

DIRECTORY OF PLAN PAGES	
PV1	PROJECT INFORMATION
PV-2A	SITE PLAN (GENERAL)
PV-2B	SITE PLAN (DETAILED)
PV3	SINGLE-LINE DIAGRAM
PV4	PLACARDS
PV5	ATTACHMENT PLAN
PV-6A	IRON RIDGE QUICKMOUNT HUG DATASHEET
PV-6B	IRON RIDGE QUICKMOUNT HUG CUTSHEET
PV7	RACKING DATASHEET
PV8	CLASS A FIRE RATING DATASHEET
PV9	GROUNDING DETAILS
PV10	STATE OF OREGON ENGINEERING LETTER (IRON RIDGE RACKING)
PV11	PV MODULE DATASHEET
PV12	MICROINVERTER DATASHEET
PV13	APSYSTEMS ACCESSORIES DATASHEET
PV14	APSYSTEMS RAPID SHUTDOWN CERTIFICATION

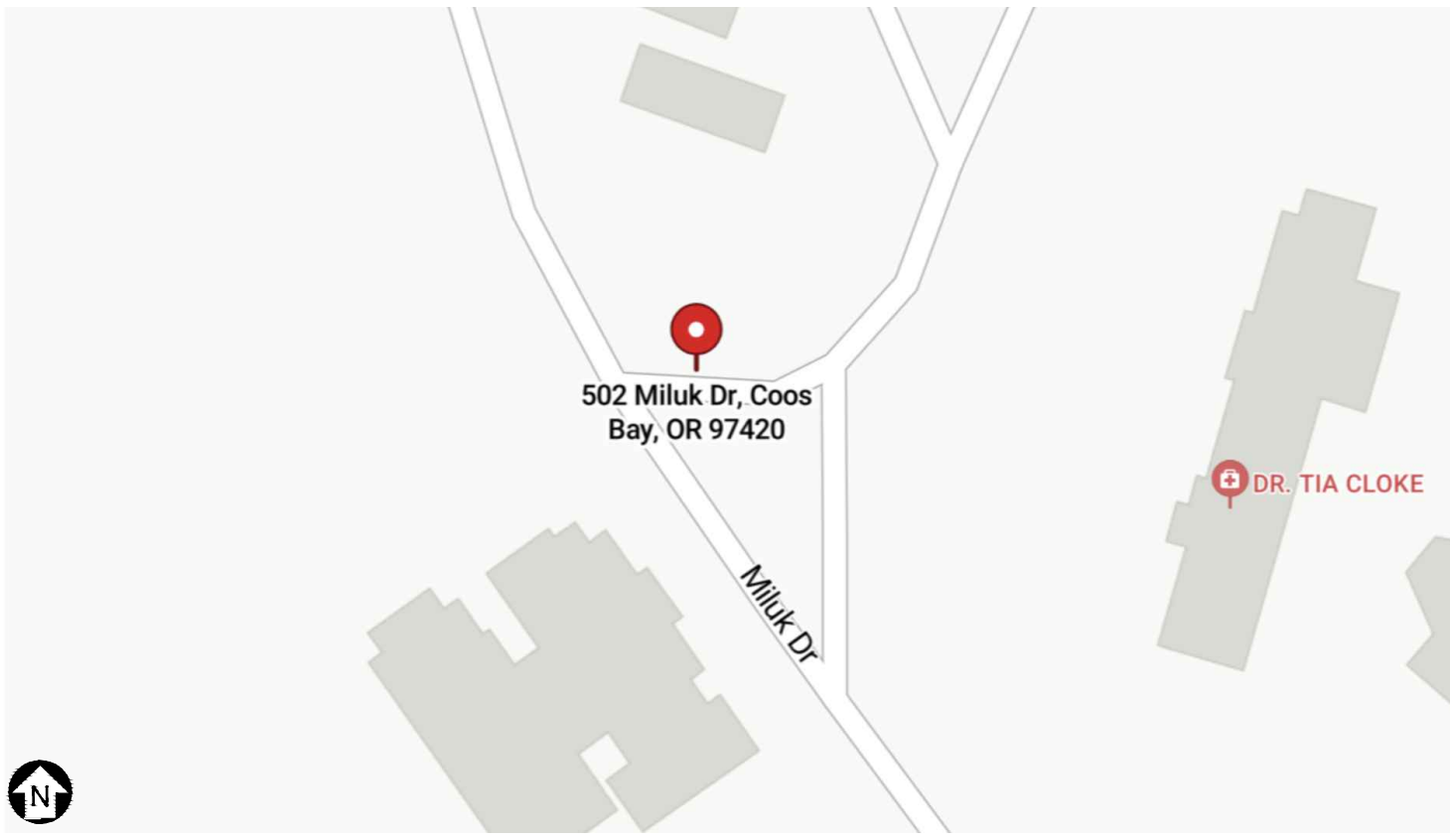
PROJECT DETAILS	
PROPERTY OWNER	COQUILLE INDIAN HOUSING AUTHORITY
PROPERTY ADDRESS	502 MILUK DRIVE COOS BAY, OR 97420
AHJ	COQUILLE INDIAN TRIBE
ZONING	RESIDENTIAL
CONST. TYPE	FLUSH ROOF-MOUNTED PHOTOVOLTAIC ARRAY
UTILITY COMPANY	PACIFIC POWER
OBSERVED CODES	2023 OREGON RESIDENTIAL SPECIALTY CODE (ORSC) 2022 OREGON STRUCTURAL SPECIALTY CODE (OSSC) 2023 OREGON ELECTRICAL SPECIALTY CODE (OESC) 2022 OREGON MECHANICAL SPECIALTY CODE (OMSC) 2023 OREGON PLUMBING SPECIALTY CODE (OPSC) 2021 OREGON ENERGY EFFICIENCY SPECIALTY CODE (OEESC) OSHA 29 CFR 1910.269 UNDERWRITERS LABORATORIES (UL) STANDARDS
STRUCT. METHOD	ASCE7-16

CONTRACTOR INFORMATION	
CONTRACTOR	GSC INC.
LICENSE NO.	71741 (OREGON CCB)
ADDRESS	1492 E AIRPORT WAY NORTH BEND, OR 97459
PHONE	(503) 544-7312
EMAIL	JASONTRAYLOR@GMAIL.COM
CONTRACTOR SIGNATURE	

