



PLAN DETAILED REPORT PL-ADR-2025-0118
FOR CITY OF CONCORD

Plan Type:	PLAN - Architectural Design Review	Project:	2025-100 3 Maple St ADR	App Date:	08/08/2025
Work Class:	Architectural Design Review	District:	City of Concord, NH	Exp Date:	NOT AVAILABLE
Status:	Fees Paid	Square Feet:	0.00	Completed:	NOT COMPLETED
Valuation:	\$0.00	Assigned To:	Alec Bass	Approval	
Description:	Installation of 12 solar panels and 12 microinverters on the roof of the building.				Expire Date:

Parcel:	3376	Main	Address:	3 Maple St Concord, NH	Main	Zone:	
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Owner	Applicant/Agent
ARKELL Manzelli	John Keally
Home: 6034969590	Home: 6036323406

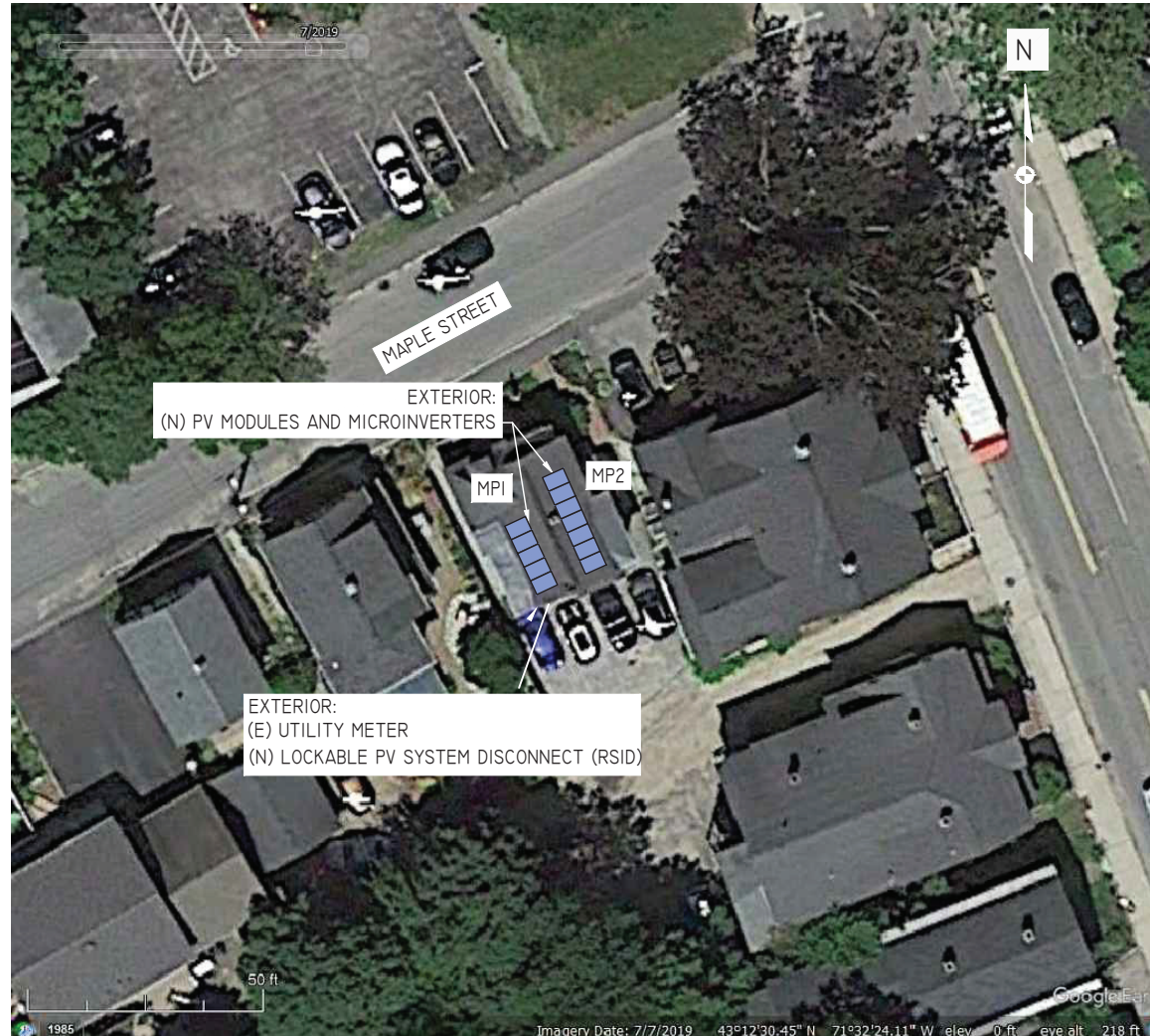
Invoice No.	Fee	Fee Amount	Amount Paid
INV-00015737	PD - Application Fee - \$150	\$150.00	\$150.00
Total for Invoice INV-00015737		\$150.00	\$150.00
Grand Total for Plan		\$150.00	\$150.00

General Notes 8 August, 2025

1. This plan set is for 3 Maple St. tax map 6441Z 39. BCM Environmental is submitting this plan for the approval of the installation of 12 solar panels on the west and east roofs of their building.

2. There will be two arrays labeled on the diagram as MP1 and MP2. MP1 consists of 5 solar panels and measures 5.66 ft wide and 18.58 ft long. MP2 consists of 7 solar panels and measures 5.66 ft wide and 26 ft long. The arrays will be installed flush with the roof surface, adding an additional 7 inches of height to the roof surface.

3. The conduit run for this project will wrap around the southern portion of the roof on MP1 and follow the existing path of the utility service located on the rear of the building. This will minimize the effect to the aesthetics of the building.



SITE PLAN IS NOT TO SCALE

KEY

(E) = EXISTING EQUIPMENT
(N) = NEW EQUIPMENT



7 COMMERCIAL DRIVE
BRENTWOOD, NH 03833
(603)-679-1777

CLIENT:

BCM PROPERTIES, LLC
3 MAPLE ST
CONCORD NH, 03301

SYSTEM TYPE:

5.28KWDC, 4.188KWAC
ROOF-MOUNT GRID TIED
SOLAR PV SYSTEM

FOR CONSTRUCTION

DESIGNED BY: MCF
PRINT SIZE: 11" x 17"
SCALE: NA
DATE: 8/6/2025
DWG TITLE

SITE PLAN

DWG NUMBER

E100

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AUTHORITIES.

