.64"(W)
PANEL WATTAGE	550W

INVERTER SPECIFICATIONS	
MANUFACTURER / MODEL	SUNNY TRIPOWER CORE1 62-US (480V)
NOMINAL AC POWER	62500 W
NOMINAL OUTPUT CURRENT	79.50 A
NOMINAL OUTPUT VOLTAGE	480 VAC

AMBIENT TEMPERATURE SPECS	
RECORD LOW TEMP	-7°C
AMBIENT TEMP (HIGH TEMP 2%)	35°C
CONDUIT HEIGHT	7/8"
MODULE TEMPERATURE COEFFICIENT OF VOC	-0.275%/°C

PERCENT OF VALUES	NUMBER OF CURRENT CARRYING CONDUCTORS IN EMT
0.80	4-6
0.70	7-9
0.50	10-20
0.45	21-30



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 325 TURNER DAVIS DR
 MADISON, FL 32340, USA
 PH.# : (850) 576-7657
 Email ID : CADEN@IGTSOLAR.COM

DATE: 09/27/2024

SHEET NAME
 SPECIFICATIONS & NOTES

SHEET SIZE
 ARCH FULL
 BLEED D
 24" X 36"

SHEET NUMBER

PV-4A

! WARNING
 RACEWAY IS ENERGIZED WHEN IN THE OPEN POSITION. DO NOT RELOCATE OR CUT

1 Conduit
 Scale: NTS
 FROM AC DISCONNECT TO TAP LOCATION

! WARNING
 THE DISCONNECTION OF THE GROUNDED CONDUCTOR(S) MAY RESULT IN OVERVOLTAGE OF THE EQUIPMENT

CODE : PER NEC 690.13(B)

2 Inverter
 Scale: NTS

! WARNING
 THIS EQUIPMENT FED BY MULTIPLE SOURCES. TOTAL RATING OF ALL OVER CURRENT DEVICES EXCLUDING MAIN POWER SUPPLY SHALL NOT EXCEED AMPACITY OF BUSBAR

CODE : PER NEC 690.13(B)

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

CODE : PER NEC 706.15(C)(4) and NEC 690.13(B)

PHOTOVOLTAIC SYSTEM AC DISCONNECT
 RATED AC OUTPUT CURRENT 79.5 AMPS
 NOMINAL OPERATING AC VOLTAGE 480 VOLTS

LABEL LOCATION:
 POINT OF INTERCONNECTION.
 (PER CODE: NEC 690.54)

3 AC Disconnects 1 & 2
 Scale: NTS

! WARNING
 TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL

CODE : PER NEC 690.13(B)

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

DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR MODULES ARE EXPOSED TO SUNLIGHT

CODE : PER NEC 706.15(C)(4) and NEC 690.13(B)

4 Panel Board
 Scale: NTS

! WARNING
 WARNING DUAL POWER SOURCE SECOND SOURCE IS PHOTOVOLTAIC SYSTEM

CODE : PER NEC 690.59 and NEC 705.12(D)(3)

! WARNING
 POWER SOURCE OUTPUT CONNECTION. DO NOT RELOCATE THIS OVERCURRENT DEVICE.

CODE : PER NEC 705.12(B)(3)(2)

! WARNING
 TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL

CODE : PER NEC 110.27(C) and OSHA 1910.145(N)(7)

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

CODE : PER NEC 706.15(C)(4) and NEC 690.13(B)

! WARNING
 SINGLE 120-VOLT SUPPLY DO NOT CONNECT MULTI WIRE BRANCH CIRCUITS

CODE : PER NEC 706.15(C)(4) and NEC 690.13(B)

PANEL BOARD ENERGIES FROM TWO SOURCES OF AC POWER SOLAR 159A AT 480V UTILITY GRID 800A AT 480V

CODE : PER NEC 690.54

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

CODE : PER NEC 605.11.3.1(1) and NEC 690.56(C)

MAIN PHOTOVOLTAIC SYSTEM DISCONNECT

CODE : PER NEC 690.13(B)

RAPID SHUTDOWN FOR SOLAR PV SYSTEM

CODE : PER NEC 690.56(C)(2)

DO NOT DISCONNECT UNDER LOAD

CODE : PER NEC 690.15(B) and NEC 690.33(D)(2)

5 Distribution Board
 Scale: NTS



INDEPENDENT GREEN TECHNOLOGIES LLC
 3954 WEST PENSACOLA STREET, TALLAHASSEE, FL 32304
 (850) 576-7657
 CONTRACTOR LIC# : CVC56732

REVISIONS		
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PROJECT NAME & ADDRESS

NFC BUILDING 13 COMMERCIAL
 325 TURNER DAVIS DR
 MADISON, FL 32340, USA
 PH.# : (850) 576-7657
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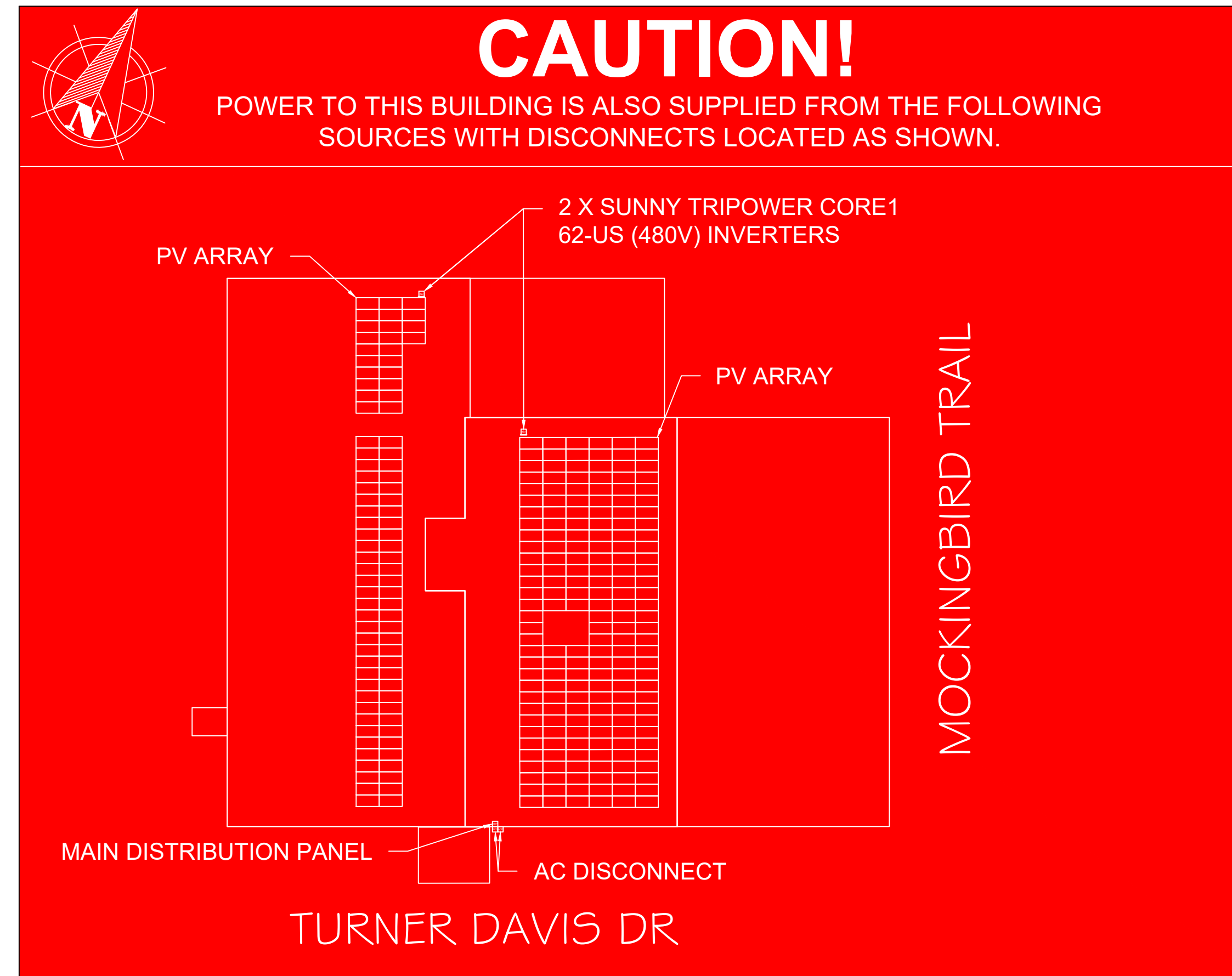
DATE: 09/27/2024

