

For office use:
Application No. _____

Land Use Application

Applicant(s) Pro-Stat Services LLC

Mailing Address: 1721 NE 64th Ave #120
Vancouver, WA 98661

Phone: 360-859-3749, 503-593-5210

Email aaronpnwsolar@gmail.com

Property Owner(s) William Osborne, Cheryl Graham

Mailing Address: 106 River View Drive
Lyle, WA 98635

Phone: 253-219-5327, 253-212-6133

Email billophoto@aol.com, nwthings13@gmail.com

Street Address 106 River View Drive
of Parcel Lyle, WA 98635

Township, Range, Section, Qtr. Section 2N, 13 East, 17 NE corner

Tax Lot Number(s) 02131720120200

Parcel Size approx 1.69 acres or 73476 sqft

Summary of Proposal Roof top solar system

Existing Use of Parcel Residential

Existing Buildings and Structures: Please provide the following information for each building and structure on the parcel.

Building or Structure (do not include fences or roads)	Size (square feet)	Height (measure from lowest point)	Length and Width	Year Built (if known)
Home	4420	16ft		2013

Detailed Project Description: Please describe all proposed development and use of the development, including size, height, exterior colors, construction materials of proposed structures (including access roads), areas of ground disturbance, landscaping details, and structures that you propose to remove. Please describe all aspects of your project in this description or the public notice and final decision may not include an element of your development, which could require a new notice and decision. You may attach additional pages if necessary.

Rooftop solar PV array on the south facing lower roof, parallel with the roof surface. The solar array is approx 511 sqft. Color of the solar panels and all racking components are flat black on flat black. The glass surface of the solar panels have an anti-reflective coating. No exposed electrical conduit will be visible on the roof. Any exterior mounted electrical conduit will be tucked under the roof eaves and can be painted to match the exterior paint color of the home. There will be no disturbance of the ground or any landscaping details. Due to existing screening trees (arborvitae) on the east side of the home the window of visibility from SR14 is extremely short and will disappear completely as the screening trees grow taller.

Adjacent Uses: Please briefly describe the use of parcels that adjoin your parcel, including use, number and types of buildings, approximately distance from the property lines, and access roads.

Residential homes along River View Dr.
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Signatures and Authorization to Access the Property: The property owner and holders of easements and partial interests indicate that they are aware that this application is being made on the subject property and the property owner authorizes the Gorge Commission and the Commission's designees reasonable access to the site to evaluate the application. Property owners and easement or partial interest holders may sign copies of this signature page.

Applicant(s) signature:	Aaron Martin	Date
	<i>Aaron Martin</i>	Oct 30, 2023

Property owner(s) signature:	William Osborne	Date
	<i>W Osborne</i> <small>Bill Osborne (Oct 30, 2023 16:12 PDT)</small>	Oct 30, 2023

Easement and Partial Interest(s) signature:	Date

Key Viewing Areas

Key viewing areas are important public viewpoints and areas that afford opportunities to view the Gorge scenery (350-082-0070(108)).

Please check which of the following key viewing areas that can be seen from your proposed development site, even if the building site is blocked by trees. You do not need to check key viewing areas that are blocked by topography.

- Historic Columbia River Highway
- Old Highway 8
- Highway I-84
- Washington State Route 14
- Washington State Route 141
- Washington State Route 142
- Panorama Point Park
- Columbia River
- Rowena Plateau and Nature Conservancy Viewpoint
- Cook-Underwood Road

If your project could be visible from one or more key viewing areas, then you must submit elevation drawings and landscaping details.

Elevation drawings must show the sides of proposed buildings that could be visible from key viewing areas, must be drawn to scale, and must include the following:

- Geometrical exterior of the length and width of structures as seen from a horizontal view.
- Sizes and dimensions of windows, doors, and covered openings;
- Natural grade
- Finished grade

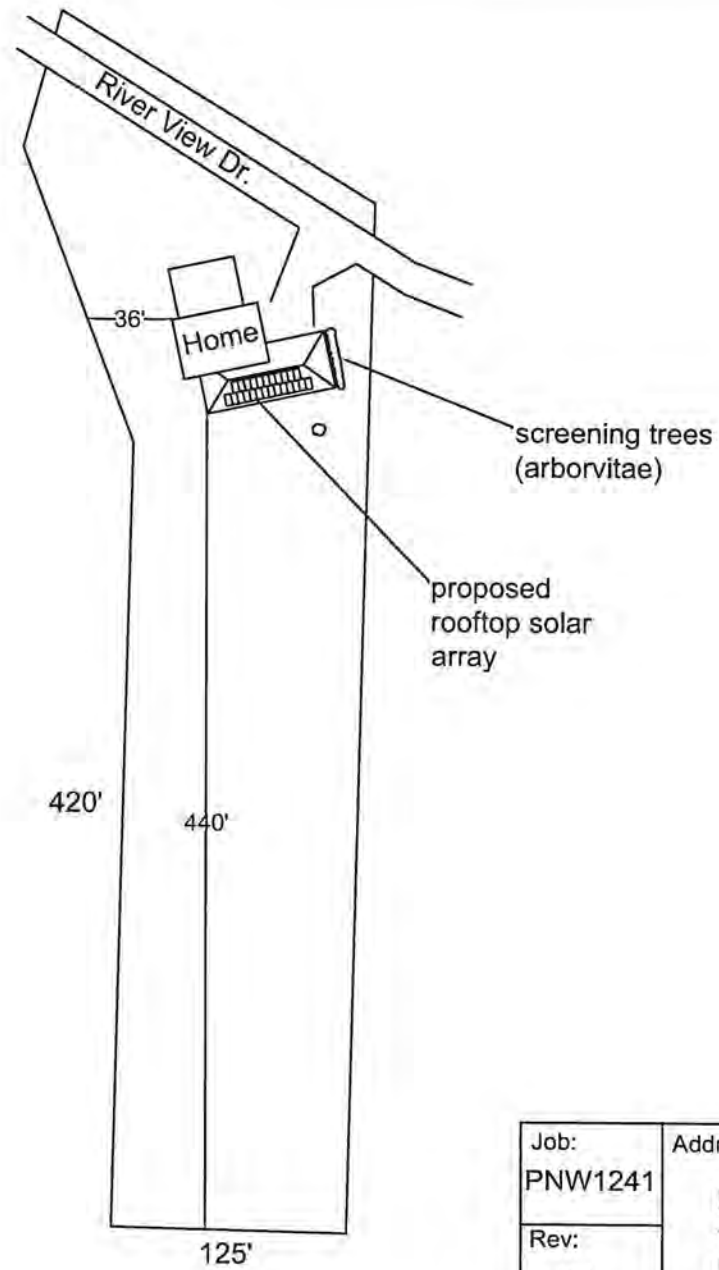
Landscape details must show how you propose to screen your project from key viewing areas and must include the following:

- Location of plants used
- Number of plants
- Size of plants
- Type of plants
- Irrigation provisions or other measures to ensure the survival of landscaping planted for screening purposes
- Location of existing and proposed topographical features, such as berms, that would screen your project.