MP2 as seen from maple street





MP1 is not clearly visible from
Maple street as shown here.



Conduit will wrap over eave of roof and follow the utility service. We will be installing an exterior disconnect as shown below.

1" metal conduit

240V, 60A exterior
PV system disconnect
NEMA 3R enclosure

PROJECT SUMMARY:

THE PROJECT SCOPE INCLUDES THE DESIGN, SPECIFICATION, PROCUREMENT, INSTALLATION AND COMMISSIONING OF A COMPLETE, TURN-KEY, GRID-TIED PHOTOVOLTAIC ELECTRIC SYSTEM.

MODULE TYPE	(12) SILFAB SIL-440 QD
INVERTER	(12) ENPHASE IQ8AC-72-M-US
OPTIMIZER	N/A
STORAGE SYSTEM	N/A
ARRAY PITCH	36°
ARRAY AZIMUTH	MPI 247°, MP2 67°
RACKING	BLACK IRONRIDGE XRI00 ALUMINUM RAIL
ATTACHMENT	IRONRIDGE HUG WITH SS #14 RD STRUCTURAL SCREW
JOB NUMBER	I2895I.NH.R-I

AUTHORITIES HAVING JURISDICTION:

BUILDING AUTHORITY	CONCORD NH
ELECTRICAL AUTHORITY	CONCORD NH
ZONING/PLANNING AUTHORITY	CONCORD NH
ELECTRICAL UTILITY	UNITIL
APPLICABLE CODES	NEC 2023

DESIGN CRITERIA:

OCCUPANCY	RESIDENTIAL
DESIGN WIND LOAD	112 MPH
RISK CATEGORY	II
GROUND SNOW LOAD	65 PSF
EXPOSURE CATEGORY	B
ROOF HEIGHT	20' ABOVE GRADE TO EAVES
ROOF COMPOSITION	ASPHALT SHINGLE
RAFTER	2X6 TRUE
RAFTER SPACING	24"

SHEET LIST:

G001	TITLE SHEET
E100	SITE PLAN
S100	ROOF MODULE LAYOUT
S200	RAIL CUT SHEET
E200	ONE-LINE DIAGRAM
A200	SAFETY PLAN
E300	STICKER MAP
A201	LABEL SHEET

GENERAL NOTES:

1. ALL WORK SHALL COMPLY WITH LOCAL AND STATE ORDINANCES AND BUILDING CODES.
2. ELECTRICAL INSTALLATION SHALL COMPLY WITH STATE AND LOCALLY ADOPTED ELECTRICAL CODE.
3. ROOFTOP PENETRATIONS SHALL BE SEALED.
4. ALL EQUIPMENT SHALL BE LISTED AND TESTED BY A RECOGNIZED LABORATORY.
5. MODULE CONNECTORS MUST BE MATCHING BRAND AND TYPE OR BE A UL LISTED ASSEMBLY.
6. SYSTEM SHALL CONFORM TO RAPID SHUTDOWN REQUIREMENTS PER NEC 690.
7. CONDUIT RUNS BETWEEN SUB-ARRAYS, COMBINERS, AND DISCONNECTS SHALL BE INSTALLED IN THE MOST DIRECT ROUTE POSSIBLE.
8. ELECTRICAL EQUIPMENT SHALL BE INSTALLED TO MAINTAIN CLEARANCES REQUIRED BY NEC 110.
9. EQUIPMENT SHALL BE LABELED PER NEC REQUIREMENTS.
10. ENSURE INVERTER IS SET TO ISO-NE STANDARDS COMPLIANT WITH ISO-NE DOCUMENT DATED DEC 13, 2022. DEFAULT IEEE 1547-2018 SETTING REQUIREMENTS. BASE VOLTAGE = 120V.



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TITLE SHEET

DWG NUMBER

G001

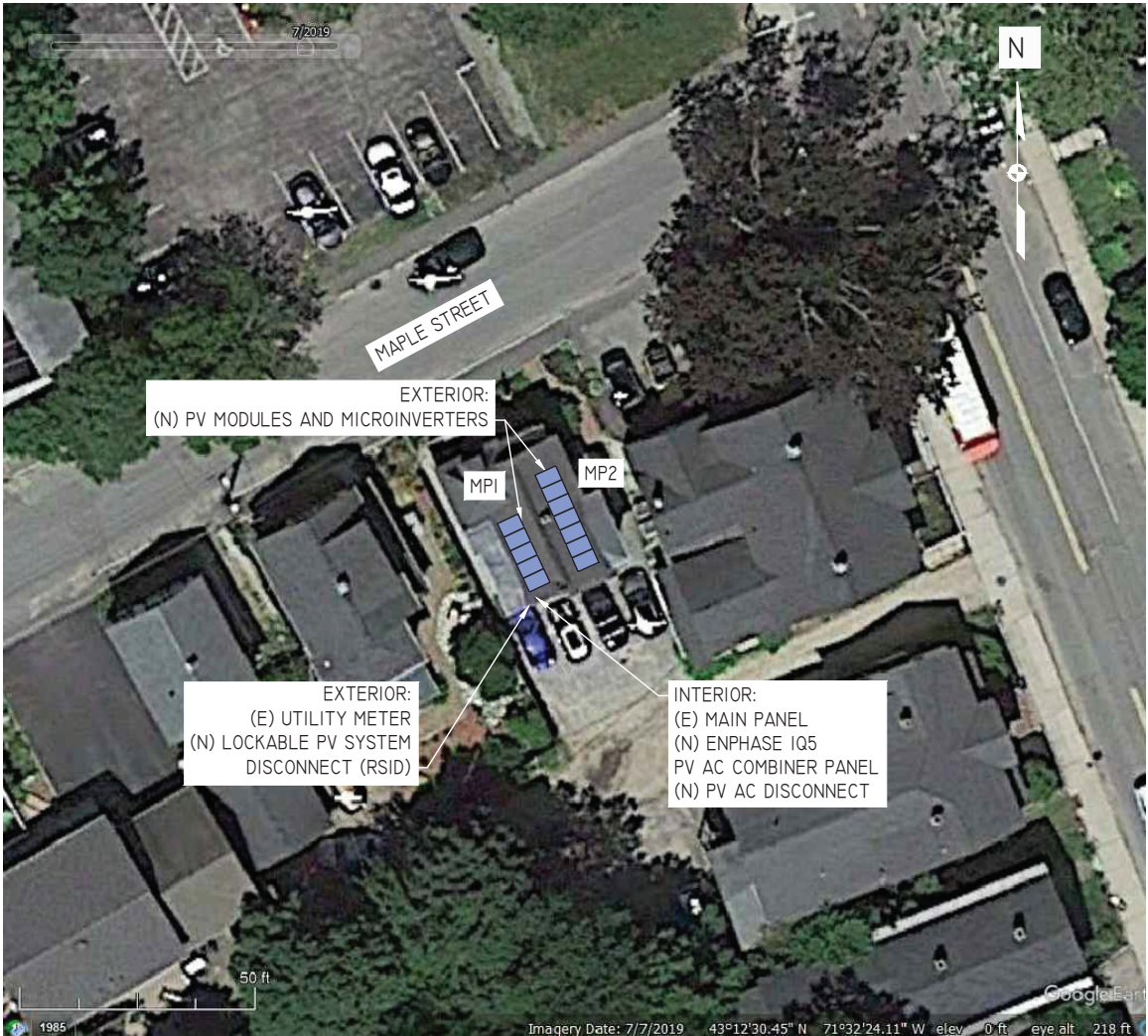
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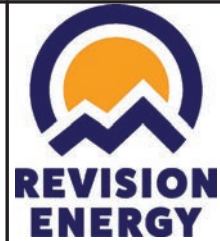
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INVERTER	(12) ENPHASE IQ8AC-72-M-US
OPTIMIZER	N/A
STORAGE SYSTEM	N/A
ARRAY PITCH	36°
ARRAY AZIMUTH	MPI 247°, MP2 67°
RACKING	BLACK IRONRIDGE XRI00 ALUMINUM RAIL
ATTACHMENT	IRONRIDGE HUG WITH SS #14 RD STRUCTURAL SCREW
JOB NUMBER	128951.NH.R-1