SHEET NAME
 SIGNAGE

SHEET SIZE
 ARCH FULL BLEED D
 24" X 36"

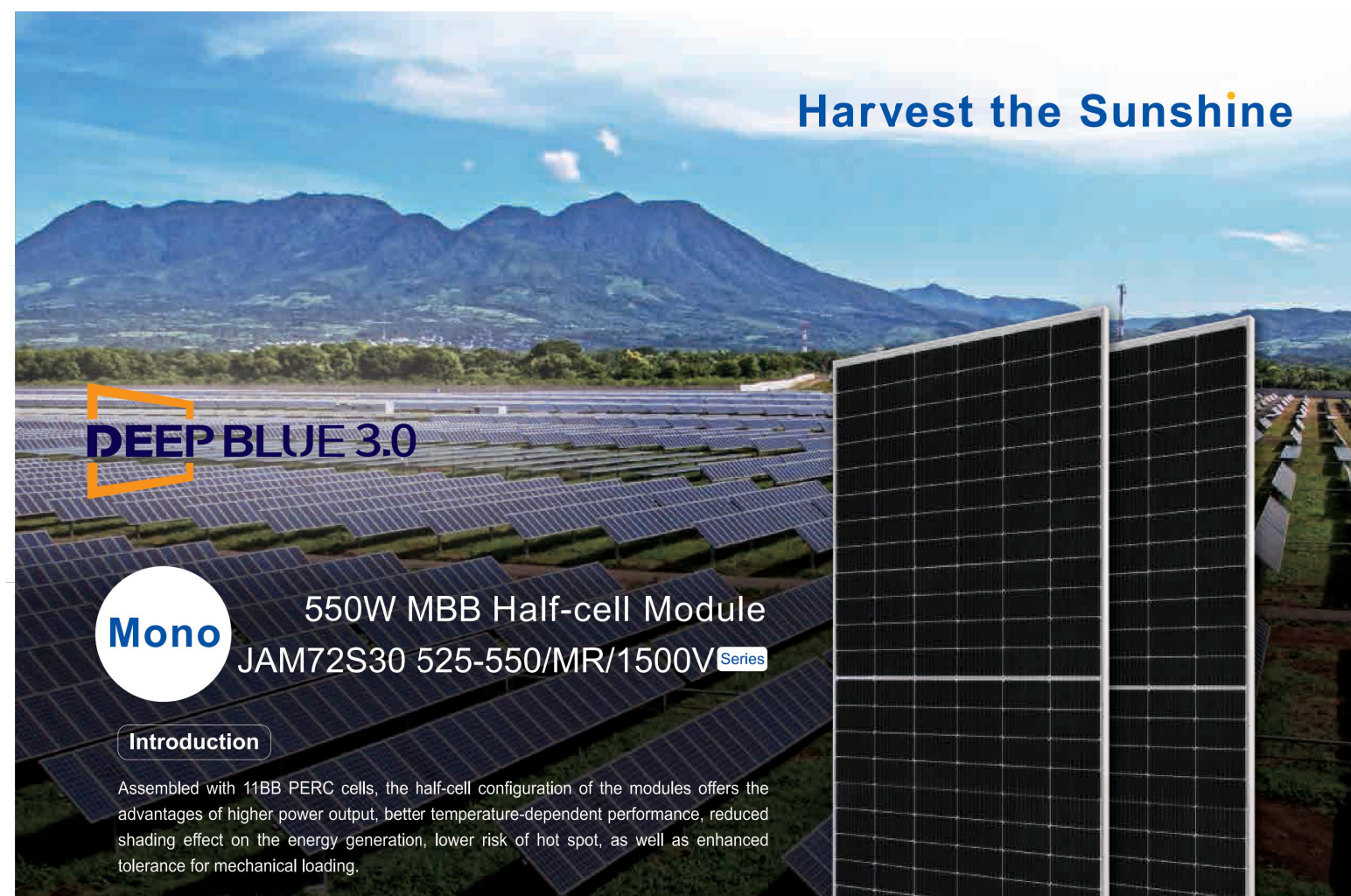
SHEET NUMBER

PV-5

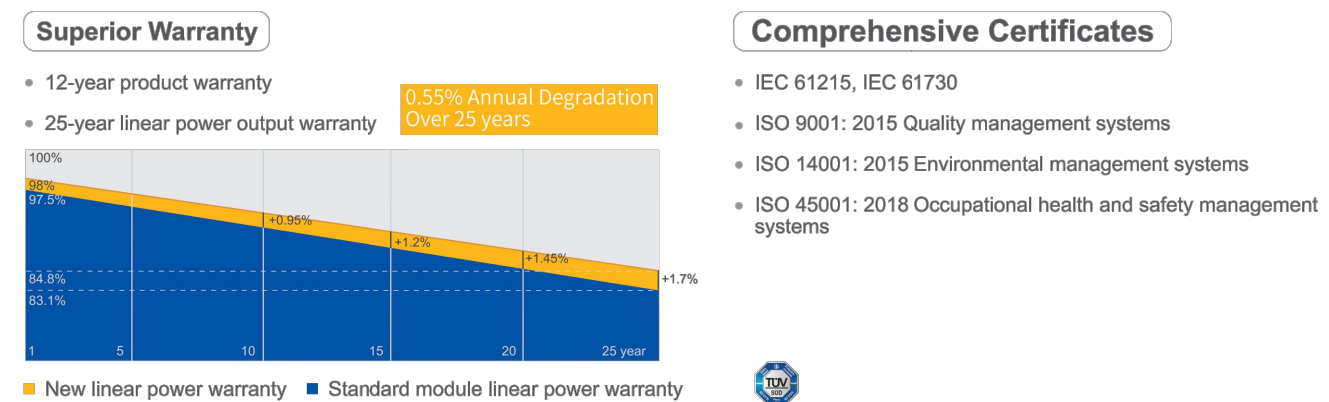


CODE: PER NEC 705.10 & 690.56(A)(B)
 LABEL LOCATION:
 MAIN SERVICE PANEL & UTILITY METER&SUB PANEL, INVERTER, AC DISCONNECT

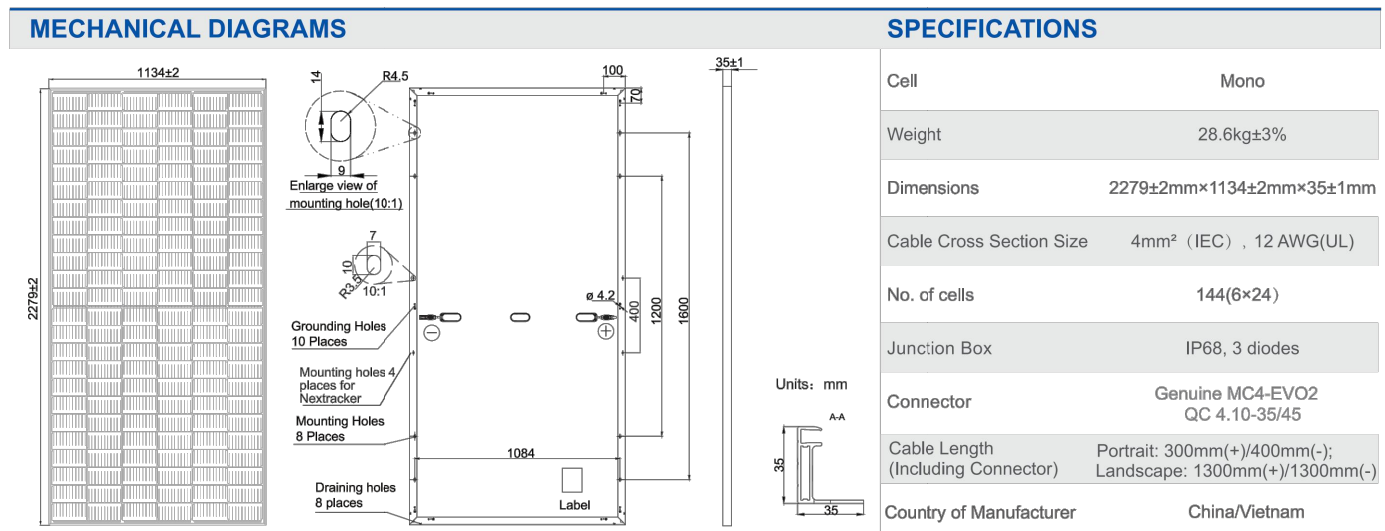
- CONTRACTORS NOTES:**
- ALL OF THESE LABELS ARE APPLICABLE.
- ADHESIVE FASTENED SIGNS:**
- ANSI Z535.4-2011 PRODUCT SAFETY SIGNS AND LABELS, PROVIDES GUIDELINES FOR SUITABLE FONT SIZES, WORDS, COLORS, SYMBOLS, AND LOCATION REQUIREMENTS FOR LABELS. NEC 110.21(B)(1)
 - THE LABEL SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED. NEC 110.21(B)(3)
 - ADHESIVE FASTENED SIGNS MAY BE ACCEPTABLE IF PROPERLY ADHERED. VINYL SIGNS SHALL BE WEATHER RESISTANT.