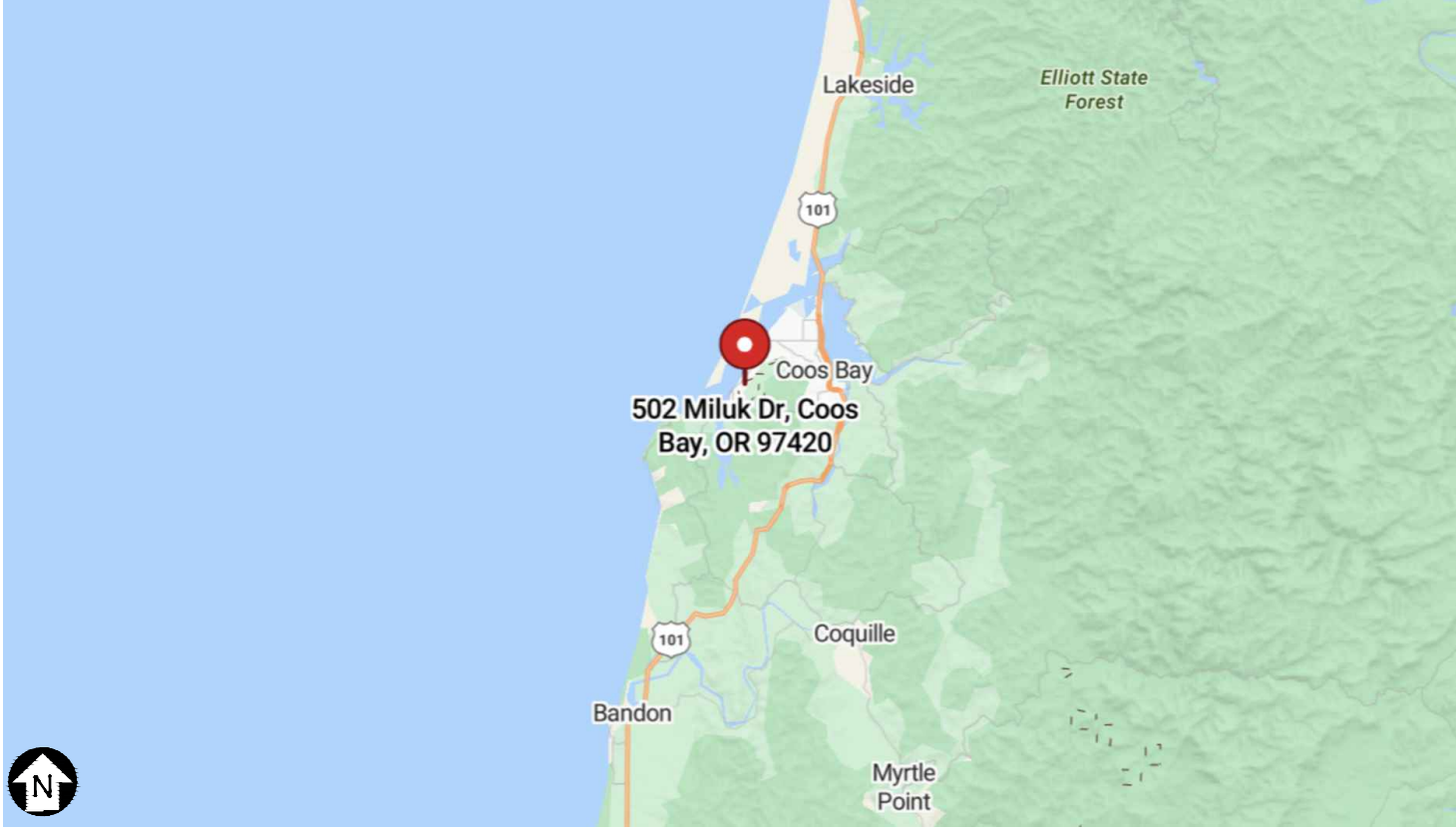
PLAN DESIGNER INFORMATION	
COMPANY	GEMINI SOLAR DESIGN, LLC.
NAME	SANJAY CHRISTOPHER MALLIPUDI
ADDRESS	495 HOWARD HEIGHTS ROAD FRESHWATER, CA 95503
PHONE	(609) 802-5743
PLAN DESIGNER SIGNATURE	<i>Sanjay Mallipudi</i>

SYSTEM DETAILS	
DC RATING OF SYSTEM	4.380W
MAX. CONTINUOUS OUTPUT CURRENT	15.96A @ 240VAC
MICROINVERTER	(6) APS DS3-S
SOLAR MODULE	(12) URECO F6M365E7G-BB
PROJECT TYPE	GRID-TIED (SOLAR ONLY)
INTERCONNECTIO	LOAD-SIDE (BACKFED CIRCUIT BREAKER)

SITE SPECIFICATIONS	
UTILITY SERVICE	120 / 240VAC, 1-Ø, 3-WIRE
LOAD CENTER (LOC. INTERIOR)	125A RATED BUSBAR MAIN LUG ONLY
ASHRAE EXTREME ANNUAL MEAN MINIMUM DENSITY DRY BULB TEMP.	0°C
ASHRAE 2% ANNUAL DRY DENSITY BULB TEMP.	17°C
ULTIMATE WIND SPEED	120 MPH
DESIGN SNOW LOAD (ACCORDING TO OREGON SNOW LOAD MAP FROM HTTP://SNOWLOAD.SEAO.ORG/)	1 PSF
WIND EXPOSURE CATEGORY	B
SEISMIC DESIGN CATEGORY	D
RISK CATEGORY	II



1 PLOT
PV-1 SCALE: NTS



2 LOCALE
PV-1 SCALE: NTS

CONSTRUCTION NOTES	
1	CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO INITIATING CONSTRUCTION.
2	CONTRACTOR SHALL REVIEW ALL MANUFACTURER INSTALLATION DOCUMENTS PRIOR TO INITIATING CONSTRUCTION.
3	ALL EQUIPMENT SHALL BE LISTED BY THE U.L. (OR EQUAL) AND LISTED FOR ITS SPECIFIC APPLICATION.
4	ALL EQUIPMENT SHALL BE RATED FOR THE ENVIRONMENT IN WHICH IT IS INSTALLED.
5	ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6	ACCESS TO ELECTRICAL COMPONENTS OVER 150 VOLTS TO GROUND SHALL BE RESTRICTED TO QUALIFIED PERSONNEL.
7	ALL CONDUCTORS SHALL BE COPPER, RATED FOR 600 VOLTS AND 90°C WET ENVIRONMENT, UNLESS OTHERWISE NOTED.
8	WHERE SIZES OF JUNCTION BOXES, RACEWAYS, AND CONDUITS ARE NOT SPECIFIED, CONTRACTOR SHALL SIZE THEM ACCORDING TO APPLICABLE CODES.
9	PV MODULES FRAMES SHALL BE BONDED TO RACKING RAIL OR BARE COPPER G.E.C. PER THE MODULE MANUFACTURER'S LISTED INSTRUCTION SHEET.
10	PV MODULES RACKING RAIL SHALL BE BONDED TO BARE COPPER G.E.C VIA WEEB LUG, ILSCO GBL-4DBT LAY-IN LUG, OR EQUIVALENT LISTED LUG.
11	GROUNDING ELECTRODE CONDUCTOR (G.E.C) SHALL BE CONTINUOUS AND/OR IRREVERSIBLY SPLICED
12	ALL JUNCTION BOXES, COMBINER BOXES, AND DISCONNECTS SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION.
13	WORKING SPACE AROUND ELECTRICAL EQUIPMENT SHALL COMPLY WITH NEC SECTION 110.26.

SCOPE OF WORK DESCRIPTION	
THE PROPOSED SYSTEM IS A ROOF MOUNTED PHOTOVOLTAIC ARRAY. THE PHOTOVOLTAIC (PV) SYSTEM IS TO BE INSTALLED ON THE RESIDENTIAL ZONED PROPERTY LOCATED ON COQUILLE TRIBAL LAND IN COOS COUNTY, OREGON. THE ENERGY PRODUCED BY THE PV SYSTEM SHALL BE INTERCONNECTED WITH THE UTILITY GRID THROUGH THE EXISTING ON-SITE ELECTRICAL EQUIPMENT VIA A LOAD-SIDE POINT OF CONNECTION. THIS PROJECT DOES NOT INCLUDE STORAGE BATTERIES.	