DESIGN CRITERIA:

OCCUPANCY	RESIDENTIAL
DESIGN WIND LOAD	112 MPH
RISK CATEGORY	II
GROUND SNOW LOAD	65 PSF
EXPOSURE CATEGORY	B
ROOF HEIGHT	20' ABOVE GRADE TO EAVES
ROOF COMPOSITION	ASPHALT SHINGLE
RAFTER	2X6 TRUE
RAFTER SPACING	24"



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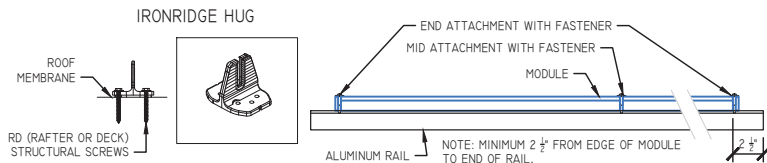
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SITE PLAN

DWG NUMBER
E100

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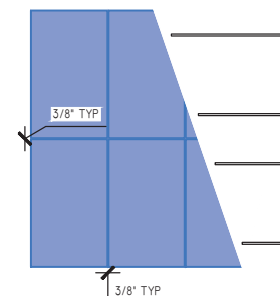


ATTACHMENT NOTES:

1. ONLY APPLICABLE TO ASPHALT SHINGLE ROOFS. ROOF MUST BE DRY AND CLEAR OF ICE, SNOW, AND LOOSE DEBRIS IN ORDER TO INSTALL.
2. MAXIMUM RAIL LENGTH IS 60' BEFORE EXPANSION GAP IS REQUIRED.
3. MAXIMUM RAIL SPAN IS DETERMINED BY IRONRIDGE DESIGN ASSISTANT. DISTANCE WILL VARY BASED ON ROOF SLOPE, SNOW LOAD, WIND SPEED, AND EXPOSURE CATEGORY, AND IF HUG IS ATTACHED AS DECKING VS. RAFTER ATTACHMENT.
4. FOR RAFTER ATTACHMENT, MINIMUM TWO RD STRUCTURAL SCREWS MUST BE EMBEDDED IN RAFTER. FOR DECKING ATTACHMENT, INSTALL ALL SIX RD STRUCTURAL SCREWS.
5. INSTALLATION MINIMUM AMBIENT TEMP = 5° F, MAXIMUM AMBIENT TEMP = 118° F.
6. MAXIMUM RAIL CANTILEVER DISTANCE IS 0.40 X RAIL SPAN.
7. ROOF ATTACHMENTS SHALL BE STAGGERED FOR EVEN DISTRIBUTION OF LOAD ON ROOF RAFTERS.
8. CLEARANCE BETWEEN ROOF AND BOTTOM OF MODULES SHALL BE A MINIMUM OF 4".