- Higher output power
- Lower LCOE
- Less shading and lower resistive loss
- Better mechanical loading tolerance



JA SOLAR JAM72S30 525-550/MR/1500V



ELECTRICAL PARAMETERS AT STC

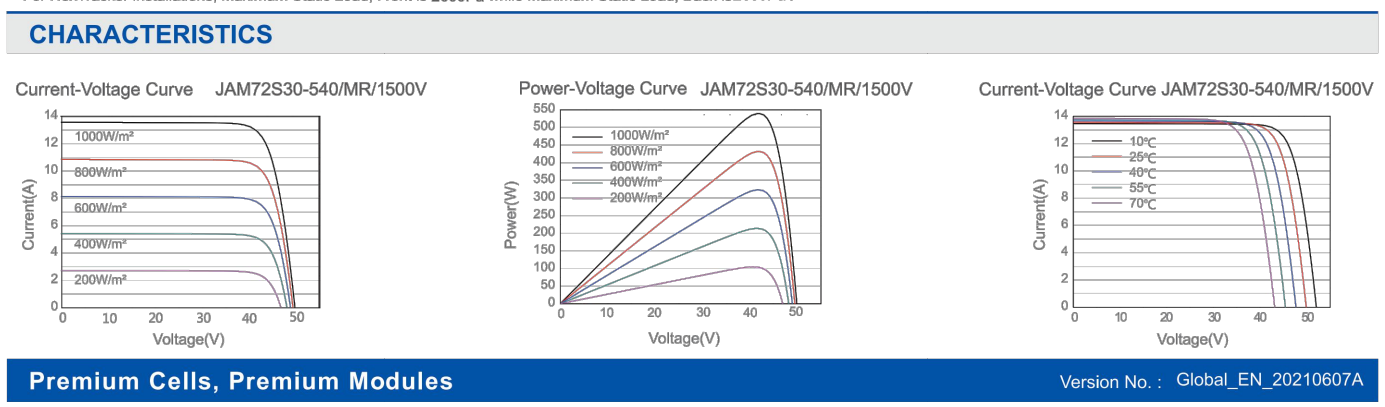
TYPE	JAM72S30-525/MR/1500V	JAM72S30-530/MR/1500V	JAM72S30-535/MR/1500V	JAM72S30-540/MR/1500V	JAM72S30-545/MR/1500V	JAM72S30-550/MR/1500V
Rated Maximum Power(Pmax) [W]	525	530	535	540	545	550
Open Circuit Voltage(Voc) [V]	49.15	49.30	49.45	49.60	49.75	49.90
Maximum Power Voltage(Vmp) [V]	41.15	41.31	41.47	41.64	41.80	41.96
Short Circuit Current(Isc) [A]	13.65	13.72	13.79	13.86	13.93	14.00
Maximum Power Current(Imp) [A]	12.76	12.83	12.90	12.97	13.04	13.11
Module Efficiency [%]	20.3	20.5	20.7	20.9	21.1	21.3
Power Tolerance	0~+5W					
Temperature Coefficient of Isc(Isc_T) [1/°C]	+0.045%/°C					
Temperature Coefficient of Voc(Voc_T) [1/°C]	-0.275%/°C					
Temperature Coefficient of Pmax(Pmp_T) [1/°C]	-0.300%/°C					

STC: Irradiance 1000W/m², cell temperature 25°C, AM1.5G
 Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer. They only serve for comparison among different module types. Measurement tolerance at STC: Pmax ±3%, Voc ±3% and Isc ±4%.

ELECTRICAL PARAMETERS AT NOCT

TYPE	JAM72S30-525/MR/1500V	JAM72S30-530/MR/1500V	JAM72S30-535/MR/1500V	JAM72S30-540/MR/1500V	JAM72S30-545/MR/1500V	JAM72S30-550/MR/1500V
Rated Max Power(Pmax) [W]	397	401	405	408	412	416
Open Circuit Voltage(Voc) [V]	46.05	46.18	46.31	46.43	46.55	46.68
Max Power Voltage(Vmp) [V]	38.36	38.57	38.78	38.99	39.20	39.43
Short Circuit Current(Isc) [A]	10.87	11.01	11.05	11.09	11.13	11.17
Max Power Current(Imp) [A]	10.35	10.39	10.43	10.47	10.51	10.55

NOCT: Irradiance 800W/m², ambient temperature 20°C, wind speed 1m/s, AM1.5G
 *For Test/Installation, Maximum Static Load, Front is 2000Pa while Maximum Back Load, Back is 2000Pa.



SUNNY TRIPower CORE1 33-US / 50-US / 62-US



- Fully integrated**
 - Innovative design requires no additional racking for rooftop installation
 - Integrated DC and AC disconnects and overvoltage protection
 - 12 direct string inputs for reduced labor and material costs
- Increased power, flexibility**
 - Multiple power ratings for small to large scale commercial PV installations
 - Six MPPT trackers for flexible stringing and maximum power production
 - OptiTrack™ Global Peak shade tolerant MPPT tracking
- Enhanced safety, reliability**
 - Advanced SunSpec PLC signal for module-level rapid shutdown compliance to 2017 NEC
 - NextGen DC AFCI arc fault protection certified to new Standard UL 1699B
- Smart monitoring, control, service**
 - Multiple power inverters for cost-effective commercial projects
 - Increased ROI with SMA ennexOS cross sector energy management platform
 - SMA Smart Connected proactive O&M solution reduces time spent diagnosing and servicing in the field

SUNNY TRIPower CORE1 33-US / 50-US / 62-US

It stands on its own

The Sunny Tripower CORE1 is the world's first free-standing PV inverter for commercial rooftops, carports, ground mount and repowering legacy solar projects. Now with expanded features and new power classes, the CORE1 is the most versatile, cost-effective commercial solution available. From distributed to construction to operation, the Sunny Tripower CORE1 enables logistical, material, labor and service cost reductions. Integrated SunSpec PLC for rapid shutdown and enhanced DC AFCI arc-fault protection ensure compliance to the latest safety codes and standards. With Sunny Tripower CORE1 and SMA's ennexOS cross sector energy management platform, system integrators can deliver comprehensive commercial energy solutions for increased ROI.