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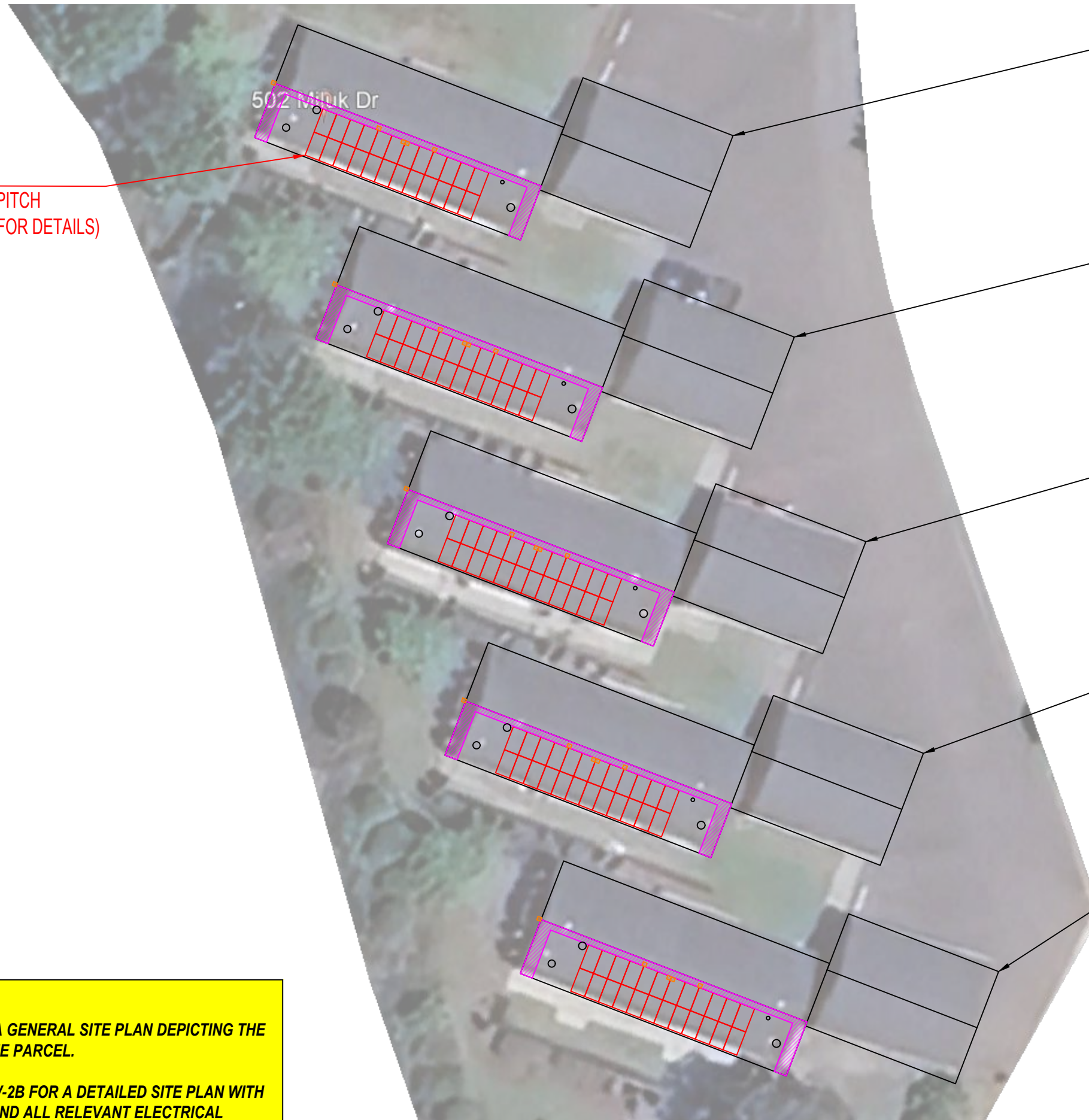
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NEW GRID-TIED SYSTEM 4.38KW
COQUILLE INDIAN HOUSING AUTHORITY
502 MILUK DRIVE
COOS BAY, OR 97420

PROJECT INFO

PROJECT NO: GSD-20241007-189227
DRAWN BY: SCM
DATE: 10/7/2024

PV-1



(N) PV ARRAY
201° AZIMUTH, 22° PITCH
(SEE SHEET PV-2B FOR DETAILS)

(E) 502 MILUK DRIVE / 504 MILUK DRIVE
**(502 MILUK DRIVE WITHIN THIS DUPLEX
IS UNDER CONSIDERATION FOR THE SCOPE
OF WORK FOR THIS SOLAR PERMIT PACKAGE)**

(E) 506 MILUK DRIVE / 508 MILUK DRIVE
(NOT PART OF SCOPE OF THIS PERMIT)

(E) 510 MILUK DRIVE / 512 MILUK DRIVE
(NOT PART OF SCOPE OF THIS PERMIT)

(E) 514 MILUK DRIVE / 516 MILUK DRIVE
(NOT PART OF SCOPE OF THIS PERMIT)

(E) 518 MILUK DRIVE / 520 MILUK DRIVE
(NOT PART OF SCOPE OF THIS PERMIT)

NOTE TO PLAN REVIEWER:
SHEET PV-2A REPRESENTS A GENERAL SITE PLAN DEPICTING THE RELEVANT ELEMENTS OF THE PARCEL.
PLEASE REFER TO SHEET PV-2B FOR A DETAILED SITE PLAN WITH REGARDS TO THE DESIGN, AND ALL RELEVANT ELECTRICAL DETAILS. THANK YOU.

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NEW GRID-TIED SYSTEM 4.38KW
COQUILLE INDIAN HOUSING AUTHORITY
502 MILUK DRIVE
COOS BAY, OR 97420