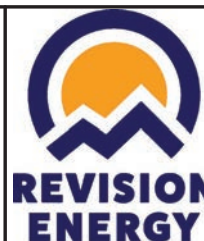
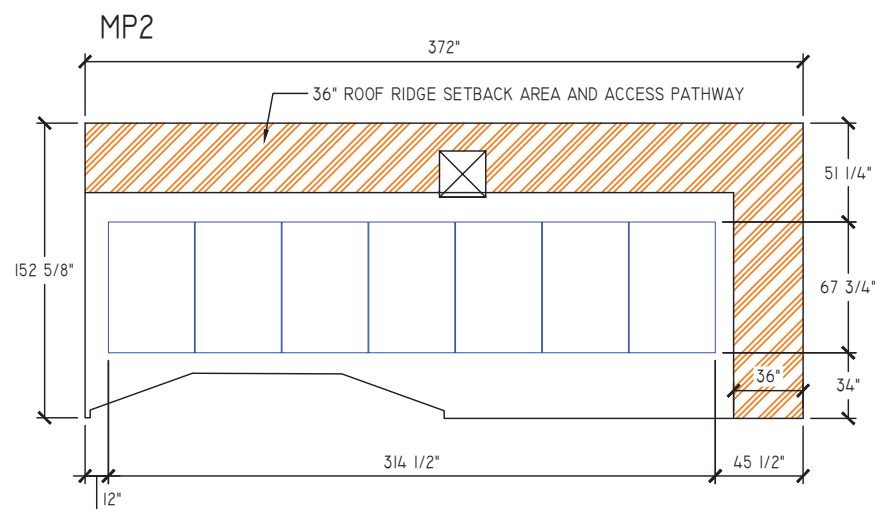
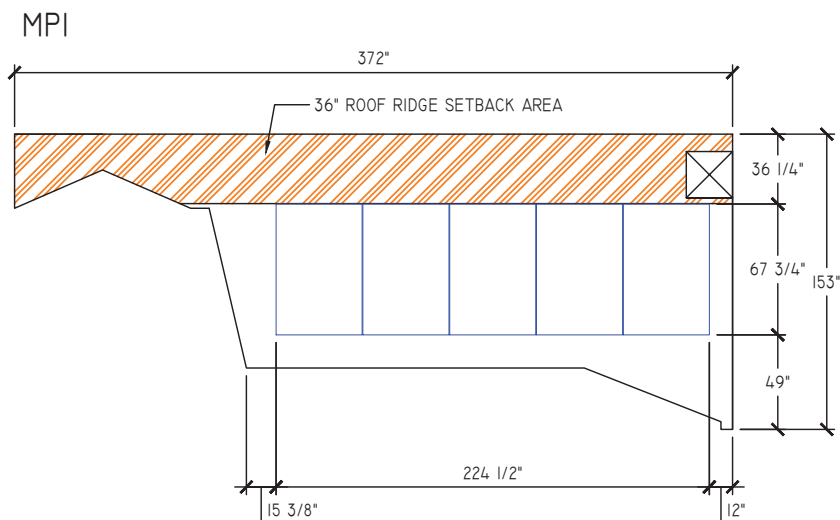
RAFTER ATTACHMENTS - ZONE OR GROUP	ZONE 1	ZONE 2	ZONE 3
PORTRAIT - MAX. RAIL SPAN (IN.)	48.0	48.0	48.0
PORTRAIT - MAX. CANTILEVER (IN.)	19.0	19.0	19.0
LANDSCAPE - MAX. RAIL SPAN (IN.)	0.0	0.0	0.0
LANDSCAPE - MAX CANTILEVER (IN.)	0.0	0.0	0.0

DECKING ATTACHMENTS - ZONE OR GROUP	ZONE 1	ZONE 2	ZONE 3
PORTRAIT - MAX. RAIL SPAN (IN.)	28.0	28.0	28.0
PORTRAIT - MAX. CANTILEVER (IN.)	19.0	19.0	19.0
LANDSCAPE - MAX. RAIL SPAN (IN.)	0.0	0.0	0.0
LANDSCAPE - MAX CANTILEVER (IN.)	0.0	0.0	0.0



A
N.T.S.

ROOF ATTACHMENT AND SPACING DETAILS



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ROOF-MOUNT GRID TIED
SOLAR PV SYSTEM

FOR CONSTRUCTION

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DWG TITLE

ROOF MODULE LAYOUT

DWG NUMBER

S100

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SUMMARY			
TYPE	PRODUCT	DIMENSIONS	QUANTITY
MODULE:	SILFAB SIL-440 QD	44.61IN X 67.76IN X MM	12
RAIL:	IRON RIDGE XRI00 - 17"	204 IN	(2) FULL (6) CUT
FASTENERS:	IRON RIDGE UFO	0.375 IN	28 MIN

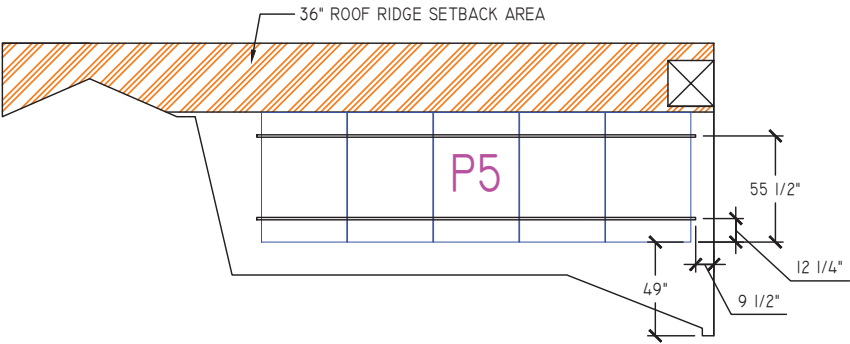
INVERTER	WATTS / STRING	MAX MODS PER STRING
ENPHASE IQ8AC-72-M-US	N/A	11

RAIL LENGTH									
RAIL SECTION TAG	NUMBER OF RAIL SECTIONS	QTY OF PANELS IN SECTION	RAFTER SPACING (INCH)	MODULE ORIENTATION	RAIL ORIENTATION	RAIL LENGTH (IN)	FULL STICKS	CUT PIECE (IN)	
P5	2	5	24"	PORTRAIT	HORIZONTAL	229 1/2	0	(2)	114 3/4
P7	2	7	24"	PORTRAIT	HORIZONTAL	319 1/2	1	(1)	115 1/2

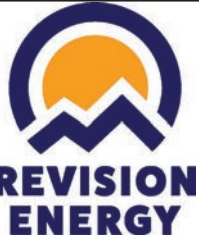
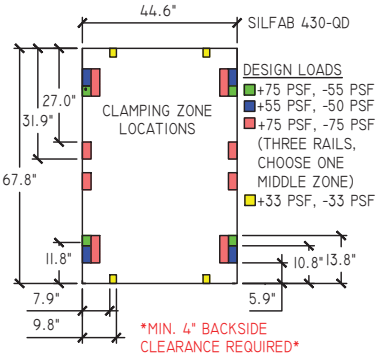
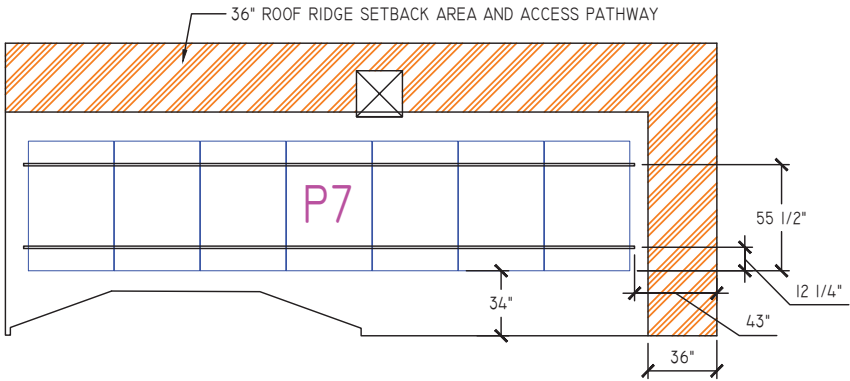
SPLICE KIT COUNT
4 MIN