Technical data*

	Sunny Tripower CORE1 33-US	Sunny Tripower CORE1 50-US	Sunny Tripower CORE1 62-US
Input (DC)			
Maximum array power	50000 Wp STC	75000 Wp STC	93750 Wp STC
Maximum system voltage	1000 V	1000 V	1000 V
Rated MPPT voltage range	330 V...800 V	500 V...800 V	550 V...800 V
MPPT operating voltage range	150 V...1000 V	150 V...1000 V	150 V...1000 V
Minimum DC voltage / start voltage	150 V / 188 V	150 V / 188 V	150 V / 188 V
MPPT trackers / strings per MPPT input	5 / 2	5 / 2	5 / 2
Maximum operating input current / per MPPT tracker	130 A / 20 A	130 A / 20 A	130 A / 20 A
Maximum short circuit current per MPPT / per string input	30 A / 30 A	30 A / 30 A	30 A / 30 A
Output (AC)			
AC nominal power	33300 W	50000 W	62500 W
Maximum apparent power	33300 VA	50000 VA	64000 VA
Output phases / line connections	3 / 3 (N)-PE	3 / 3 (N)-PE	3 / 3 (N)-PE
Nominal AC voltage	480 V / 277 V WYE	480 V / 277 V WYE	480 V / 277 V WYE
AC voltage range	244 V...303 V	244 V...303 V	244 V...303 V
Maximum output current	40 A	64 A	79.5 A
Rated grid frequency	40 Hz	40 Hz	40 Hz
Grid frequency range	50 Hz, 50 Hz / 4 Hz...+4Hz	50 Hz, 50 Hz / 4 Hz...+4Hz	50 Hz, 50 Hz / 4 Hz...+4Hz
Power factor at rated power / adjustable displacement	1 / 0.0 leading...0.0 lagging	1 / 0.0 leading...0.0 lagging	1 / 0.0 leading...0.0 lagging
Harmonics THD	<3%	<3%	<3%
Efficiency			
CEC efficiency (preliminary)	97.5%	98%	98%
Protection and safety features			
Load rated DC disconnect	●	●	●
Load rated AC disconnect	●	●	●
Ground fault monitoring: I_scc / Differential current	●	●	●
DC AFCI arc-fault protection	●	●	●
SunSpec PLC signal for rapid shutdown	●	●	●
DC reverse polarity protection	●	●	●
AC short circuit protection	●	●	●
DC surge protection: Type 2 / Type 1+2	o / o	o / o	o / o
AC surge protection: Type 2 / Type 1+2	o / o	o / o	o / o
Protection class / overvoltage category (see per UL 840)	/ / V	/ / V	/ / V
General data			
Device dimensions (W / H / D)	621 mm / 733 mm / 569 mm (24.4 in x 28.8 in x 22.4 in)	621 mm / 733 mm / 569 mm (24.4 in x 28.8 in x 22.4 in)	621 mm / 733 mm / 569 mm (24.4 in x 28.8 in x 22.4 in)
Device weight	84 kg (185 lb)	84 kg (185 lb)	84 kg (185 lb)
Operating temperature range	-25 °C...+40 °C (-13 °F...+104 °F)	-25 °C...+40 °C (-13 °F...+104 °F)	-25 °C...+40 °C (-13 °F...+104 °F)
Storage temperature range	-40 °C...+70 °C (-40 °F...+158 °F)	-40 °C...+70 °C (-40 °F...+158 °F)	-40 °C...+70 °C (-40 °F...+158 °F)
Audible noise emissions (full power @ 1m and 25 °C)	65 dB(A)	65 dB(A)	65 dB(A)
Internal consumption at night	5 W	5 W	5 W
Topology	Transformerless	Transformerless	Transformerless
Cooling Concept	OptiCool (forced convection, variable speed fans)	OptiCool (forced convection, variable speed fans)	OptiCool (forced convection, variable speed fans)
Enclosure protection rating	Type 4X, 553 (see per UL 508)	Type 4X, 553 (see per UL 508)	Type 4X, 553 (see per UL 508)
Maximum permissible relative humidity (non-condensing)	100%	100%	100%
Additional information			
Mounting	Free-standing with included mounting feet	Free-standing with included mounting feet	Free-standing with included mounting feet
DC connection	Angled dual LUTV connectors	Angled dual LUTV connectors	Angled dual LUTV connectors
AC connection	Screw terminals: 4 AWG to 4/0 AWG CU/AL	Screw terminals: 4 AWG to 4/0 AWG CU/AL	Screw terminals: 4 AWG to 4/0 AWG CU/AL
LED indicators (Status / Fault / Communication)	● (D, port) / ● / ● / ●	● (D, port) / ● / ● / ●	● (D, port) / ● / ● / ●
Network interfaces: Ethernet / WLAN / RS485	● / ● / ● / ●	● / ● / ● / ●	● / ● / ● / ●
Data protocols: SMA Modbus / SunSpec Modbus / Webconnect	● / ● / ● / ●	● / ● / ● / ●	● / ● / ● / ●
Multifunction relay	● / ● / ● / ●	● / ● / ● / ●	● / ● / ● / ●
OptiTrack Global Peak (shade tolerant MPPT tracking)	● / ● / ● / ●	● / ● / ● / ●	● / ● / ● / ●
Integrated Plant Control / Q on Demand 24/7	● / ● / ● / ●	● / ● / ● / ●	● / ● / ● / ●
Oil-Grid capable / SMA Fuel Save Controller compatible	● / ● / ● / ●	● / ● / ● / ●	● / ● / ● / ●
SMA Smart Connected (proactive monitoring and service support)	● / ● / ● / ●	● / ● / ● / ●	● / ● / ● / ●
Certifications (pending as of June 2018)			
Certifications and approvals	UL 1741, UL 1699B, UL 1998, IEEE 1547, CAN/CSA-C22.2 No. 62109	UL 1741, UL 1699B, UL 1998, IEEE 1547, CAN/CSA-C22.2 No. 62109	UL 1741, UL 1699B, UL 1998, IEEE 1547, CAN/CSA-C22.2 No. 62109
FCC compliance	UL 1741 SA, CA Rule 21, RECO Rule 141	FCC Part 15 Class A	FCC Part 15 Class A
Grid interconnection standards	L/HR/L/HRV, Volt/VAr, Volt/Watt, Frequency/Watt, Ramp Rate Control, Fixed Power Factor	L/HR/L/HRV, Volt/VAr, Volt/Watt, Frequency/Watt, Ramp Rate Control, Fixed Power Factor	L/HR/L/HRV, Volt/VAr, Volt/Watt, Frequency/Watt, Ramp Rate Control, Fixed Power Factor
Advanced grid support capabilities			
Warranty			
Standard	10 years	15 years	15 years
Optional extensions	● Standard features	● Standard features	● Standard features
Type designation	STP33-US-41	STP50-US-41	STP62-US-41



Toll Free +1 888 4 SMA USA
 www.SMA-America.com
 SMA America, LLC



REVISIONS

DESCRIPTION	DATE	REV
REVISION	09/19/2024	A
REVISION	09/27/2024	B

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NFC BUILDING 13 COMMERCIAL
 325 TURNER DAVIS DR
 MADISON, FL 32340, USA
 PH.# : (850) 576-7657
 Email ID : CADEN@IGTSOLAR.COM

DATE: 09/27/2024

SHEET NAME
 EQUIPMENT SPECIFICATION

SHEET SIZE
 ARCH FULL BLEED D
 24" X 36"