Adjacent Property Owners

Township, Range, Section, Tax Lot Number	Name and Address (and e-mail if possible)
02131762000300	Lesley Lamb 1220 Columbia St., Hood River, OR 97031
02131662000200	Ralph Gutierrez 101 River View Dr., Lyle, WA 98635
02131662000100	Franklin Coale 100 River View Dr., Lyle, WA 98635
02131762001200	Fredrick Miller 104 River View Dr., Lyle, WA 98635
02131623000100	Robert Hogfoss 8132 Hwy 14, Lyle, WA 98635
02131720120100	G. Rockwell 112 River View Dr., Lyle, WA 98635
02131762000900	Elliot Solway Trustee 22 Trillium Trail, Underwood, WA 98651

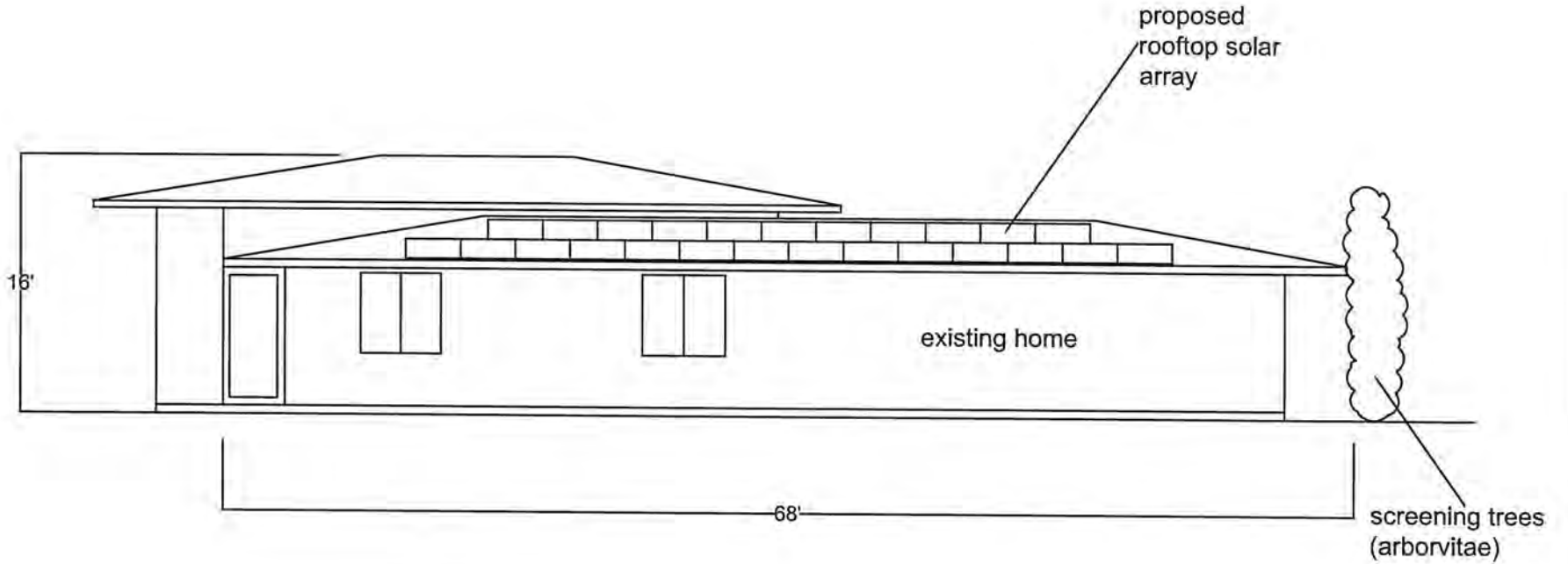
For CRGC
Plot



Scale
1" = 100'

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Rev: AM	
PROSTAT ELECTRIC & SOLAR	

For CRGC
South Elevation



Scale
1" = 10'

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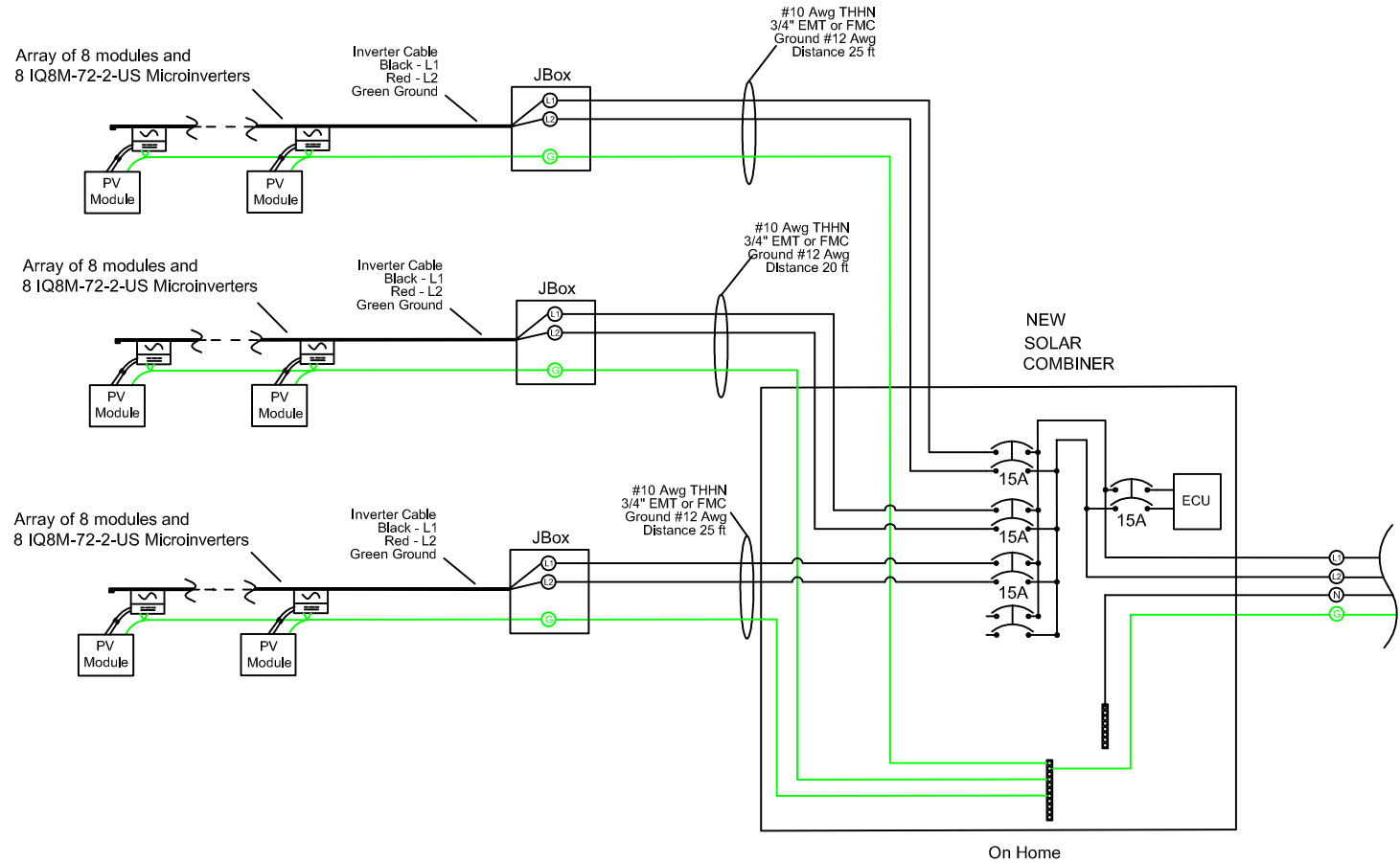
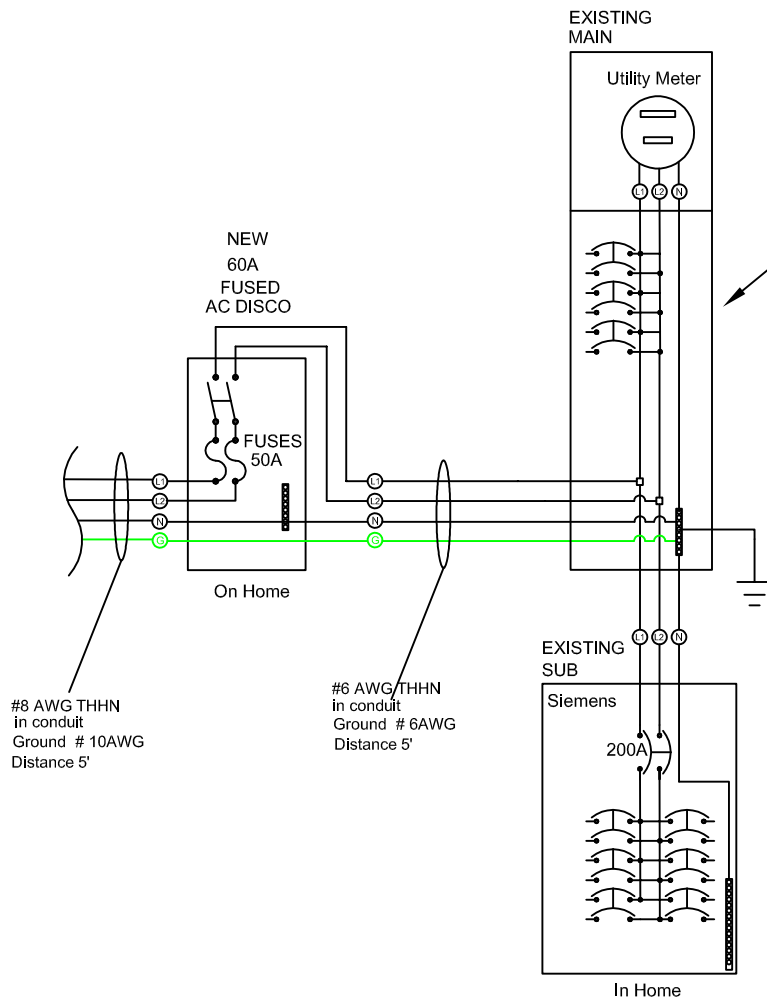