CUT LIST	
RAIL LENGTH (IN)	QTY
FULL (17')	2
114 3/4	4
115 1/2	2

MPI



MP2



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3 MAPLE ST
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SOLAR PV SYSTEM

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RAIL CUT SHEET

DWG NUMBER
S200

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MODULE SPECIFICATIONS			
SILFAB SIL-440 QD QTY 12			
STC RATING	440	W	
VMP	33.41	V	
IMP	13.17	A	
Voc	38.97	V	
Isc	14.22	A	
TEMP COEFF. Voc	-0.24	%/°C	

GRID TIED INVERTER SPECIFICATIONS			
ENPHASE IQ8AC-72-M-US QTY 12			
NOMINAL AC RATING (WATTS)	349	W	
NOMINAL Vac	240	V	
MAX Iac	1.45	A	
CEC EFFICIENCY	97	%	

STICKER CALCULATIONS			
MAXIMUM DC VOLTAGE	N/A	V	
RATED AC OUTPUT CURRENT	17.4	A	
NOMINAL OPERATING AC VOLTAGE	240	V	

MONITORING	
HOME ROUTER	

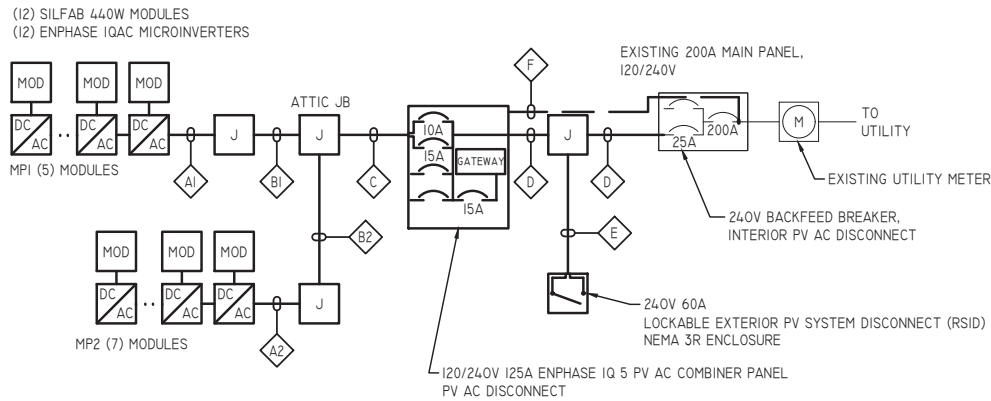
SYMBOLS:

	PV MODULE
	MODULE LEVEL POWER ELECTRONIC / OPTIMIZER
	DC COMBINER AND DC DISCONNECT
	PV DC TO AC INVERTER
	FUSED DISCONNECT SWITCH

	NON-FUSED DISCONNECT SWITCH
	ENCLOSED CIRCUIT BREAKER
	POWER METER

REVISION ENERGY LEAD ELECTRICIAN - AS-BUILT ATTESTATION	
ELECTRICIAN SIGNATURE	
DATE SIGNED	

WIRING SCHEDULE								
TAG	FROM / TO	CONDUCTORS	WIRE TYPE	LENGTH (FT)	AS BUILT LENGTH (FT)	VOLTAGE DROP	CONDUIT	CONDUIT FILL
A1	MPI PV ARRAY / ROOF JUNCTION BOX	L:(2) #12 G:(1) #6	Q-CABLE, PORT	20		0.15%		
B1	ROOF JUNCTION BOX / ATTIC JUNCTION BOX	L:(2) #10 G:(1) #10	THWN-2 600V Cu	25		0.18%	3/4" EMT	12%
A2	MP2 PV ARRAY / ROOF JUNCTION BOX	L:(2) #12 G:(1) #6	Q-CABLE, PORT	30		0.00%		
B2	ROOF JUNCTION BOX / ATTIC JUNCTION BOX	L:(2) #10 G:(1) #10	THWN-2 600V Cu	25		0.25%	3/4" EMT	12%
C	ATTIC JUNCTION BOX / ENPHASE IQ 5 COMBINER PANEL	L:(4) #10 N:(1) #10 G:(1) #10	THWN-2 600V Cu	60		0.61%	3/4" EMT	24%
D	ENPHASE IQ 5 COMBINER PANEL / INTERCONNECTION	L:(2) #10 N:(1) #10 G:(1) #10	THWN-2 600V Cu	10		0.17%	3/4" EMT	16%
E	JUNCTION BOX / EXTERIOR PV SYSTEM DISCONNECT (RSID)/ JUNCTION BOX	L:(4) #10 N:(2) #10 G:(1) #10	THWN-2 600V Cu	30		0.52%	3/4" EMT	28%
F	ENPHASE IQ 5 COMBINER PANEL / INTERCONNECTION	L:(2)	CAT 5E	15		0.00%		



LINE TYPES:

	EXISTING
	NEW

DESIGN NOTES:

- ALL CONDUCTORS SHALL BE COPPER UNLESS NOTED OTHERWISE.
- SYSTEM VOLTAGE DROP SHALL NOT EXCEED 5%.
- LOWEST EXPECTED AMBIENT TEMPERATURE IS BASED ON ASHRAE EXTREME MIN FOR THE SPECIFIED LOCATION.
- AVERAGE HIGH TEMPERATURE IS BASED ON ASHRAE 2% AVG. FOR THE SPECIFIED LOCATION.