SHEET NUMBER

PV-6

REVISIONS		
DESCRIPTION	DATE	REV
REVISION	09/19/2024	A
REVISION	09/27/2024	B

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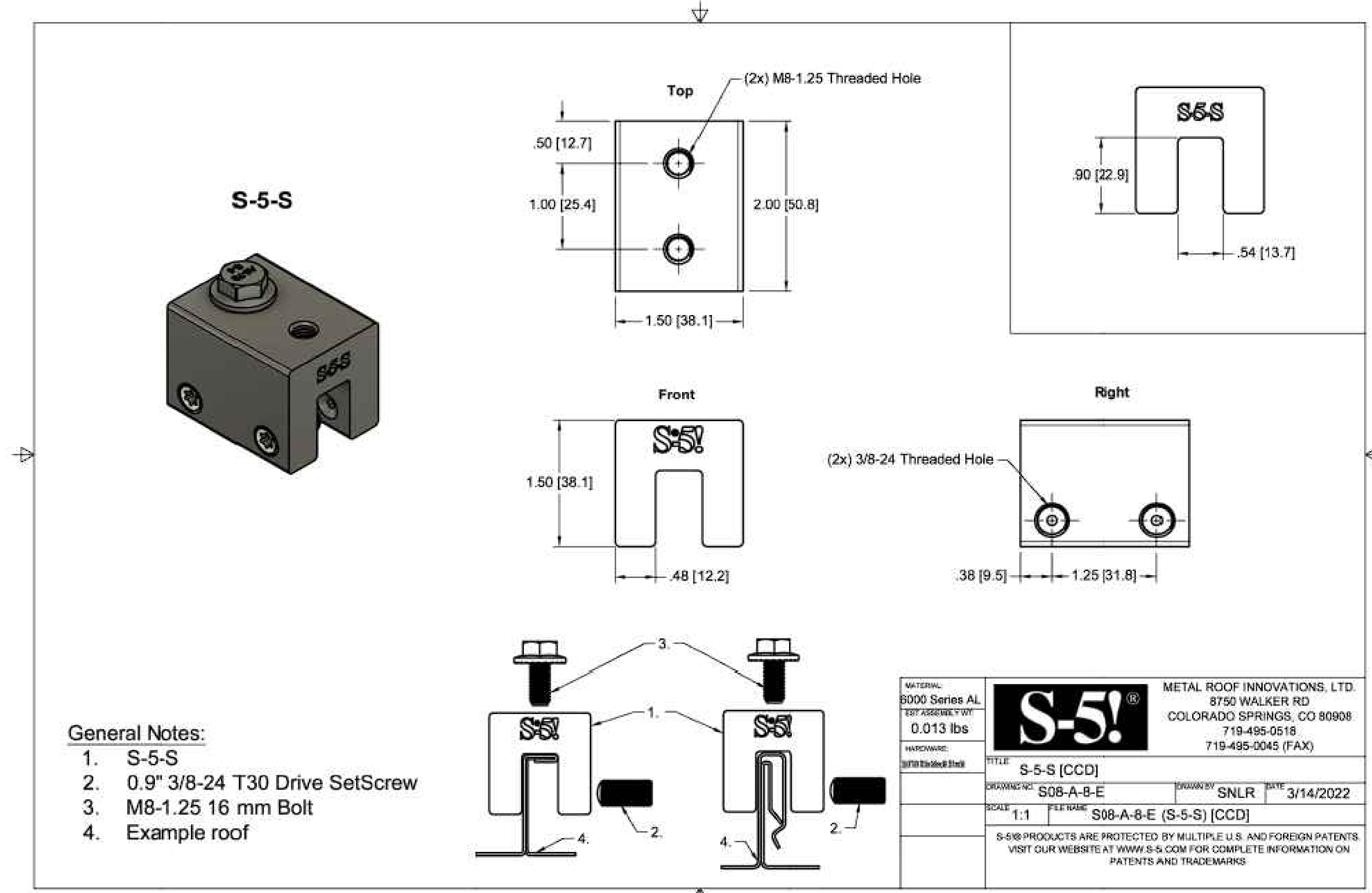
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SHEET NAME
 EQUIPMENT
 SPECIFICATION

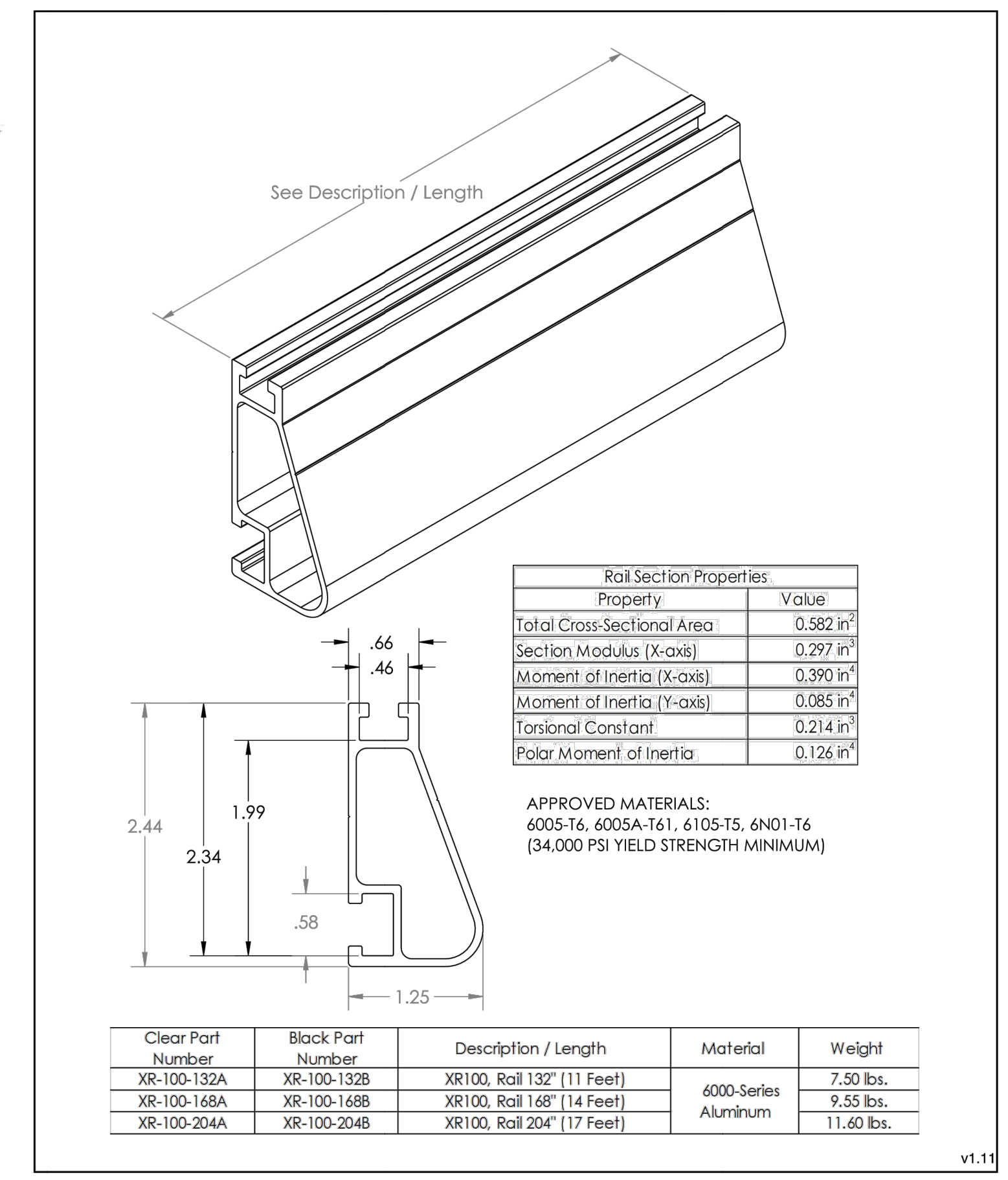
SHEET SIZE
 ARCH FULL
 BLEED D
 24" X 36"