Table 1.23 Internal Q Cable VRise (Landscape 60 Cell Cable Q-12-17-240)

IQ8M Microinverters per branch											
	1	2	3	4	5	6	7	8	9	10	11
Current (A)	1.40	2.70	4.10	5.40	6.80	8.10	9.50	10.80	12.20	13.50	14.90
VRise (V)	0.03	0.10	0.21	0.35	0.52	0.73	0.98	1.25	1.57	1.92	2.30
VRise (%)	0.01	0.04	0.09	0.15	0.22	0.30	0.41	0.52	0.65	0.80	0.96

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



PV Module Ratings

Manufacture: Silfab Solar
 Model #: SIL- 410 HC+
 Open-Circuit Voltage: 45.59V
 Operation Voltage: 38.99V
 Max String Voltage: 1000V
 Operating Current: 10.52A
 Short-Circuit Current: 11.15A
 Max Series Fuse: 20A
 Maximum Power(STC): 410W
 Power Tolerance: +10W

NEC 690.54 AC Point of Interconnection

Rated AC Output: 32.4 Amps
 Nominal AC Voltage: 240 Vac

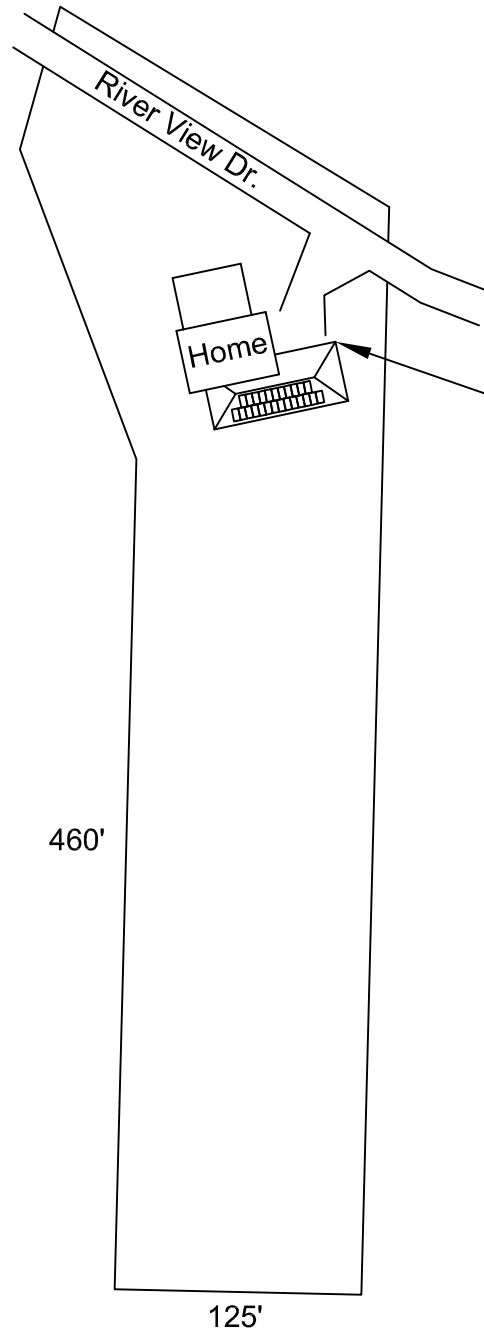
Inverter Specs:

Manufacture: Enphase
 Module: IQ8M-72-2-US
 Max Output Current: 1.35A
 Nominal Output Volts: 240V
 Output Frequency: 47Hz-68Hz
 Output Volt Range: 211V-264V