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ROOF-MOUNT GRID TIED
SOLAR PV SYSTEM

FOR CONSTRUCTION

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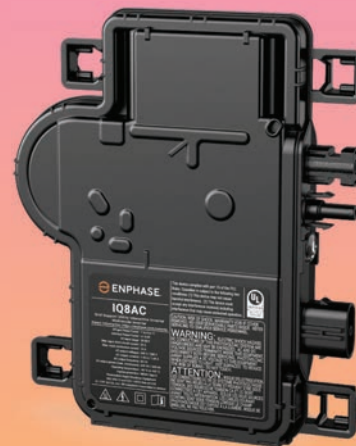
ONE LINE DIAGRAM

DWG NUMBER	E200
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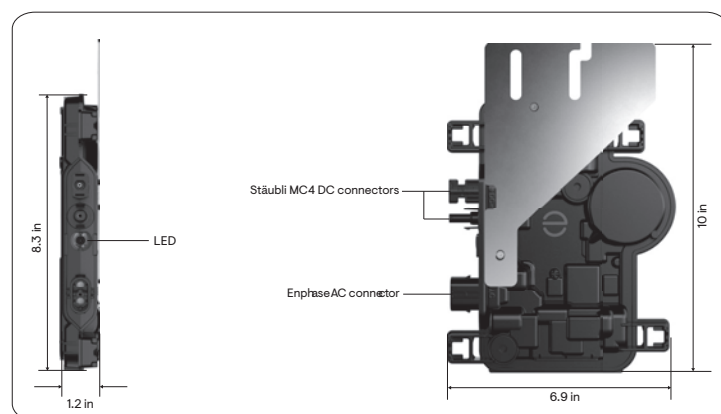
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IQ8AC Microinverter

Our newest IQ8 Series Microinverters^{1,2,3} are the industry's first microgrid-forming⁴, software-defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently.



Key specifications	IQ8AC-72-M-US @240 VAC	IQ8AC-72-M-US @208 VAC
Peak output power	366 VA	350 VA
Nominal grid voltage (L-L)	240 V split-phase (L-L), 180°	208 V single-phase (L-L), 120°
Nominal frequency	60 Hz	60 Hz
CEC weighted efficiency	97.0%	96.5%
Maximum input DC voltage	60 V	60 V
MPPT voltage range	28–45 V	28–45 V
Maximum module I_{sc}	20 A	20 A
Ambient temperature range	–40°C to 65°C (–40°F to 149°F)	



Simple

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

Reliable

- Produces power even when the grid is down⁴
- More than one million cumulative hours of testing
- Industry-leading limited warranty of up to 25 years
- 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) and IEEE 1547:2018 (UL 1741-SB 3rd Ed.)

¹ IQ8 Series Microinverters can be added to existing IQ7 systems on the same IQ Gateway only in the following grid-tied configurations: Solar Only or Solar + Battery (IQ Battery 3T/10T and IQ Battery 5P) without backup.

² IQ7 Series Microinverters cannot be added to a site with existing IQ8 Series Microinverters on the same gateway. Mixed system of IQ7 and IQ8 will not support IQ8-specific PCS features and grid-forming capabilities.

³ IQ Microinverters ship with default settings that meet North America's IEEE 1547 interconnection standard requirements. Region-specific adjustments may be requested by an Authority Having Jurisdiction (AHJ) or utility representative, according to the IEEE 1547 interconnection standard. Use an IQ Gateway to make these changes during installation.

⁴ Meets UL 1741 only when installed with IQ System Controller 2 or 3.

Input data (DC)	Units	IQ8AC-72-M-US	
Commonly used module pairings ⁵	W	295–500	
Module compatibility	—	To meet compatibility, PV modules must be within the following maximum input DC voltage and maximum module I_{sc} . Module compatibility can be checked at https://enphase.com/installers/microinverters/calculator .	
MPPT voltage range	V	28–45	
Operating range	V	18–58	
Minimum/Maximum start voltage	V	22/58	
Maximum input DC voltage	V	60	
Maximum continuous input DC current	A	14	
Maximum input DC short-circuit current	A	25	
Maximum module I_{sc}	A	20	
Overvoltage class DC port	—	II	
DC port backfeed current	mA	0	
PV array configuration	—	Ungrounded array; no additional DC side protection required; AC side protection requires a maximum of 20 A per branch circuit	
Output data (AC)	Units	IQ8AC-72-M-US @240 VAC	IQ8AC-72-M-US @208 VAC
Peak output power	VA	366	350
Maximum continuous output power	VA	349	345
Nominal grid voltage (L-L)	V	240, split-phase (L-L), 180°	208, single-phase (L-L), 120°
Minimum and maximum grid voltage ⁶	V	211–264	183–229
Maximum continuous output current	A	1.45	1.66
Nominal frequency	Hz	60	
Extended frequency range	Hz	47–68	
AC short-circuit fault current over three cycles	A _{rms}	2.70	
Maximum units per 20 A (L-L) branch circuit ⁷	—	11	9
Total harmonic distortion	%	<5	
Overvoltage class AC port	—	III	
AC port backfeed current	mA	18	
Power factor setting	—	1.0	
Grid-tied power factor (adjustable)	—	0.85 leading ... 0.85 lagging	
Peak efficiency	%	97.3	97.2
CEC weighted efficiency	%	97.0	96.5
Nighttime power consumption	mW	30	22
Mechanical data		IQ8AC-72-M-US	
Ambient temperature range		–40°C to 65°C (–40°F to 149°F)	
Relative humidity range		4% to 100% (condensing)	
DC connector type		Stäubli MC4	

⁵ No enforced DC/AC ratio.

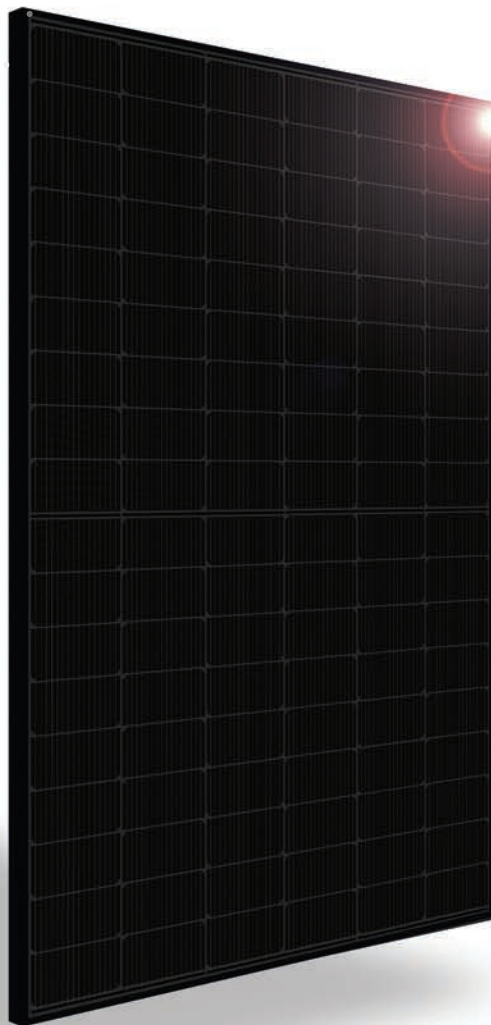
⁶ Nominal voltage range can be extended beyond nominal if required by the utility.