SITE PLAN

PROJECT NO: GSD-20241007-189227
DRAWN BY: SCM
DATE: 10/7/2024

1 SITE PLAN (GENERAL)
PV-2A SCALE: 1" = 27'

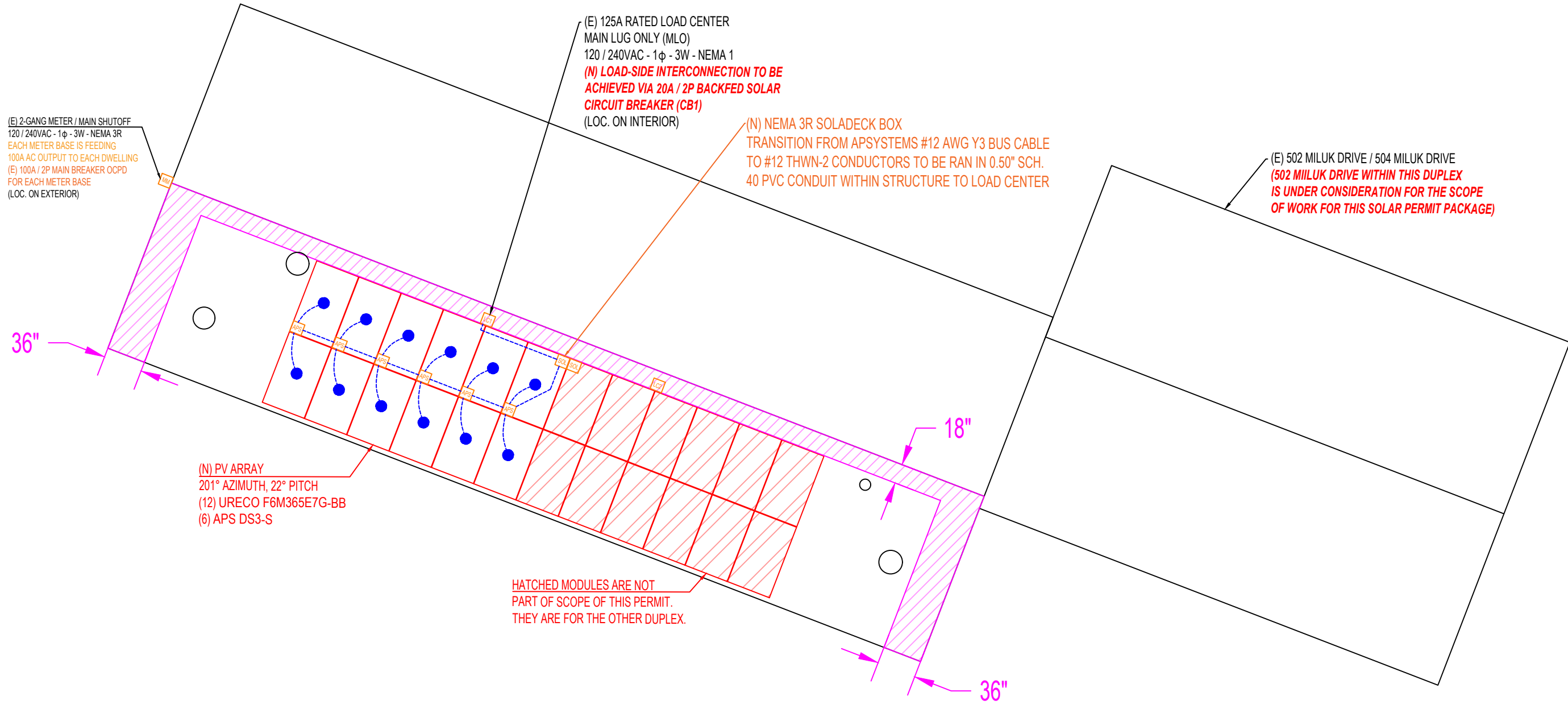
PV-2A



SITE PLAN NOTES	
1	CONDUCTORS EXPOSED TO SUNLIGHT SHALL BE LISTED AS SUNLIGHT RESISTANT PER CEC 319.0(D).
2	CONDUCTORS EXPOSED TO WET LOCATIONS SHALL BE SUITABLE FOR USE IN WET LOCATIONS PER CEC 310.8(C).
3	ARRAYS SHALL BE INSTALLED IN A WAY THAT ENSURES THAT PV SOURCE CONDUCTORS SHALL NOT BE READILY ACCESSIBLE.

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(E) 2-GANG METER / MAIN SHUTOFF
 120 / 240VAC - 1φ - 3W - NEMA 3R
 EACH METER BASE IS FEEDING
 100A AC OUTPUT TO EACH DWELLING
 (E) 100A / 2P MAIN BREAKER OCPD
 FOR EACH METER BASE
 (LOC. ON EXTERIOR)

(E) 125A RATED LOAD CENTER
 MAIN LUG ONLY (MLO)
 120 / 240VAC - 1φ - 3W - NEMA 1
 (N) LOAD-SIDE INTERCONNECTION TO BE
 ACHIEVED VIA 20A / 2P BACKFED SOLAR
 CIRCUIT BREAKER (CB1)
 (LOC. ON INTERIOR)

(N) NEMA 3R SOLADECK BOX
 TRANSITION FROM APSYSTEMS #12 AWG Y3 BUS CABLE
 TO #12 THWN-2 CONDUCTORS TO BE RAN IN 0.50" SCH.
 40 PVC CONDUIT WITHIN STRUCTURE TO LOAD CENTER

(E) 502 MILUK DRIVE / 504 MILUK DRIVE
 (502 MILUK DRIVE WITHIN THIS DUPLEX
 IS UNDER CONSIDERATION FOR THE SCOPE
 OF WORK FOR THIS SOLAR PERMIT PACKAGE)

(N) PV ARRAY
 201° AZIMUTH, 22° PITCH
 (12) URECO F6M365E7G-BB
 (6) APS DS3-S

HATCHED MODULES ARE NOT
 PART OF SCOPE OF THIS PERMIT.
 THEY ARE FOR THE OTHER DUPLEX.

● 1 BRANCH OF 6 MICROINVERTERS (APS DS3-S)

NEW GRID-TIED SYSTEM 4.38KW

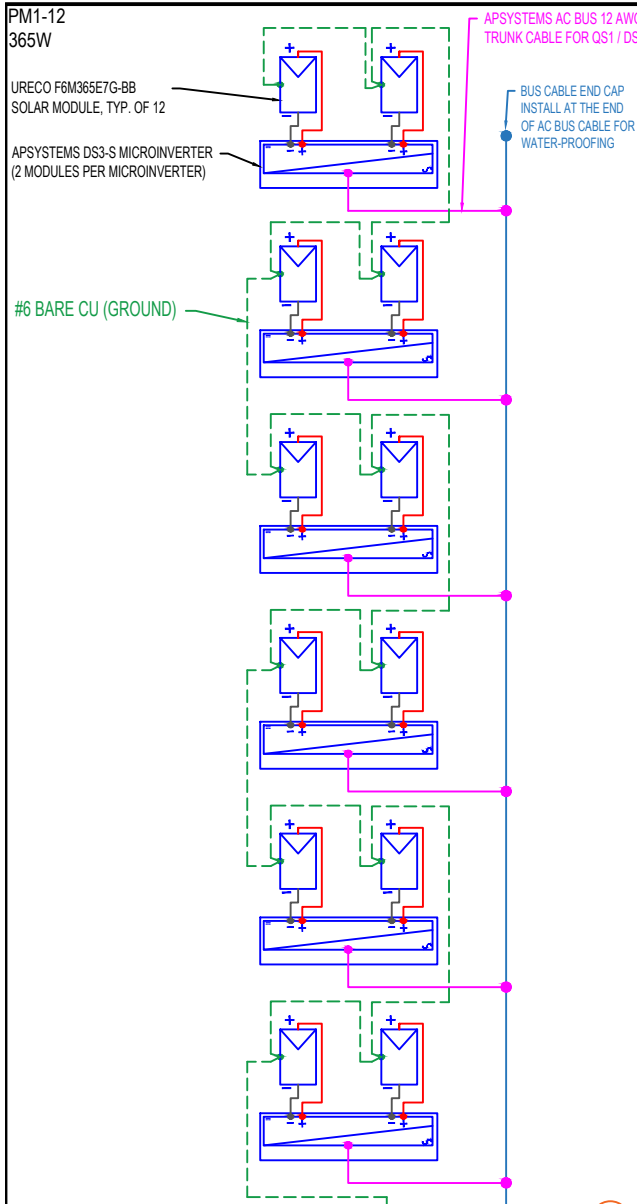
COQUILLE INDIAN HOUSING AUTHORITY
 502 MILUK DRIVE
 COOS BAY, OR 97420

SITE PLAN

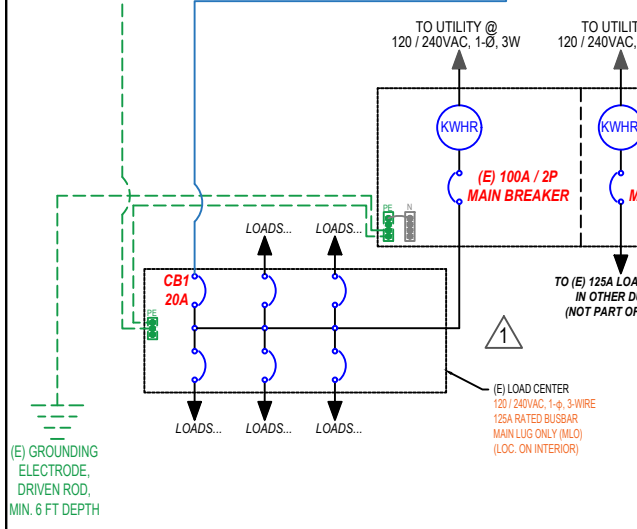
PROJECT NO: GSD-20241007-189227
 DRAWN BY: SCM
 DATE: 10/7/2024