Total number of Modules: 24
System Size: 9.84 kW

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Plot

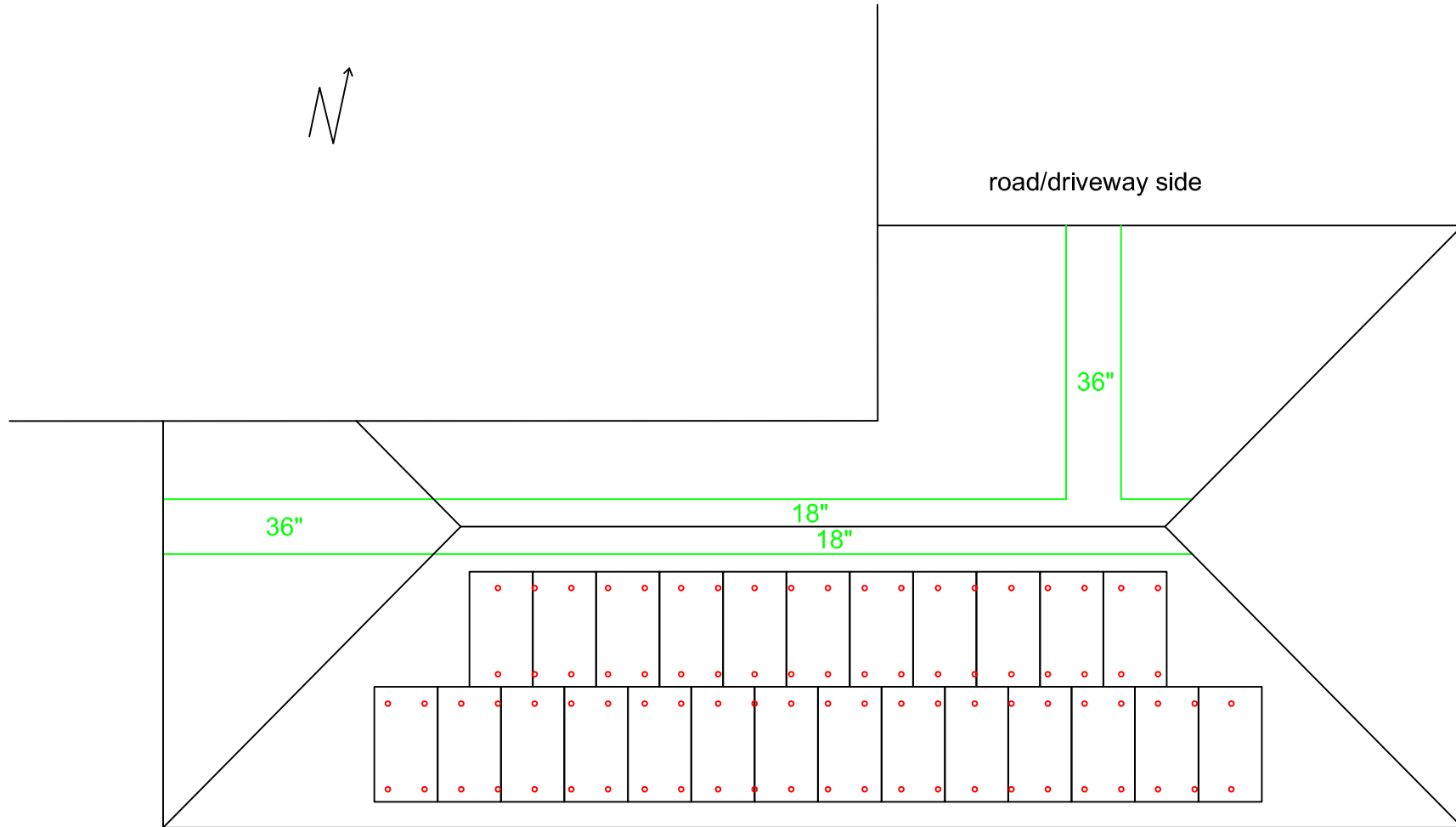


Klickitat Meter &
AC Disconnect
on exterior wall
of Home

New Solar Array 24 mods
Solar Module Size 40.8"x 75.3"
Installation complies with:
WAC 51-51-3240 Sect: R324

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Detail



Suneye Legend (degrees):
 1. Tilt = 9 Azimuth = 165

Solar Array Setbacks:
 ≥18" along all horizontal ridges per Section R324.6.2
 Two 36" pathways ridge to eave per Section R324.6.1

Solar Array Coverage:
 Solar Array sqft = 511
 Roof Surface sqft = 4394
 Solar Array covers 12% of roof surface

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Comp Roof

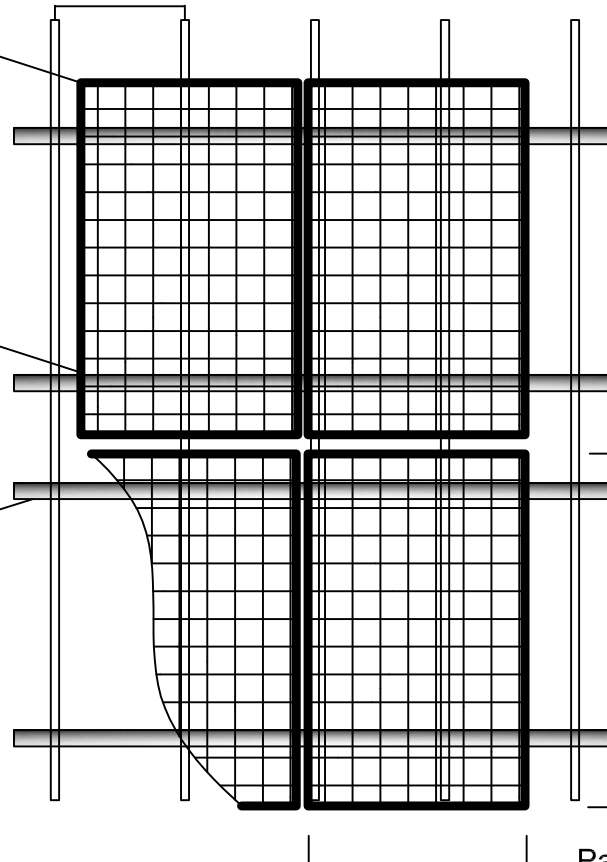
2x framing
24" Max on Center

Attachments spaced so that
no point load exceeds 50 lb

Solar Panel
4 PSF max

Panel connected
to rails with 1 connector
for each 8 Sq feet or less
per rack manufacturer's specs

Aluminum Rails to alternate
roof framing 4' OC max.
Two rails per min. per panel



Panels 40.8" X
75.3" aprox.

Racking Details:

Manufacturer = Iron Ridge
Model = XR100

Attachment Details:

Manufacturer = Iron Ridge
Model = FlashFoot2

2X joist/truss to meet
Oregon Solar code span
requirements

Min $\frac{5}{16}$ " SS lag embedded 2" min
center of framing member

12"
Max

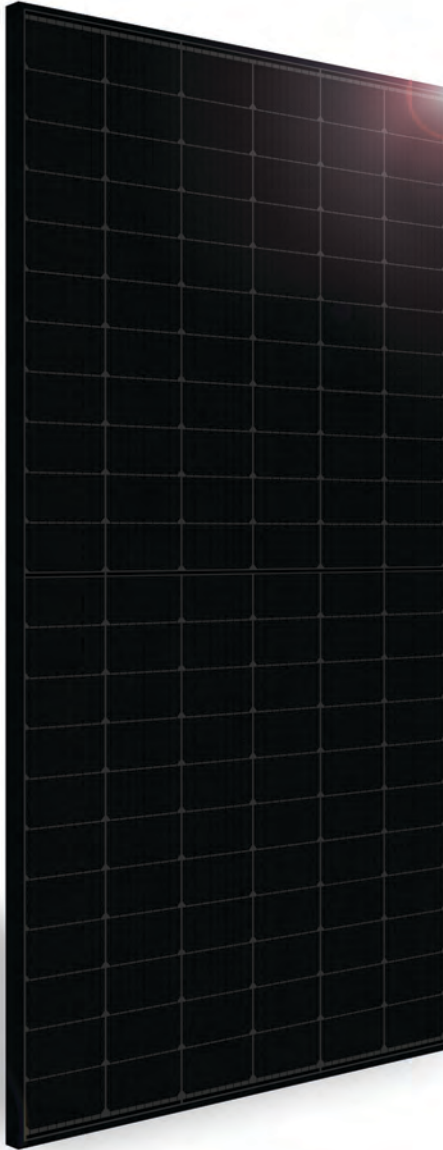
2 Layers or less
of roof material

Flashed and sealed
roof penetration

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SILFAB PRIME

SIL-400 HC+



RELIABLE ENERGY. DIRECT FROM THE SOURCE.