SHEET NUMBER

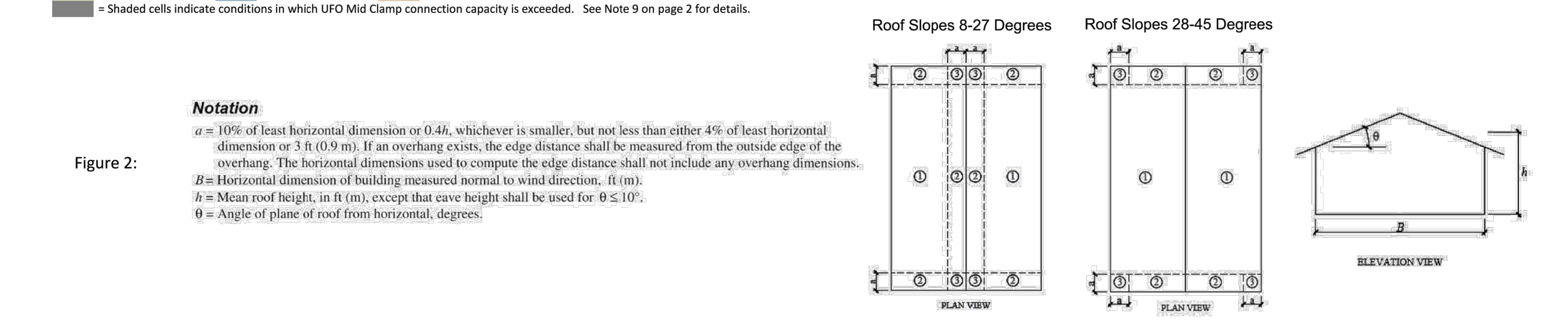
PV-7



IRONRIDGE XR100® Rail



Rail: XR100	Wind Speed (mph)	Roof Slope (deg)	Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation																																				
			Exposure B												Exposure C												Exposure D												
			Ground Snow: 0 psf			10 psf			Exposed Mod.			Edge Mod.			Ground Snow: 0 psf			10 psf			Exposed Mod.			Edge Mod.			Ground Snow: 0 psf			10 psf			Exposed Mod.			Edge Mod.			
115	8-20	112	102	91	96	96	91	100	78	69	72	61	53	106	81	72	75	64	50	59	42	33	92	73	64	92	73	64	66	51	35	51	33	28					
120	8-20	110	104	98	93	93	93	100	80	75	78	64	60	104	84	78	81	65	60	65	48	39	96	75	72	93	75	72	73	58	45	60	38	30					
130	8-20	112	106	96	96	86	77	81	66	58	64	48	38	86	69	61	86	69	61	64	44	32	48	32	26	75	61	48	75	61	48	55	32	26	39	26	21		
140	8-20	101	78	72	96	78	72	72	60	44	57	39	32	76	64	51	76	64	51	56	33	27	40	26	22	66	51	36	66	51	36	45	27	22	34	22	18		
150	8-20	89	72	64	89	72	64	64	48	33	49	33	27	68	55	39	68	55	39	48	28	24	35	24	19	60	39	60	39	30	37	24	19	28	19	16			
160	8-20	81	65	58	81	65	58	59	38	29	43	28	24	64	42	32	64	42	32	39	24	20	32	20	17	54	32	26	54	32	26	32	21	17	26	17	14		
170	8-20	73	60	45	73	60	45	52	32	25	38	25	21	58	33	27	58	33	27	33	22	18	27	18	15	48	28	24	48	28	24	28	18	15	24	15	12		
175	8-20	72	58	41	72	58	41	48	29	24	36	24	20	53	32	26	53	32	26	32	20	17	25	17	14	42	26	21	42	26	21	26	17	14	21	14	12		
180	8-20	67	53	36	67	53	36	45	27	22	34	22	18	49	29	24	49	29	24	39	24	20	39	24	20	39	24	20	39	24	20	24	16	13	20	13	11		
	21-27	78	64	57	78	64	57	61	33	26	48	27	20	64	38	29	64	38	29	64	38	29	42	24	17	32	19	13	37	24	57	30	24	34	19	13	27	16	11
	28-45	76	68	60	76	68	60	59	30	24	34	26	61	55	38	61	55	38	33	29	22	27	24	17	54	41	29	54	41	29	27	24	27	20	14	12	10		



S-5!® The Right Way!®

S-5-S Clamp

The S-5-S clamp was created specifically for popular snap-together profiles—including residential profiles by Taylor Metals and Easy Lock Standing Seam. For horizontal seams under .540 inches (like the Firestone UC4) the S-5-S or S-5-S Mini can be used to avoid the necessity of crimping the seam.

Its simple design and size make it perfect for use with S-5!® snow retention products and other heavy-duty applications. Installation is as simple as setting the patented round-point setscrews into the clamp, placing the clamp on the seam, and tightening them to the specified tension. Then, affix ancillary items using the bolt provided with the product. Go to www.S-5.com/tools for information and tools available for properly attaching and tensioning S-5! clamps.

S-5-S Mini Clamp

The S-5-S Mini is a bit shorter than the S-5-S and has one setscrew rather than two. The mini is the choice for attaching all kinds of rooftop accessories: signs, walkways, satellite dishes, antennas, rooftop lighting, lightning protection systems, solar arrays, exhaust stack bracing, conduit, condensate lines, mechanical equipment—just about anything!

*S-5! Mini clamps are not compatible with, and should not be used with, S-5! SnowBall™ SnowFence™ or ColorGuard™ snow retention systems.

The right way to attach almost anything to metal roofs!

S-5-S and S-5-S Mini

888-825-3432 | www.S-5.com

The S-5-S clamp was created specifically for popular snap-together profiles.

S-5!® The Right Way!

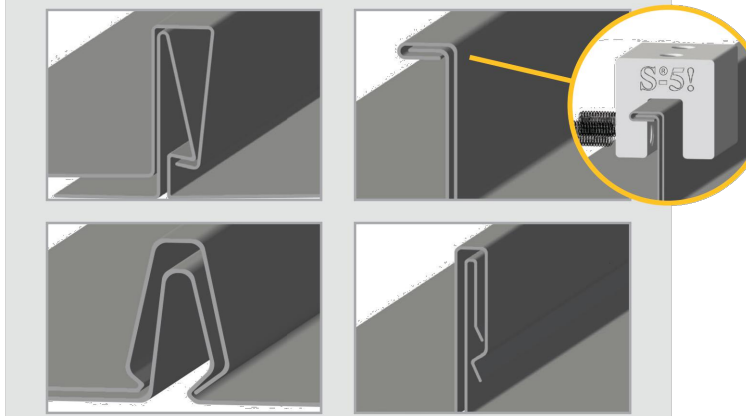
The strength of the S-5-S clamp is in its simple design. The patented setscrews will slightly dimple the metal seam material but not pierce it—leaving roof warranties intact.

The S-5-S and S-5-S Mini clamps are each furnished with the hardware shown to the right. Each box also includes a bit tip for tightening setscrews using an electric screw gun. A structural aluminum attachment clamp, the S-5-S is compatible with most common metal roofing materials excluding copper. All included hardware is stainless steel. Please visit www.S-5.com for more information including CAD details, metallurgical compatibilities and specifications.

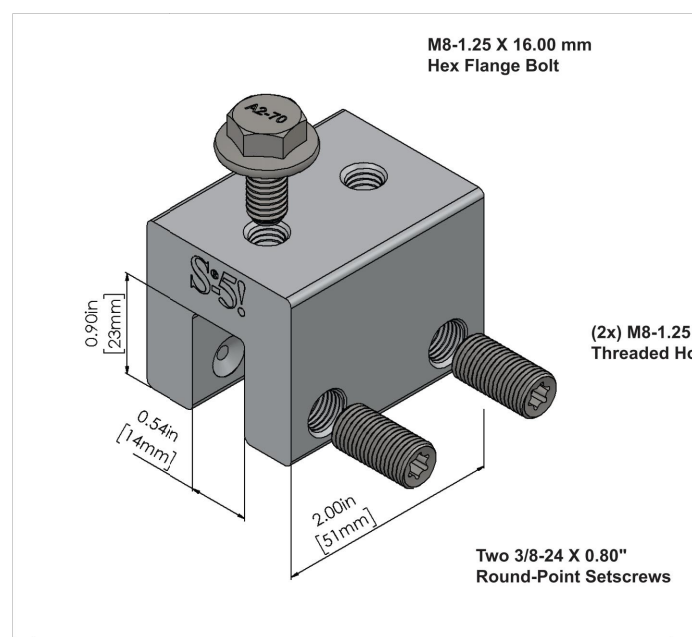
The S-5-S clamp has been tested for load-to-failure results on most major brands and profiles of standing seam roofing. The independent lab test data found at www.S-5.com can be used for load-critical designs and applications. S-5! holding strength is unmatched in the industry. Profiles that are shaped as illustrated below will work with the S-5-S and S-5-S Mini. In order for the S-5-S or S-5-S Mini to fit these types of seams, the finished seam must:

- Be at least 1.00" high.
- Have a height distance less than or equal to 0.25" between the male portion of the panel and female portion of the panel.

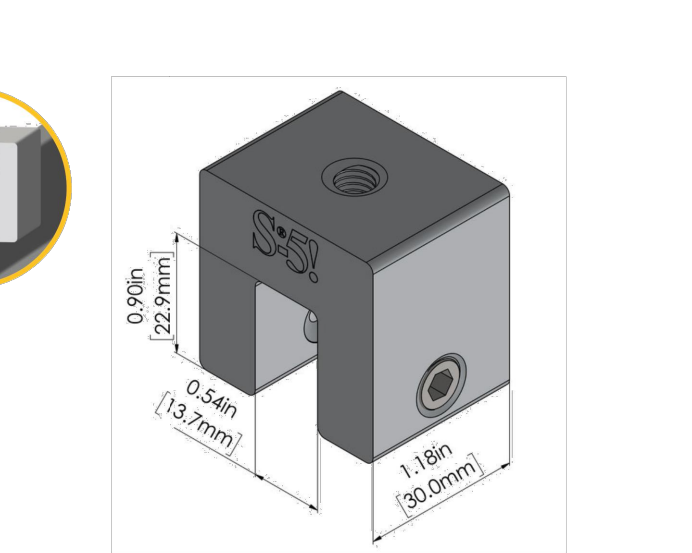
Example Profiles



S-5-S Clamp



S-5-S Mini Clamp



Please note: All measurements are rounded to the second decimal place.

S-5!® Warning! Please use this product responsibly!