PV-2B

1 SITE PLAN (DETAILED)
 PV-2B SCALE: 1" = 8'



(N) NEMA 3R SOLADECK BOX, TRANSITION FROM APSYSTEMS #12 AWG Y3 BUS CABLE TO #12 THWN-2 CONDUCTORS TO BE RAN IN 0.50" SCH. 40 PVC CONDUIT WITHIN STRUCTURE TO LOAD CENTER



PHOTOVOLTAIC MODULE								
REF.	TYP.	MODULE	STC POWER	ISC	IMP	VOC	VMP	FUSE RATING
PM1-12	12	URECO F6M365E7G-BB	365W	11.43A	10.68A	40.70V	34.20V	20A

MICROINVERTER										
REF.	TYP.	MICROINVERTER	MODULES PER EACH MICROINVERTER	AC VOLTAGE	MAXIMUM UNITS PER 20A BRANCH	MAX OUTPUT POWER	MAX AC CURRENT	MAX DC INPUT CURRENT	MAX DC INPUT VOLTAGE	CEC EFFICIENCY
I1-6	6	APS DS3-S	2	240VAC	6	640W	2.66A	16A X 2	60VDC	96.5%

SYSTEM SUMMARY	
BRANCH #1	
MICROINVERTERS PER BRANCH	6
ARRAY STC POWER	4,380W
AC OUTPUT CURRENT	15.96A
MAX. CONTINUOUS OUTPUT POWER	3,840W

SCHEMATIC NOTES

OUTPUT OF MICROINVERTER BRANCH CIRCUIT IS CONNECTED TO UTILITY ON LOAD SIDE OF SERVICE DISCONNECT. OUTPUT SHALL BE BACKFED THROUGH A 20A / 2P CIRCUIT BREAKER IN THE 125A INTERIOR LOAD CENTER. SOLAR BACKFED BREAKER SHALL BE LOCATED AT THE OPPOSITE END OF THE BUSBAR.

OCPD SCHEDULE				
REF.	TYP.	POLES	CURRENT RATING	MAX. VOLTAGE
CB1 (BACKFED SOLAR BREAKER)	1	2	20A	240VAC

CONDUCTOR SCHEDULE WITH NEC ELECTRICAL CALCULATIONS																
ID	TYP	DESCRIPTION	CONDUCTOR	CONDUIT	NO. OF CURRENT CARRYING CNDRS. IN CNDR.	FILL %	RATED AMPS	OCPD	EGC	TEMP. CORR. FACTOR @ 90°C TEMP. RATING	FILL ADJ. FACTOR	CONT. CURRENT	MAX. CURRENT	TERMINAL RATING CHECK (ASSUME 75°C) SHALL EXCEED 1.25X CONT. CURRENT	BASE AMPACITY @ 90°C TEMP. RATING	CONDITIONS OF USE (COU) @ 90°C TEMP. RATING
1	1	MICROINVERTER OUTPUT: MICROINVERTER TO SOLADECK BOX	12 AWG THWN-2 COPPER	FREE AIR	N/A	N/A	15.96A	N/A	6 AWG BARE COPPER	0.91 (39°C)	1.0	15.96A	19.95A	35A > 19.95A PASS	40A (IN FREE AIR)	36.4A (IN FREE AIR)
2	1	MICROINVERTER OUTPUT (TRANSITIONED): SOLADECK BOX TO 125A INTERIOR LOAD CENTER (LOAD-SIDE POINT OF INTERCONNECTION VIA BACKFED CIRCUIT BREAKER)	12 AWG THWN-2 COPPER	0.50" DIA. SCH. 40 PVC	3	18.7%	15.96A	20A (CB1)	12 AWG THWN-2 COPPER	0.91 (39°C)	1.0	15.96A	19.95A	25A > 19.95A PASS	30A (IN CONDUIT)	27.3A (IN CONDUIT)

ALL CONDUCTORS, OCPD SIZES AND TYPES SPECIFIED ACCORDING TO NEC ARTICLES 690.8(A)(1), NEC ARTICLE 240, AND NEC ARTICLE 690.7.

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NEW GRID-TIED SYSTEM 4.38KW
COQUILLE INDIAN HOUSING AUTHORITY
502 MILUK DRIVE
COOS BAY, OR 97420

SINGLE-LINE DIAGRAM

PROJECT NO: GSD-20241007-189227
DRAWN BY: SCM
DATE: 10/7/2024

1 SINGLE-LINE DIAGRAM
SCALE: N/A

PV-3

SOLADECK BOX

1 SOLADECK BOX

⚠ WARNING ⚠
**PHOTOVOLTAIC
 POWER SOURCE**

NEC 690.35

2 SOLADECK BOX

**⚠ DO NOT
 DISCONNECT
 UNDER LOAD ⚠**

NEC 690.16(B)

125A INTERIOR LOAD CENTER

3 125A INTERIOR LOAD CENTER

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

NEC 690.56(B)

4 125A INTERIOR LOAD CENTER

⚠ WARNING ⚠
ELECTRIC SHOCK HAZARD
 DO NOT TOUCH TERMINALS
 TERMINALS ON BOTH THE LINE AND
 LOAD SIDES MAY BE ENERGIZED
 IN THE OPEN POSITION

NEC 690.17.4

5 125A INTERIOR LOAD CENTER

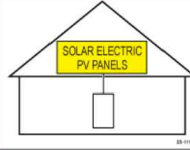
⚠ WARNING ⚠
INVERTER OUTPUT CONNECTION
 DO NOT RELOCATE THIS
 OVERCURRENT DEVICE

NEC 705.12(D)(7)

6 125A INTERIOR LOAD CENTER

**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



7 TOTAL SOLAR BACKFED CURRENT

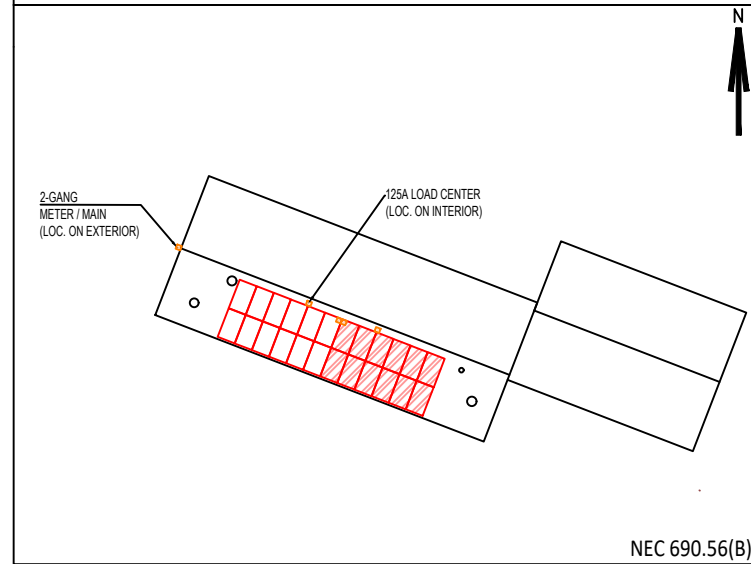
**PHOTOVOLTAIC SYSTEM
 AC DISCONNECT**
 OPERATING CURRENT **15.96** AMPS
 OPERATING VOLTAGE **240** VOLTS

NEC 690.54

DIRECTORY PLACARD

12 DIRECTORY PLACARD

⚠ CAUTION ⚠
**POWER TO THIS SERVICE IS ALSO SUPPLIED FROM
 THE FOLLOWING SOURCES WITH DISCONNECTS
 LOCATED AS SHOWN**



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 REPRESENTED IN THIS PLAN.