Designed to outperform.

Dependable, durable, high-performance solar panels engineered for North American homeowners.



SILFABSOLAR.COM



CHUBB®

* Chubb provides error and omission insurance to Silfab Solar Inc.

ELECTRICAL SPECIFICATIONS		400	
Test Conditions		STC	NOCT
Module Power (Pmax)	Wp	400	298
Maximum power voltage (Vpmax)	V	36.05	33.50
Maximum power current (Ipmax)	A	11.10	8.90
Open circuit voltage (Voc)	V	43.02	40.35
Short circuit current (Isc)	A	11.58	9.34
Module efficiency	%	20.2%	18.8%
Maximum system voltage (VDC)	V		1000
Series fuse rating	A		20
Power Tolerance	Wp		0 to +10

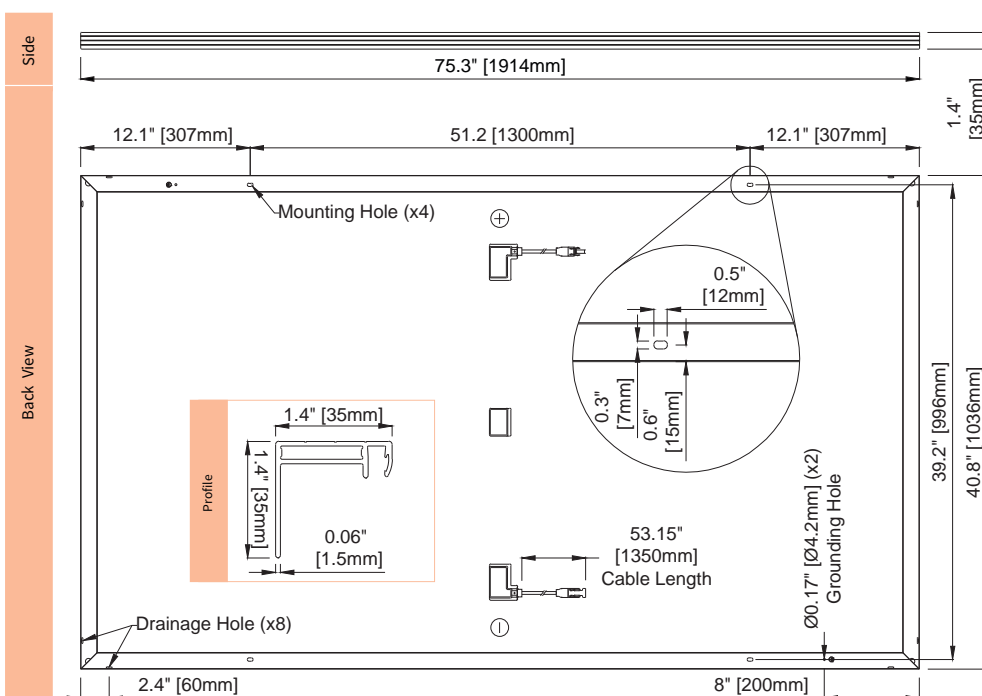
Measurement conditions: STC 1000 W/m² • AM 1.5 • Temperature 25 °C • NOCT 800 W/m² • AM 1.5 • Measurement uncertainty ≤ 3%
Sun simulator calibration reference modules from Fraunhofer Institute. Electrical characteristics may vary by ±5% and power by 0 to +10W.

MECHANICAL PROPERTIES / COMPONENTS	METRIC	IMPERIAL
Module weight	21.3kg ±0.2kg	47lbs ±0.4lbs
Dimensions (H x L x D)	1914 mm x 1036 mm x 35 mm	75.3 in x 40.8 in x 1.37 in
Maximum surface load (wind/snow)*	5400 Pa rear load / 5400 Pa front load	112.8 lb/ft ² rear load / 112.8 lb/ft ² front load
Hail impact resistance	ø 25 mm at 83 km/h	ø 1 in at 51.6 mph
Cells	132 Half cells - Si mono PERC 9 busbar - 83 x 166 mm	132 Half cells - Si mono PERC 9 busbar - 3.26 x 6.53 in
Glass	3.2 mm high transmittance, tempered, DSM antireflective coating	0.126 in high transmittance, tempered, DSM antireflective coating
Cables and connectors (refer to installation manual)	1350 mm, ø 5.7 mm, MC4 from Staubli	53 in, ø 0.22 in (12AWG), MC4 from Staubli
Backsheet	High durability, superior hydrolysis and UV resistance, multi-layer dielectric film, fluorine-free PV backsheet	
Frame	Anodized Aluminum (Black)	
Bypass diodes	3 diodes-30SQ045T (45V max DC blocking voltage, 30A max forward rectified current)	
Junction Box	UL 3730 Certified, IEC 62790 Certified, IP68 rated	

TEMPERATURE RATINGS		WARRANTIES	
Temperature Coefficient Isc	+0.064 %/°C	Module product workmanship warranty	25 years**
Temperature Coefficient Voc	-0.28 %/°C	Linear power performance guarantee	30 years
Temperature Coefficient Pmax	-0.36 %/°C		≥ 97.1% end 1st yr ≥ 91.6% end 12th yr ≥ 85.1% end 25th yr ≥ 82.6% end 30th yr
NOCT (± 2°C)	45 °C		
Operating temperature	-40/+85 °C		

CERTIFICATIONS		SHIPPING SPECS	
Product	UL 61215-1:2017 Ed.1***, UL 61215-2:2017 Ed.1***, UL 61730-1:2017 Ed.1***, UL 61730-2:2017 Ed.1***, CSA C22.2#61730-1:2019 Ed.2***, CSA C22.2#61730-2:2019 Ed.2***, IEC 61215-1:2016 Ed.1***, IEC 61215-2:2016 Ed.1***, IEC 61730-1:2016 Ed.2***, IEC 61730-2:2016 Ed.2***, IEC 61701:2020 (Salt Mist Corrosion), IEC 62716:2013 (Ammonia Corrosion), UL Fire Rating: Type 2, CEC Listing***	Modules Per Pallet:	26 or 26 (California)
Factory	ISO9001:2015	Pallets Per Truck	34 or 31 (California)
		Modules Per Truck	832 or 806 (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.
- *** Certification and CEC listing in progress. December 2022, expected completion.



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Silfab - SIL-400-HC+-20220906

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IQ8M and IQ8A Microinverters

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



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



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



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



IQ8 Series Microinverters are UL listed as PV Rapid Shutdown Equipment and conform with various regulations, when installed according to manufacturer’s instructions.

Easy to install

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

High productivity and reliability

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

Microgrid-forming

- Complies with the latest advanced grid support**
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA) and IEEE 1547:2018 (UL 1741-SB 3rd Ed.)

Note:

IQ8 Microinverters cannot be mixed together with previous generations of Enphase microinverters (IQ7 Series, IQ6 Series, etc) in the same system.

*Only when installed with IQ System Controller 2, meets UL 1741.
 **IQ8M and IQ8A support split-phase, 240V installations only.