⁷ Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

SILFAB
PRIME **NTC**

SIL-440 QD

SILFAB
SOLAR®



NEXT-GENERATION N-TYPE CELL TECHNOLOGY

- Improved Shade Tolerance
- Improved Low-Light Performance
- Increased Performance in High Temperatures
- Enhanced Durability
- Reduced Degradation Rate
- 25-Year Product Warranty/
30-Year Performance Warranty



SILFABSOLAR.COM



ELECTRICAL SPECIFICATIONS		440	
Test Conditions		STC	NOCT
Module Power (Pmax)	Wp	440	328.0
Maximum power voltage (Vpmax)	V	33.41	31.17
Maximum power current (Ipmax)	A	13.17	10.52
Open circuit voltage (Voc)	V	38.97	36.64
Short circuit current (Isc)	A	14.22	11.44
Module efficiency	%	22.6%	
Maximum system voltage (VDC)	V	1000	
Series fuse rating	A	25	
Power Tolerance	Wp	0 to +10	

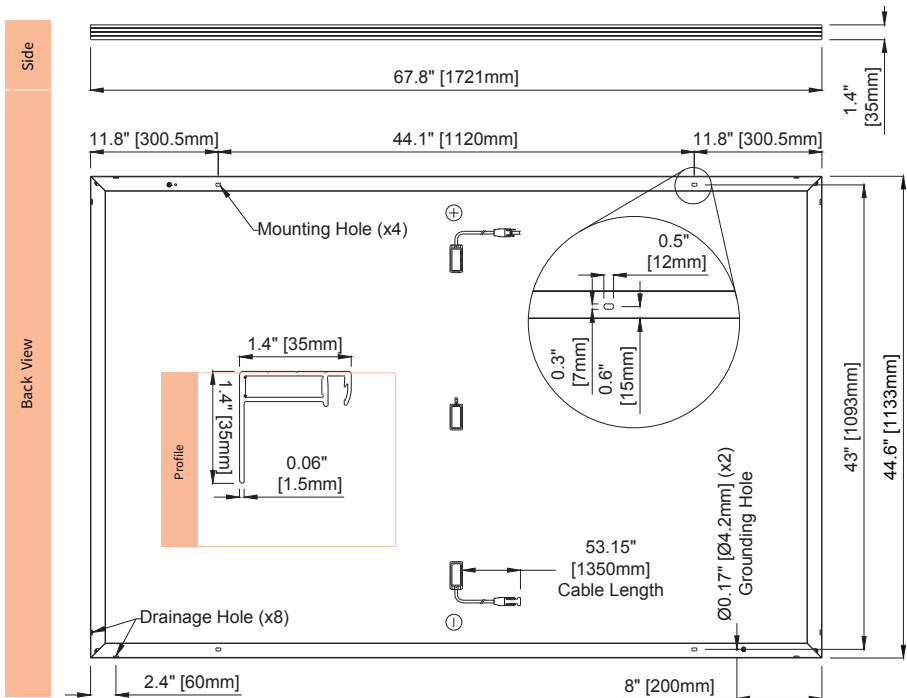
Measurement conditions: STC 1000 W/m² • AM 1.5 • Temperature 25 °C • NOCT 800 W/m² • AM 1.5 • Measurement uncertainty ≤ 3%
Sun simulator calibration reference modules from Fraunhofer Institute. Electrical characteristics may vary by ±5% and power by 0 to +10 W.

MECHANICAL PROPERTIES / COMPONENTS	METRIC	IMPERIAL
Module weight	21 kg ± 0.2 kg	46.3 lbs ± 0.4 lbs
Dimensions (H x L x D)	1721 mm x 1133 mm x 35 mm	67.8 in x 44.6 in x 1.37 in
Maximum surface load (wind/snow)*	4000 Pa rear load / 5400 Pa front load	83.5 lb/ft² rear load / 112.8 lb/ft² front load
Hail impact resistance	ø 25 mm at 83 km/h	ø 1 in at 51.6 mph
Cells	108 Half cells - N-Type Silicon solar cell 182 mm x 91 mm	108 Half cells - N-Type Silicon solar cell 7.16 in x 3.58 in
Glass	3.2 mm high transmittance, tempered, antireflective coating	0.126 in high transmittance, tempered, antireflective coating
Cables and connectors (refer to installation manual)	1350 mm, ø 5.7 mm, MC4 from Staubli	53.1 in, ø 0.22 in (12 AWG), MC4 from Staubli
Backsheet	High durability, superior hydrolysis and UV resistance, multi-layer dielectric film, fluorine-free PV backsheet	
Frame	Anodized aluminum (Black)	
Junction Box	UL 3730 Certified, IEC 62790 Certified, IP68 rated, 3 diodes	

TEMPERATURE RATINGS		WARRANTIES	
Temperature Coefficient Isc	0.04 %/°C	Module product workmanship warranty	25 years**
Temperature Coefficient Voc	-0.24 %/°C	Linear power performance guarantee	30 years
Temperature Coefficient Pmax	-0.29 %/°C		≥ 98% end 1st yr
NOCT (± 2 °C)	45 °C		≥ 94.7% end 12th yr
Operating temperature	-40/+85 °C		≥ 90.8% end 25th yr ≥ 89.3% end 30th yr

CERTIFICATIONS		SHIPPING SPECS	
Product	UL 61215, UL 61730, CSA C22.2#61730, IEC 61215, IEC 61730, IEC 61701 (Salt Mist Corrosion), IEC 62716 (Ammonia Corrosion), CEC Listed, UL Fire Rating: Type 2	Modules Per Pallet:	26 or 26 (California)
		Pallets Per Truck	32 or 30 (California)
Factory	ISO9001:2015	Modules Per Truck	832 or 780 (California)

* ⚠ Warning. Read the Safety and Installation Manual for mounting specifications and before handling, installing and operating modules.
** 12 year extendable to 25 years subject to registration and conditions outlined under "Warranty" at silfabsolar.com.
PAN files generated from 3rd party performance data are available for download at: silfabsolar.com/downloads.