Products are protected by multiple U.S. and foreign patents. Visit the website at www.S-5.com for complete information on patents and trademarks. For maximum holding strength, setscrews should be tensioned and re-tensioned as the seam material compresses. Clamp setscrew tension should be verified using a calibrated torque wrench between 150 and 180 inch pounds when used on 20ga steel, and between 130 and 150 inch pounds for all other metals and thinner gauges of steel. Consult the S-5! website at www.S-5.com for published data regarding holding strength.

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Tech Brief

IRONRIDGE

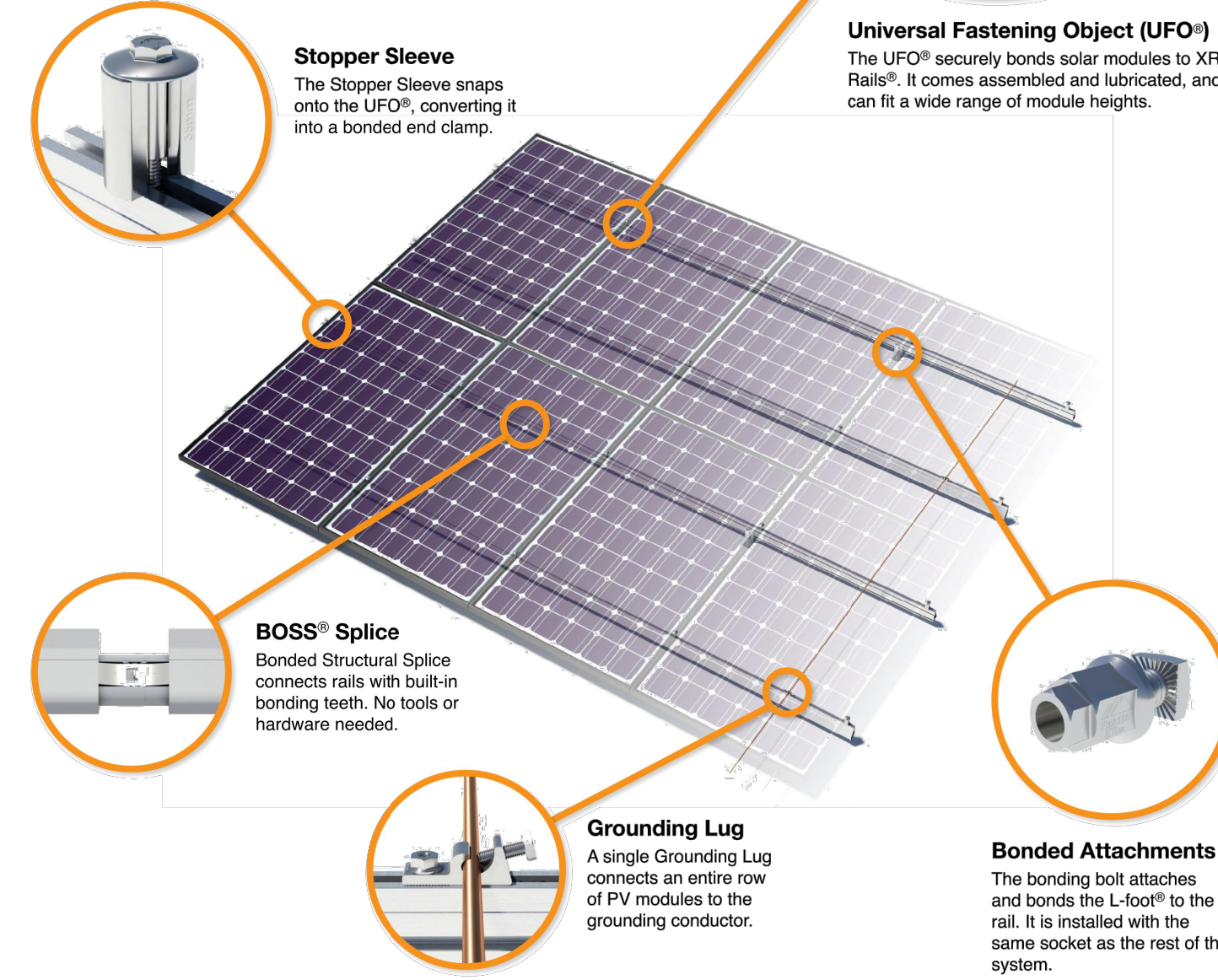
UFO® Family of Components

Simplified Grounding for Every Application

The UFO® family of components eliminates the need for separate grounding hardware by bonding solar modules directly to IronRidge® XR Rails®. All system types that feature the UFO® family—Flush Mount®, Tilt Mount® and Ground Mount®—are fully listed to the UL 2703 standard.

UFO® hardware forms secure electrical bonds with both the module and the rail, resulting in many parallel grounding paths throughout the system. This leads to safer and more reliable installations.

Only for installation and use with IronRidge products in accord with written instructions. See IronRidge.com/UFO



Stopper Sleeve

The Stopper Sleeve snaps onto the UFO®, converting it into a bonded end clamp.

Universal Fastening Object (UFO®)

The UFO® securely bonds solar modules to XR Rails®. It comes assembled and lubricated, and can fit a wide range of module heights.

BOSS® Splice

Bonded Structural Splice connects rails with built-in bonding teeth. No tools or hardware needed.

Grounding Lug

A single Grounding Lug connects an entire row of PV modules to the grounding conductor.

Bonded Attachments

The bonding bolt attaches and bonds the L-foot® to the rail. It is installed with the same socket as the rest of the system.

Tech Brief

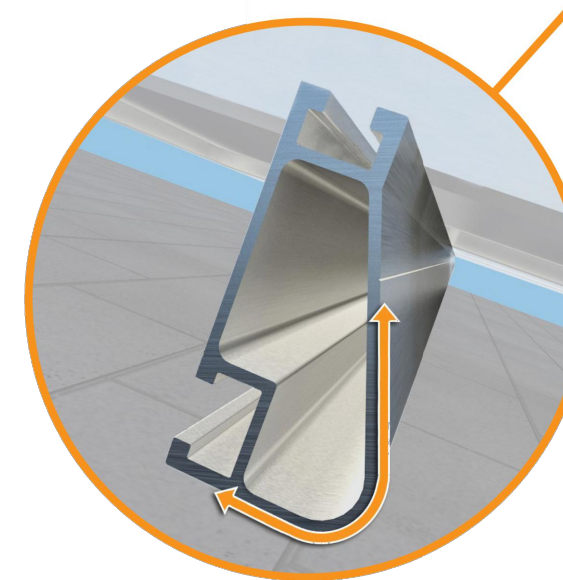
IRONRIDGE

XR Rail® Family

Solar Is Not Always Sunny

Over their lifetime, solar panels experience countless extreme weather events. Not just the worst storms in years, but the worst storms in 40 years. High winds capable of ripping panels from a roof, and snowfalls weighing enough to buckle a panel frame.

XR Rails® are the structural backbone preventing these results. They resist uplift, protect against buckling and safely and efficiently transfer loads into the building structure. Their superior spanning capability requires fewer roof attachments, reducing the number of roof penetrations and the amount of installation time.



Force-Stabilizing Curve

Sloped roofs generate both vertical and lateral forces on mounting rails which can cause them to bend and twist. The curved shape of XR Rails® is specially designed to increase strength in both directions while resisting the twisting. This unique feature ensures greater security during extreme weather and a longer system lifetime.

Compatible with Flat & Pitched Roofs

XR Rails® are compatible with FlashFoot® and other pitched roof attachments.

IronRidge® offers a range of tilt leg options for flat roof mounting applications.