IQ8M and IQ8A Microinverters

INPUT DATA [DC]		IQ8M-72-2-US	IQ8A-72-2-US
Commonly used module pairings ¹	W	260 – 460	295 – 500
Module compatibility		54-cell / 108 half-cell, 60-cell / 120 half-cell, 66-cell / 132 half-cell and 72-cell / 144 half-cell	
MPPT voltage range	V	30 – 45	32 – 45
Operating range	V	16 – 58	
Min. / Max. start voltage	V	22 / 58	
Max. input DC voltage	V	60	
Max. continuous input DC current	A	12	
Max. input DC short-circuit current	A	25	
Max. module I _{sc}	A	20	
Overvoltage class DC port		II	
DC port backfeed current	mA	0	
PV array configuration		1 x 1 Ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit	
OUTPUT DATA [AC]		IQ8M-72-2-US	IQ8A-72-2-US
Peak output power	VA	330	366
Max. continuous output power	VA	325	349
Nominal (L-L) voltage / range ²	V	240 / 211 – 264	
Max. continuous output current	A	1.35	1.45
Nominal frequency	Hz	60	
Extended frequency range	Hz	47 – 68	
AC short circuit fault current over 3 cycles	Arms	2	
Max. units per 20 A (L-L) branch circuit ³		11	
Total harmonic distortion		<5%	
Overvoltage class AC port		III	
AC port backfeed current	mA	30	
Power factor setting		1.0	
Grid-tied power factor (adjustable)		0.85 leading – 0.85 lagging	
Peak efficiency	%	97.8	97.7
CEC weighted efficiency	%	97.5	97
Night-time power consumption	mW	60	
MECHANICAL DATA			
Ambient temperature range		-40°C to +60°C (-40°F to +140°F)	
Relative humidity range		4% to 100% (condensing)	
DC Connector type		MC4	
Dimensions (H x W x D)		212 mm (8.3") x 175 mm (6.9") x 30.2 mm (1.2")	
Weight		1.08 kg (2.38 lbs)	
Cooling		Natural convection – no fans	
Approved for wet locations		Yes	
Pollution degree		PD3	
Enclosure		Class II double-insulated, corrosion resistant polymeric enclosure	
Environ. category / UV exposure rating		NEMA Type 6 / outdoor	
COMPLIANCE			
Certifications		CA Rule 21 (UL 1741-SA), UL 62109-1, IEEE 1547:2018 (UL 1741-SB 3 rd Ed.), FCC Part 15 Class B, ICES-0003 Class B, CAN / CSA-C22.2 NO. 107.1-01 This product is UL Listed as PV Rapid Shutdown Equipment and conforms with NEC 2014, NEC 2017, and NEC 2020 section 690.12 and C22.1-2018 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, when installed according to manufacturer's instructions.	

(1) Pairing PV modules with wattage above the limit may result in additional clipping losses. See the compatibility calculator at <https://link.enphase.com/module-compatibility>. (2) Nominal voltage range can be extended beyond nominal if required by the utility.

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



Built for solar's toughest roofs.

IronRidge builds the strongest mounting system for pitched roofs in solar. Every component has been tested to the limit and proven in extreme environments.

Our rigorous approach has led to unique structural features, such as curved rails and reinforced flashings, and is also why our products are fully certified, code compliant and backed by a 20-year warranty.



Strength Tested

All components evaluated for superior structural performance.



PE Certified

Pre-stamped engineering letters available in most states.



Class A Fire Rating

Certified to maintain the fire resistance rating of the existing roof.



Design Assistant

Online software makes it simple to create, share, and price projects.



UL 2703 Listed System

Entire system and components meet newest effective UL 2703 standard.



25-Year Warranty

Products guaranteed to be free of impairing defects.

XR Rails ☺

XR10 Rail



A low-profile mounting rail for regions with light snow.

- 6' spanning capability
- Moderate load capability
- Clear and black finish

XR100 Rail



The ultimate residential solar mounting rail.

- 8' spanning capability
- Heavy load capability
- Clear and black finish

XR1000 Rail



A heavyweight mounting rail for commercial projects.

- 12' spanning capability
- Extreme load capability
- Clear anodized finish

Bonded Splices



All rails use internal splices for seamless connections.

- Self-drilling screws
- Varying versions for rails
- Forms secure bonding

Clamps & Grounding ☺

UFOs



Universal Fastening Objects bond modules to rails.

- Fully assembled & lubed
- Single, universal size
- Clear and black finish

Stopper Sleeves



Snap onto the UFO to turn into a bonded end clamp.

- Bonds modules to rails
- Sized to match modules
- Clear and black finish

CAMO



Bond modules to rails while staying completely hidden.

- Universal end-cam clamp
- Tool-less installation
- Fully assembled

Grounding Lugs



Connect arrays to equipment ground.

- Low profile
- Single tool installation
- Mounts in any direction

Attachments ☺

FlashFoot2



Flash and mount XR Rails with superior waterproofing.

- Twist-on Cap eases install
- Wind-driven rain tested
- Mill and black finish

Conduit Mount



Flash and mount conduit, strut, or junction boxes.

- Twist-on Cap eases install
- Wind-driven rain tested
- Secures 3/4" or 1" conduit

Slotted L-Feet



Drop-in design for rapid rail attachment.

- Secure rail connections
- Slot for vertical adjusting
- Clear and black finish

Bonding Hardware



Bond and attach XR Rails to roof attachments.

- T & Square Bolt options
- Nut uses 7/16" socket
- Assembled and lubricated

Resources



Design Assistant

Go from rough layout to fully engineered system. For free.

[Go to IronRidge.com/design](http://IronRidge.com/design)



NABCEP Certified Training

Earn free continuing education credits, while learning more about our systems.

[Go to IronRidge.com/training](http://IronRidge.com/training)

The Strongest Attachment in Solar

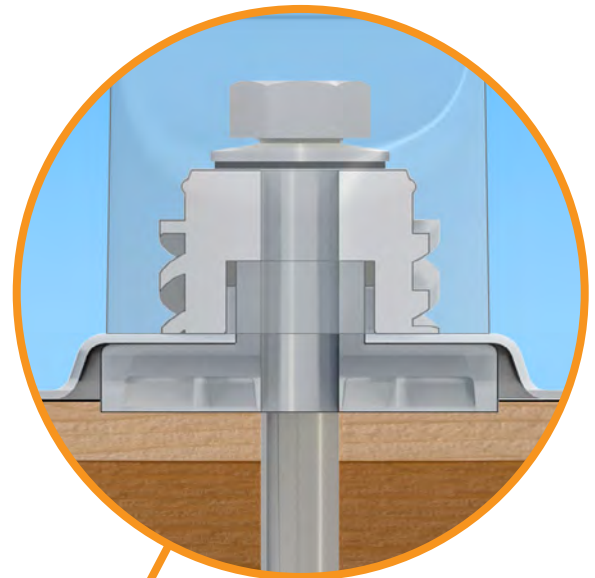
IronRidge FlashFoot2 raises the bar in solar roof protection. The unique water seal design is both elevated and encapsulated, delivering redundant layers of protection against water intrusion. In addition, the twist-on Cap perfectly aligns the rail attachment with the lag bolt to maximize mechanical strength.

Twist-On Cap

FlashFoot2's unique Cap design encapsulates the lag bolt and locks into place with a simple twist. The Cap helps FlashFoot2 deliver superior structural strength, by aligning the rail and lag bolt in a concentric load path.