NEW GRID-TIED SYSTEM 4.38KW

COQUILLE INDIAN HOUSING AUTHORITY
 502 MILUK DRIVE
 COOS BAY, OR 97420

METER / MAIN SERVICE PANEL

8 METER / MAIN SERVICE PANEL

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

NEC 690.56(B)

9 METER / MAIN SERVICE PANEL

⚠ WARNING ⚠
ELECTRIC SHOCK HAZARD
 DO NOT TOUCH TERMINALS
 TERMINALS ON BOTH THE LINE AND
 LOAD SIDES MAY BE ENERGIZED
 IN THE OPEN POSITION

NEC 690.17.4

10 TOTAL SOLAR BACKFED CURRENT

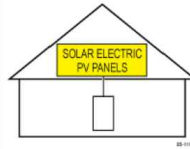
**PHOTOVOLTAIC SYSTEM
 AC DISCONNECT**
 OPERATING CURRENT **15.96** AMPS
 OPERATING VOLTAGE **240** VOLTS

NEC 690.54

11 METER / MAIN SERVICE PANEL

**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



RACEWAYS

13 RACEWAYS, CABLES PER 10 FT.

⚠ WARNING ⚠
**PHOTOVOLTAIC
 POWER SOURCE**

NEC 690.31(E)(3),(4)

SIGNAGE REQUIREMENTS

1	ALL PLACARDS AND SIGNAGE REQUIRED BY THE 2023 OREGON ELECTRICAL SPECIALTY CODE (OESC) , AND ANY OTHER STATE CODES OR LOCAL ORDINANCES WILL BE INSTALLED AS REQUIRED.
2	RED BACKGROUND
3	WHITE LETTERING
4	MINIMUM 3/8" LETTER HEIGHT
5	ALL CAPITAL LETTERS
6	ARIAL OR SIMILAR FONT
7	WEATHER RESISTANT MATERIAL, PER UL 969

PLACARDS

PROJECT NO: GSD-20241007-189227

DRAWN BY: SCM

DATE: 10/7/2024

PV-4

1 PLACARDS
 PV-4 SCALE: NTS

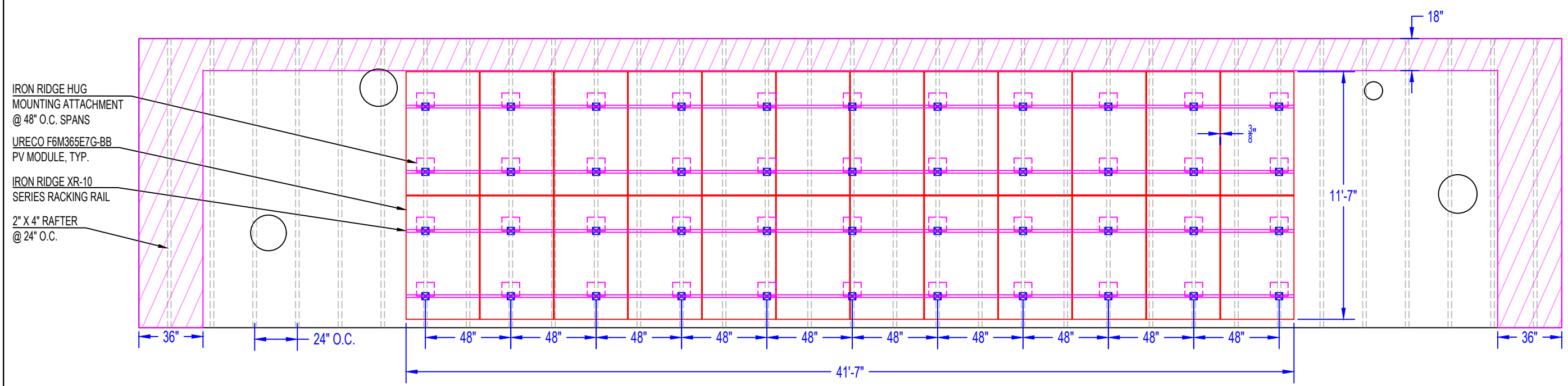


NOTE TO PLAN REVIEWER:

BOTH DUPLEXES ARE STRUCTURALLY PART OF THE SAME BUILDING, AND ALSO BOTH SHARE A COMMON ROOF PLANE AND THE ASSOCIATED UNDERLYING FRAMING SUB-STRUCTURE. THUS, THE CALCULATIONS AND DEPICTION OF THE STRUCTURAL DETAILS FOR THIS ROOF ATTACHMENT PLAN INCLUDE ALL 24 SOLAR PANELS.

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NEW GRID-TIED SYSTEM 4.38KW

COQUILLE INDIAN HOUSING AUTHORITY
 502 MILUK DRIVE
 COOS BAY, OR 97420

ROOF INFORMATION	
ROOF TYPE	COMPOSITE SHINGLE
PITCH	22°
RAFTER SPACING	24" O.C.
RAFTER DIMENSIONS	2" X 4"

LAYOUT SPECIFICATIONS	
NUMBER OF MODULES	24
AREA	478 SQ. FT
AZIMUTH	201°
TOTAL WEIGHT OF ARRAY	1262 LBS
DEAD LOAD	2.64 PSF

LOCAL DESIGN CRITERIA	
WIND EXPOSURE CATEGORY	B
SEISMIC DESIGN CATEGORY	D
RISK CATEGORY	II
ULTIMATE WIND SPEED	120 MPH
DESIGN SNOW LOAD (ACCORDING TO OREGON SNOW LOAD MAP FROM HTTP://SNOWLOAD.SEAO.ORG/)	1 PSF

PV MODULES AND IRON RACKING SYSTEM HAVE A CLASS A FIRE RATING CLASSIFICATION.

ATTACHMENT PLAN NOTES	
1	ROOF MEMBERS AND PENETRATIONS TO BE DETERMINED IN THE FIELD.
2	THE SOLAR PHOTOVOLTAIC INSTALLATION SHALL NOT OBSTRUCT ANY PLUMBING, MECHANICAL, OR BUILDING ROOF VENTS.
3	PLEASE SEE SHEETS PV-6A AND PV-6B FOR DETAILS REGARDING THE MOUNTING ATTACHMENT TO BE USED, THE FLASHING TO BE USED, AS WELL AS THE RELEVANT CUTSHEETS.
4	PLEASE SEE SHEET PV-10 FOR A STRUCTURAL CERTIFICATION LETTER FOR THE IRON RIDGE FLUSH MOUNT SYSTEM. LETTER IS STAMPED BY A STATE OF OREGON REGISTERED PROFESSIONAL ENGINEER (PE).