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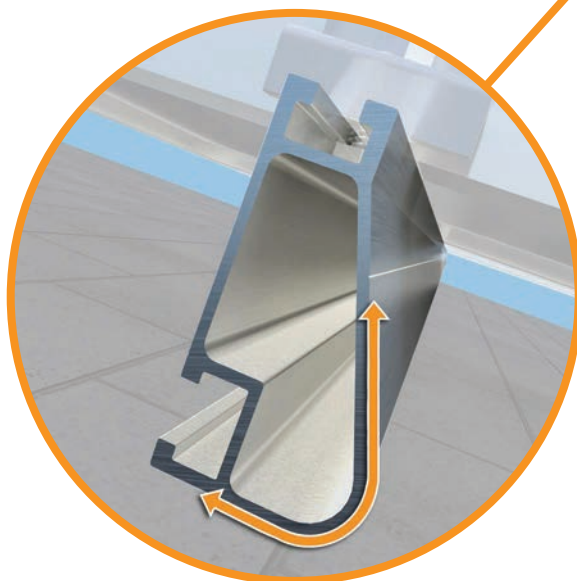
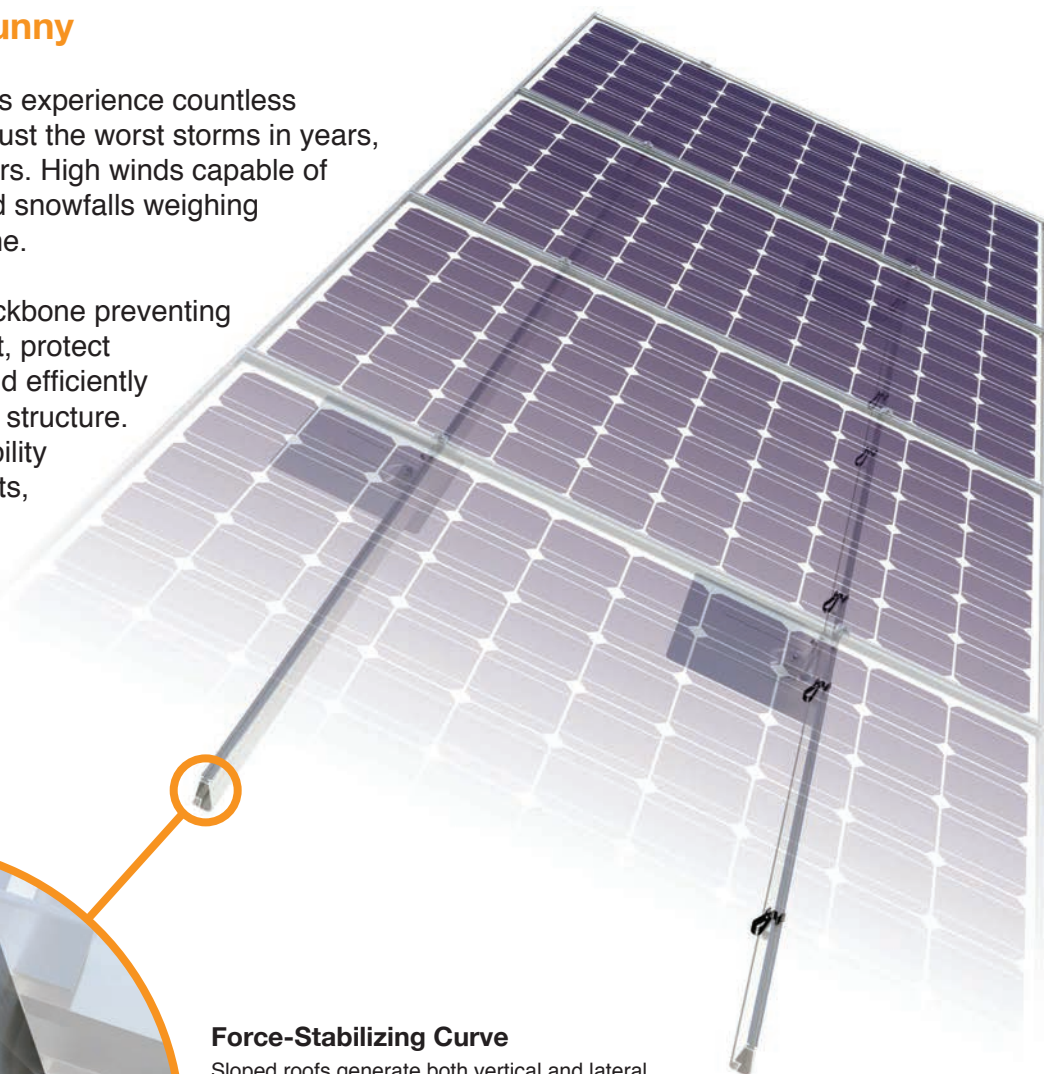
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Solar Is Not Always Sunny

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



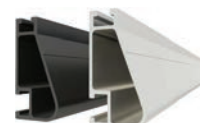
XR Rails are compatible with FlashFoot and other pitched roof attachments.



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

Corrosion-Resistant Materials

All XR Rails are made of marine-grade 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.



XR10

XR10 is a sleek, low-profile mounting rail, designed for regions with light or no snow. It achieves 6 foot spans, while remaining light and economical.

- 6' spanning capability
- Moderate load capability
- Clear anodized finish
- Internal splices available



XR100

XR100 is the ultimate residential mounting rail. It supports a range of wind and snow conditions, while also maximizing spans up to 8 feet.

- 8' spanning capability
- Heavy load capability
- Clear & black anodized finish
- Internal splices available



XR1000

XR1000 is a heavyweight among solar mounting rails. It's built to handle extreme climates and spans 12 feet or more for commercial applications.

- 12' spanning capability
- Extreme load capability
- Clear anodized finish
- Internal splices available

Rail Selection

The following table was prepared in compliance with applicable engineering codes and standards. Values are based on the following criteria: ASCE 7-10, Roof Zone 1, Exposure B, Roof Slope of 7 to 27 degrees and Mean Building Height of 30 ft. Visit IronRidge.com for detailed span tables and certifications.

Load		Rail Span					
Snow (PSF)	Wind (MPH)	4'	5' 4"	6'	8'	10'	12'
None	100	XR10			XR100	XR1000	
	120						
	140						
	160						
10-20	100	XR10	XR100		XR1000		
	120						
	140						
	160						
30	100	XR10	XR100				
	160						
40	100	XR10		XR100			
	160						
50-70	160	XR10	XR100				
80-90	160	XR10					