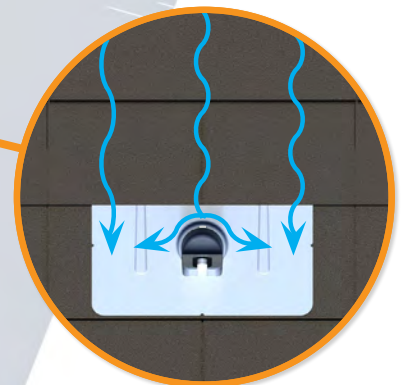
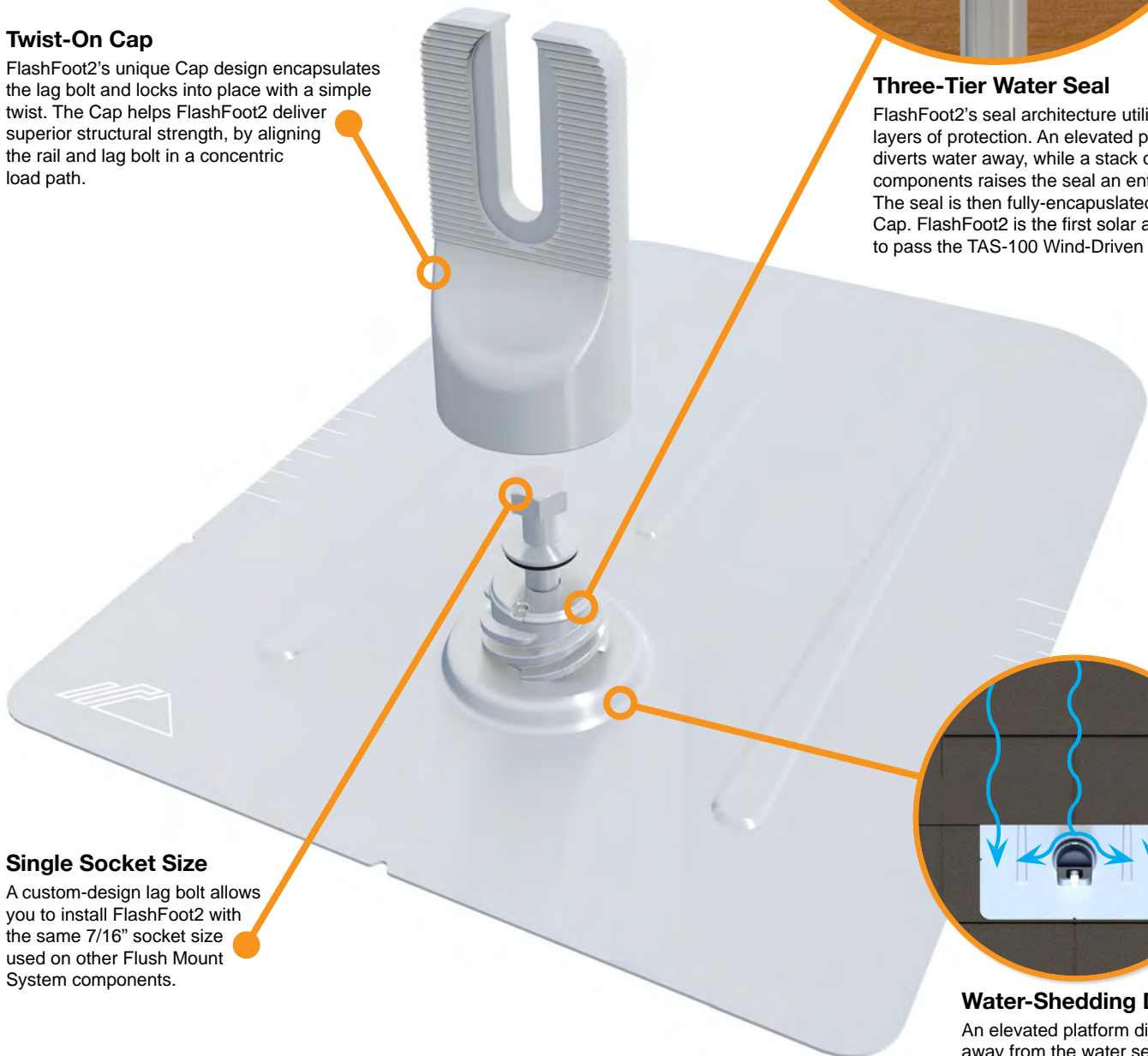
Single Socket Size

A custom-design lag bolt allows you to install FlashFoot2 with the same 7/16" socket size used on other Flush Mount System components.



Three-Tier Water Seal

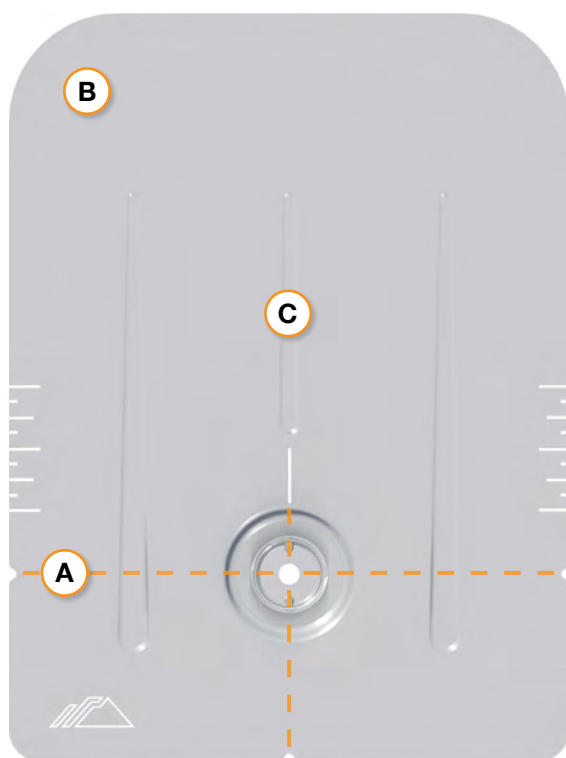
FlashFoot2's seal architecture utilizes three layers of protection. An elevated platform diverts water away, while a stack of rugged components raises the seal an entire inch. The seal is then fully-encapsulated by the Cap. FlashFoot2 is the first solar attachment to pass the TAS-100 Wind-Driven Rain Test.



Water-Shedding Design

An elevated platform diverts water away from the water seal.

Installation Features



A Alignment Markers

Quickly align the flashing with chalk lines to find pilot holes.

B Rounded Corners

Makes it easier to handle and insert under the roof shingles.

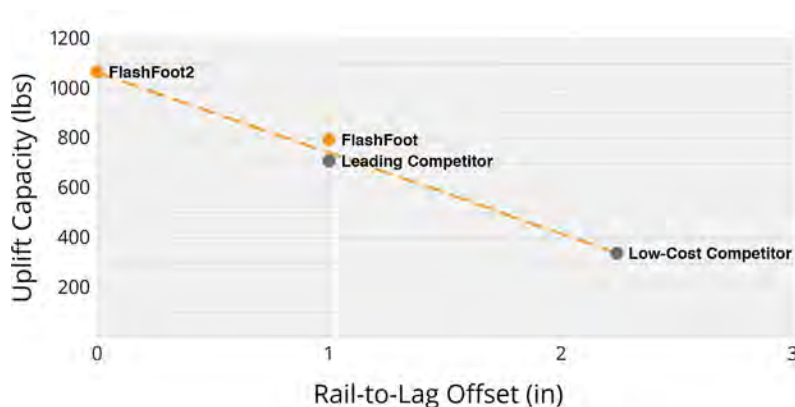
C Reinforcement Ribs

Help to stiffen the flashing and prevent any bending or crinkling during installation.