ATTACHMENT PLAN

PROJECT NO: GSD-20241007-189227
 DRAWN BY: SCM
 DATE: 10/7/2024

1 ATTACHMENT PLAN
 PV-5 SCALE: 1" = 5'

PV-5



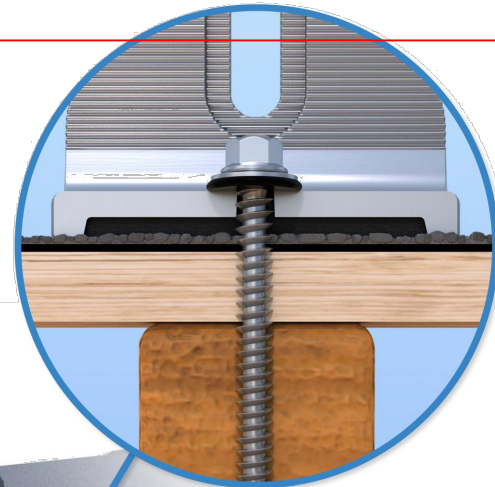
Tech Brief

QuickMount® HUG

The Respect Your Roof Deserves

When integrating with a home, solar attachments must be dependable for the lifetime of the rooftop. Due to recent innovations, many asphalt shingles have bonded courses. A mount that protects without the need to pry shingles can really speed things up.

Halo UltraGrip™ (HUG™) is here to respect the roof. Its Halo is a cast-aluminum barrier that encases the UltraGrip, our industrial-grade, foam-and-mastic seal. This allows HUG to accelerate the installation process and provide the utmost in waterproofing protection. Give your roof a HUG.™

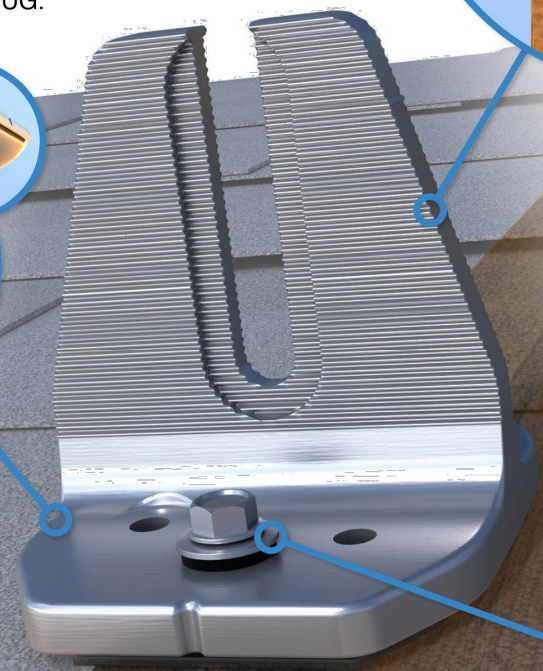


Multi-Tiered Waterproofing
HUG utilizes a multi-tiered stack of components to provide revolutionary waterproofing protection. The Halo cast-aluminum, raised-perimeter foundation surrounds the UltraGrip base—a foam-backed mastic seal combination that prevents water intrusion by adhering and sealing with the shingle surface.

Halo UltraGrip™ is part of the QuickMount® product line.

UltraGrip™ Seal Technology

HUG UltraGrip utilizes a state-of-the-art seal design that uses a unique, foam-and-mastic combination. The foam-backed adhesive provides an entirely new flashing system that conforms and adheres to every nook and cranny of composition shingles, filling gaps and shingle step-downs (up to 1/8" in height).



Rafter Mount

Deck Mount

Rafter & Deck Mounting Options

Mount HUG to the roof rafters, the roof deck, or both with our custom-engineered RD (rafter-or-deck) Structural Screw. The RD Structural Screw anchors HUG to the roof with an EPDM sealing washer, completing the stack of waterproofing barriers. See backside for more installation information.

ETL Intertek
Triple Rated & Certified to Respect the Roof™
UL 2703, 441 (27)
TAS 100(A)-95

Tech Brief

Adaptive, Rafter-Friendly Installation



Hit the rafter? Good to go!
When you find a rafter, you can move on. Only 2 RD Structural Screws are needed.



Miss the rafter? Try it again.
Place another screw to the left or right. If rafter is found, install 3rd and final screw.



Still no luck? Install the rest.
If more than 3 screws miss the rafter, secure six screws to deck mount it.

Trusted Strength & Less Hassle



25-Year Warranty
Product guaranteed free of impairing defects.

Structural capacities of HUG™ were reviewed in many load directions, with racking rail running cross-slope or up-slope in relation to roof pitch.

For further details, see the HUG certification letters for attaching to rafters and decking.

IronRidge designed the HUG, in combination with the RD Structural Screw to streamline installs, which means the following:

- No prying shingles
- No roof nail interference
- No pilot holes necessary
- No sealant (in most cases)
- No butyl shims needed

Attachment Loading

The rafter-mounted HUG has been tested and rated to support 1004 (lbs) of uplift and 368 (lbs) of lateral load.

Structural Design

Parts are designed and certified for compliance with the International Building Code & ASCE/SEI-7.

Water Seal Ratings

HUG passed both the UL 441 Section 27 "Rain Test" and TAS 100(A)-95 "Wind Driven Rain Test" by Intertek.

UL 2703 System

Systems conform to UL 2703 mechanical and bonding requirements. See Flush Mount Manual for more info.

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LICENSE NO. 71741 (CCB)