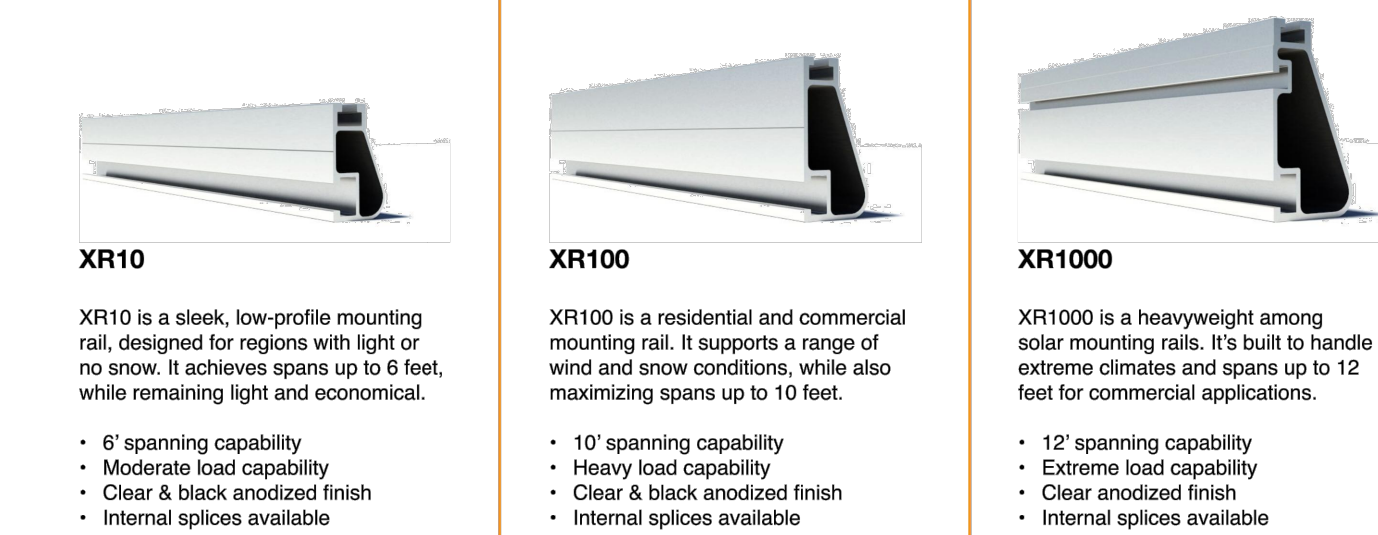
Corrosion-Resistant Materials

All XR Rails® are made of 6000-series aluminum alloy, then protected with an anodized finish. Anodizing prevents surface and structural corrosion, while also providing a more attractive appearance.



XR Rail® Family

The XR Rail® Family offers the strength of a curved rail in three targeted sizes. Each size supports specific design loads, while minimizing material costs. Depending on your location, there is an XR Rail® to match.



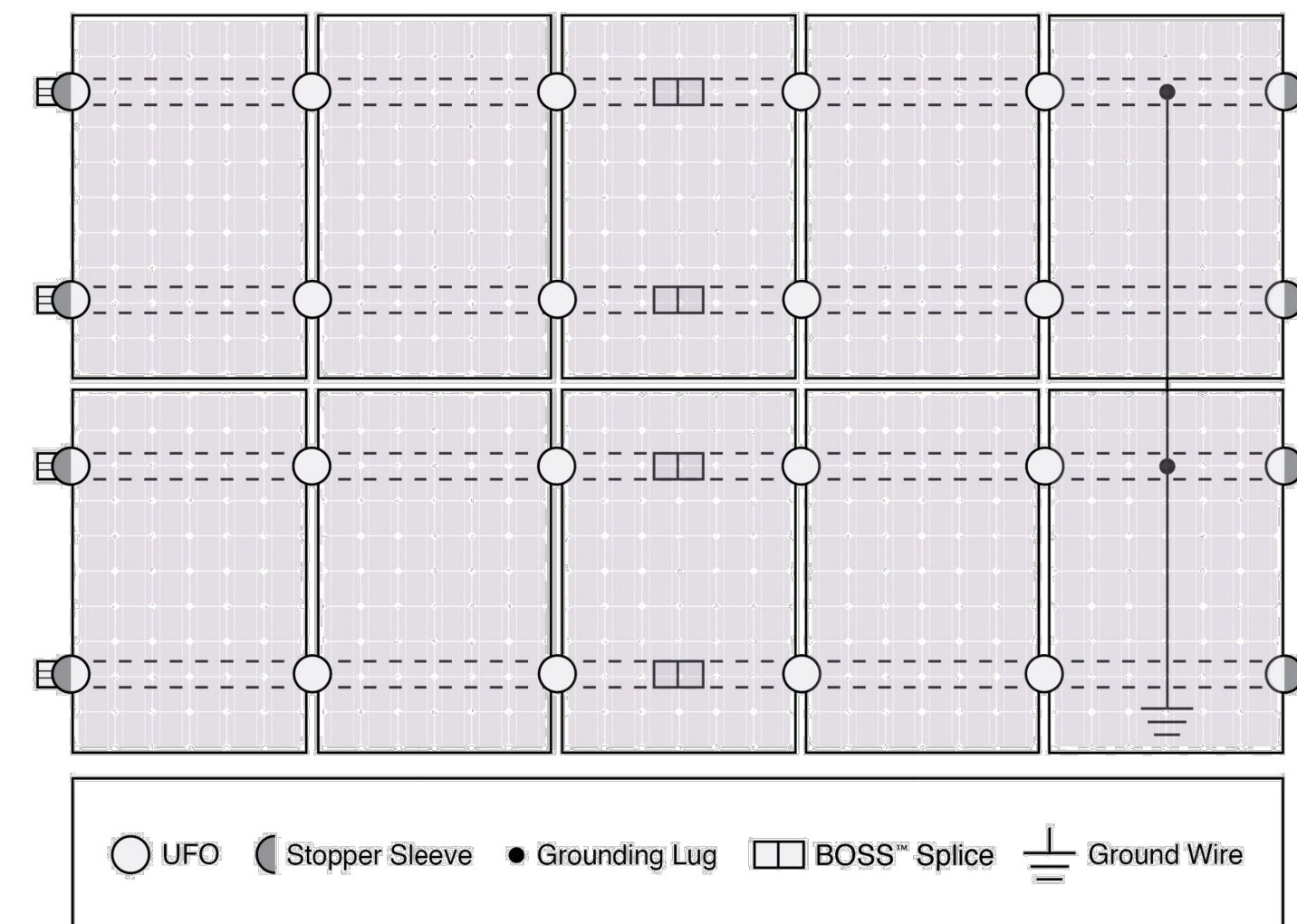
Rail Selection

The table below was prepared in compliance with applicable engineering codes and standards.* Values are based on the following criteria: ASCE 7-16, Gable Roof Flush Mount, Roof Zones 1 & 2e, Exposure B, Roof Slope of 8 to 20 degrees and Mean Building Height of 30 ft. Visit IronRidge.com for detailed certification letters.

Load		Rail Span					
Snow (PSF)	Wind (MPH)	4'	5' 4"	6'	8'	10'	12'
None	90						
	120						
	140	XR10		XR100		XR1000	
20	160						
	90						
	120						
30	140						
	160						
	90						
40	160						
	80						
	120						
80	160						
	120						

*Table is meant to be a simplified span chart for conveying general rail capabilities. Use approved certification letters for actual design guidance.

System Diagram



Approved Enphase microinverters can provide equipment grounding of IronRidge systems, eliminating the need for grounding lugs and field installed equipment ground conductors (EGC). A minimum of two microinverters mounted to the same rail and connected to the same Engage cable is required. Refer to installation manuals for additional details.

UL Certification

The IronRidge® Flush Mount®, Tilt Mount®, and Ground Mount Systems have been listed to UL 2703 by Intertek Group plc.

UL 2703 is the standard for evaluating solar mounting systems. It ensures these devices will maintain strong electrical and mechanical connections over an extended period of time in extreme outdoor environments.

Go to IronRidge.com/UFO

Feature	Cross-System Compatibility		
	Flush Mount	Tilt Mount	Ground Mount
XR Rails®	✓	✓	XR100 & XR1000
UFO®/Stopper	✓	✓	✓
BOSS® Splice	✓	✓	N/A
Grounding Lugs	1 per Row	1 per Row	1 per Array
Microinverters & Power Optimizers	Compatible with most MLPE manufacturers. Refer to system installation manual.		
Fire Rating	Class A	Class A	N/A
Modules	Tested or Evaluated with over 400 Framed Modules. Refer to installation manuals for a detailed list.		



REVISIONS		
DESCRIPTION	DATE	REV
REVISION	09/19/2024	A
REVISION	09/27/2024	B

Signature with Seal

PROJECT NAME & ADDRESS

NFC BUILDING 13 COMMERCIAL
325 TURNER DAVIS DR
MADISON, FL 32340, USA
PH.# : (850) 576-7657
Email ID : CADEN@IGTSOLAR.COM

DATE: 09/27/2024

SHEET NAME EQUIPMENT SPECIFICATION

SHEET SIZE
ARCH FULL BLEED D
24" X 36"

SHEET NUMBER