Benefits of Concentric Loading

Traditional solar attachments have a horizontal offset between the rail and lag bolt, which introduces leverage on the lag bolt and decreases uplift capacity.

FlashFoot2 is the only product to align the rail and lag bolt. This concentric loading design results in a stronger attachment for the system.



Testing & Certification

Structural Certification

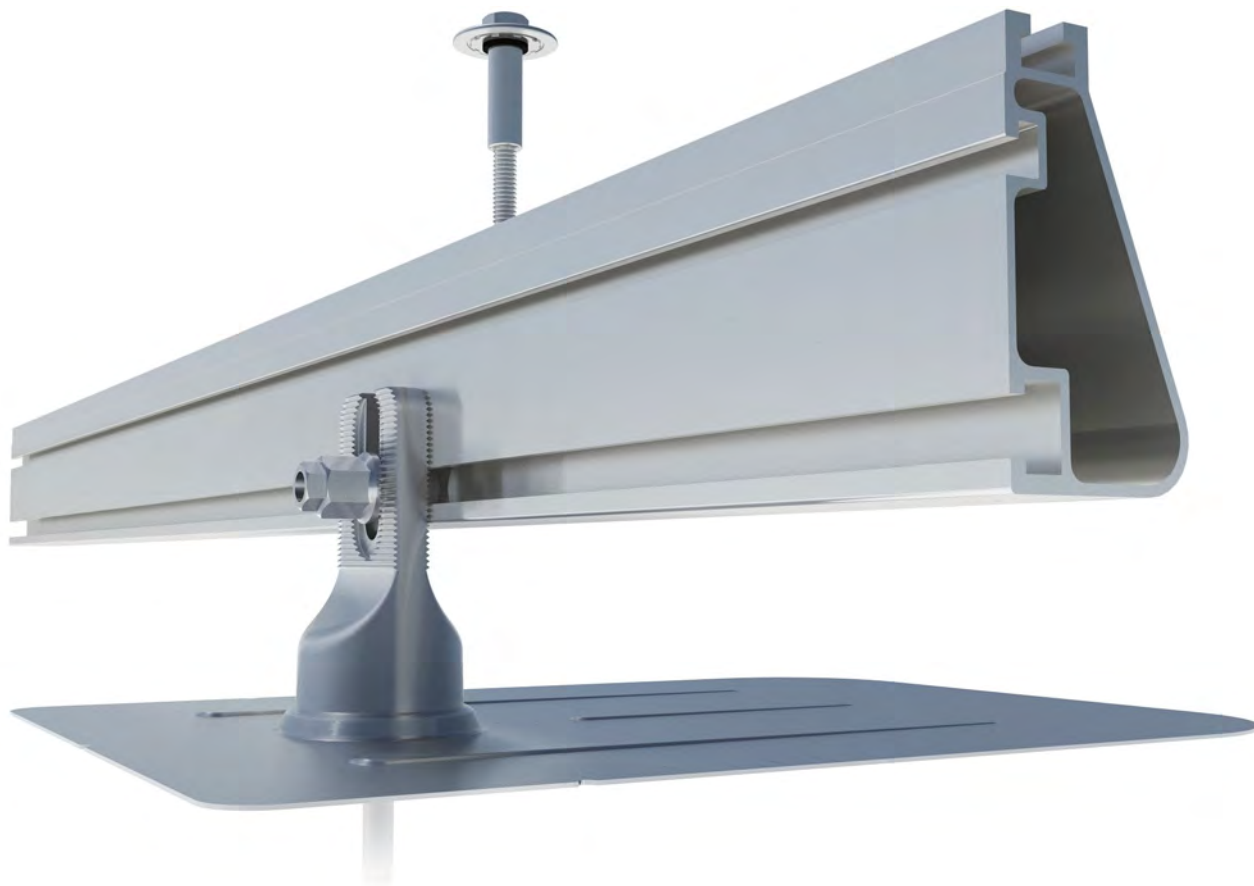
Designed and Certified for Compliance with the International Building Code & ASCE/SEI-7.

Water Seal Ratings

Water Sealing Tested to UL 441 Section 27 "Rain Test" and TAS 100-95 "Wind Driven Rain Test" by Intertek. Ratings applicable for composition shingle roofs having slopes between 2:12 and 12:12.

UL 2703

Conforms to UL 2703 Mechanical and Bonding Requirements. See Flush Mount Install Manual for full ratings.



Built for solar's toughest roofs.

IronRidge builds the strongest mounting system for pitched roofs in solar. Every component has been tested to the limit and proven in extreme environments.

Our rigorous approach has led to unique structural features, such as curved rails and reinforced flashings, and is also why our products are fully certified, code compliant and backed by a 20-year warranty.



Strength Tested

All components evaluated for superior structural performance.



PE Certified

Pre-stamped engineering letters available in most states.



Class A Fire Rating

Certified to maintain the fire resistance rating of the existing roof.



Design Assistant

Online software makes it simple to create, share, and price projects.



UL 2703 Listed System

Entire system and components meet newest effective UL 2703 standard.



25-Year Warranty

Products guaranteed to be free of impairing defects.

XR Rails ☺

XR10 Rail



A low-profile mounting rail for regions with light snow.

- 6' spanning capability
- Moderate load capability
- Clear and black finish

XR100 Rail



The ultimate residential solar mounting rail.

- 8' spanning capability
- Heavy load capability
- Clear and black finish

XR1000 Rail



A heavyweight mounting rail for commercial projects.

- 12' spanning capability
- Extreme load capability
- Clear anodized finish

Bonded Splices



All rails use internal splices for seamless connections.

- Self-drilling screws
- Varying versions for rails
- Forms secure bonding

Clamps & Grounding ☺

UFOs



Universal Fastening Objects bond modules to rails.

- Fully assembled & lubed
- Single, universal size
- Clear and black finish

Stopper Sleeves



Snap onto the UFO to turn into a bonded end clamp.

- Bonds modules to rails
- Sized to match modules
- Clear and black finish

CAMO



Bond modules to rails while staying completely hidden.

- Universal end-cam clamp
- Tool-less installation
- Fully assembled

Grounding Lugs



Connect arrays to equipment ground.

- Low profile
- Single tool installation
- Mounts in any direction

Attachments ☺

FlashFoot2



Flash and mount XR Rails with superior waterproofing.

- Twist-on Cap eases install
- Wind-driven rain tested
- Mill and black finish

Conduit Mount



Flash and mount conduit, strut, or junction boxes.

- Twist-on Cap eases install
- Wind-driven rain tested
- Secures 3/4" or 1" conduit

Slotted L-Feet



Drop-in design for rapid rail attachment.

- Secure rail connections
- Slot for vertical adjusting
- Clear and black finish

Bonding Hardware



Bond and attach XR Rails to roof attachments.

- T & Square Bolt options
- Nut uses 7/16" socket
- Assembled and lubricated

Resources



Design Assistant

Go from rough layout to fully engineered system. For free.

[Go to IronRidge.com/design](http://IronRidge.com/design)



NABCEP Certified Training

Earn free continuing education credits, while learning more about our systems.

[Go to IronRidge.com/training](http://IronRidge.com/training)