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NEW GRID-TIED SYSTEM 4.38KW

COQUILLE INDIAN HOUSING AUTHORITY
502 MILUK DRIVE
COOS BAY, OR 97420

MOUNTING DETAIL

PROJECT NO: GSD-20241007-189227

DRAWN BY: SCM

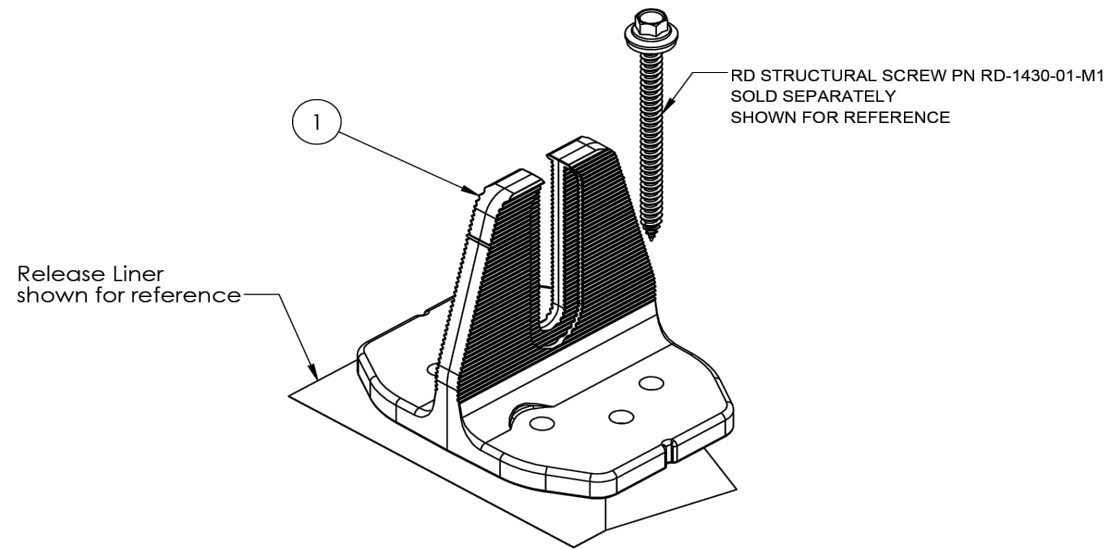
DATE: 10/7/2024



QuickMount® Halo UltraGrip

Cut Sheet

Cut Sheet



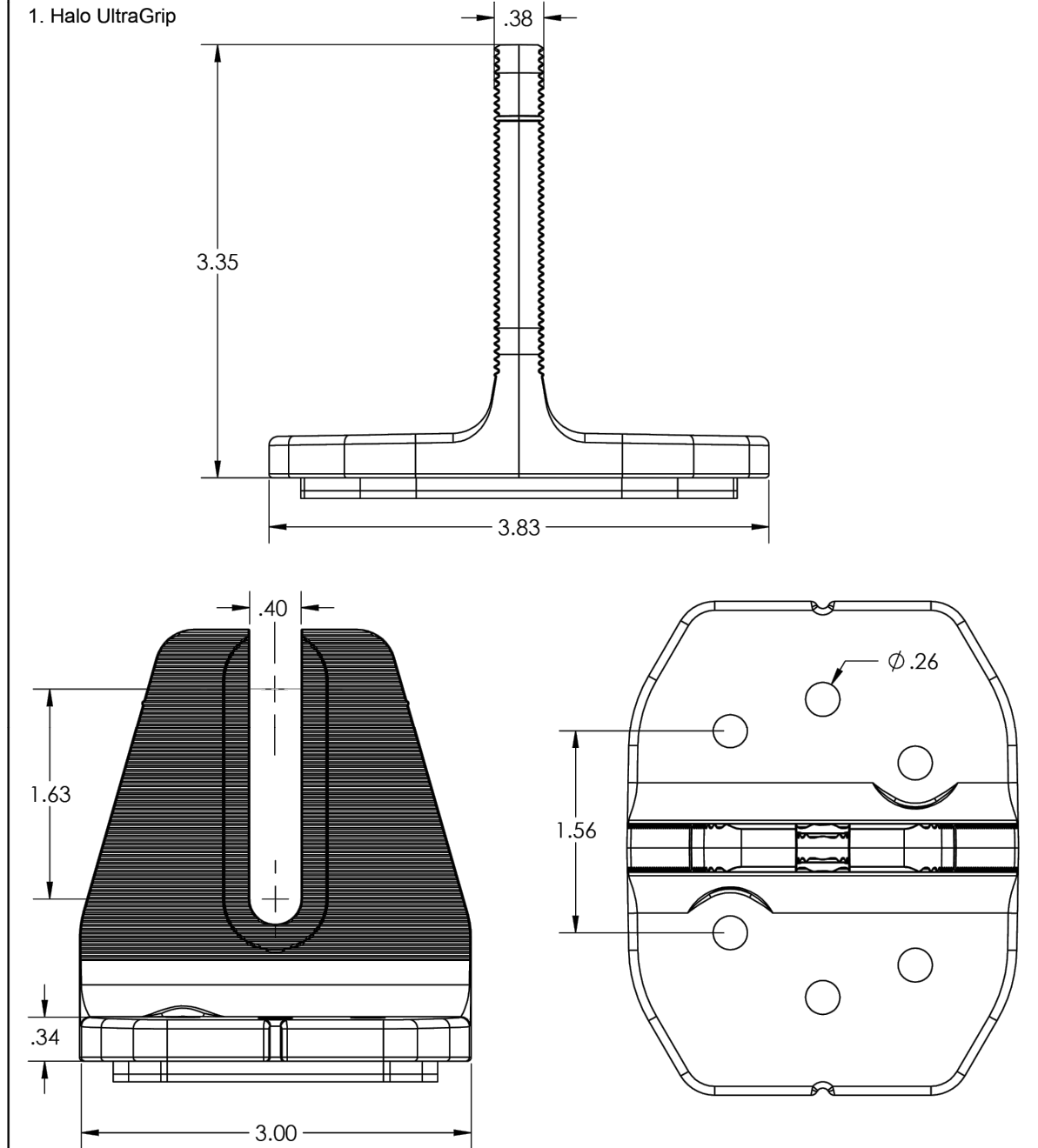
ITEM NO	DESCRIPTION	QTY IN KIT
1	QM Halo UltraGrip(Mill or Black)	1

PART NUMBER	DESCRIPTION
QM-HUG-01-M1	Halo UltraGrip - Mill
QM-HUG-01-B1	Halo UltraGrip - Black

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QM-HUG-01-B1 or QM-HUG-01-M1 Cut Sheet Rev 1.0

1. Halo UltraGrip



Property	Value
Material	300 Series Aluminium
Finish	Mill or Black

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QM-HUG-01-B1 or QM-HUG-01-M1 Cut Sheet Rev 1.0

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NEW GRID-TIED SYSTEM 4.38KW
COQUILLE INDIAN HOUSING AUTHORITY
502 MILUK DRIVE
COOS BAY, OR 97420

MOUNTING DETAIL

PROJECT NO: GSD-20241007-189227

DRAWN BY: SCM

DATE: 10/7/2024



Flush Mount System


Datasheet




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

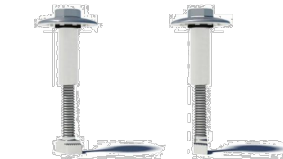


All rails use internal splices for seamless connections.

- 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

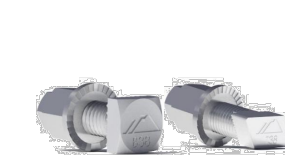
Slotted L-Feet



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](https://www.ironridge.com/design)



NABCEP Certified Training
 Earn free continuing education credits, while learning more about our systems.
[Go to IronRidge.com/training](https://www.ironridge.com/training)

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NEW GRID-TIED SYSTEM 4.38KW
COQUILLE INDIAN HOUSING AUTHORITY
502 MILUK DRIVE
COOS BAY, OR 97420

RACKING DATASHEET

PROJECT NO: GSD-20241007-189227
DRAWN BY: SCM
DATE: 10/7/2024

PV-7



8431 Murphy Drive
Middleton, WI 53562 USA

Telephone: 608.836.4400
Facsimile: 608.831.9279
www.intertek.com

Test Verification of Conformity

In the basis of the tests undertaken, the sample(s) of the below product have been found to comply with the requirements of the referenced specifications at the time the tests were carried out.

Applicant Name & Address:	IronRidge, Inc. 1495 Zephyr Ave. Hayward, CA 94544 USA
Product Description:	Flush Mount System with XR Rails.
Ratings & Principle Characteristics:	<u>Fire Class Resistance Rating:</u> -Flush Mount (Symmetrical). Class A Fire Rated for Low Slope applications when using Type 1, 2 and 3, listed photovoltaic modules. Class A Fire Rated for Steep Slope applications with Type1, 2 and 3, listed photovoltaic modules. Tested with a 5" gap (distance between the bottom the module frame and the roof covering), per the standard this system can be installed at any gap allowed by the manufacturers installation instructions. No perimeter guarding is required. This rating is applicable with any IronRidge or 3'rd party roof anchor.
Models:	IronRidge Flush Mount with XR Rails
Brand Name:	IronRidge Flush Mount
Relevant Standards:	UL 2703 (Section 15.2 and 15.3) Standard for Safety Mounting Systems, Mounting Devices, Clamping/Retention Devices, and Ground Lugs for Use with Flat-Plate Photovoltaic Modules and Panels, First Edition dated Jan. 28, 2015 Referencing UL1703 Third Edition dated Nov. 18, 2014, (Section 31.2) Standard for Safety for Flat-Plate Photovoltaic Modules and Panels.
Verification Issuing Office:	Intertek Testing Services NA, Inc. 8431 Murphy Drive Middleton, WI 53562
Date of Tests:	08/27/2014 to 03/17/2015
Test Report Number(s):	101769343MID-001r1, 101769343MID-001a, 101915978MID-001 & 101999492MID-001ar1-cr1.
This verification is part of the full test report(s) and should be read in conjunction with them. This report does not automatically imply product certification.	
Completed by:	Chris Zimbrich
Title:	Technician II, Fire Resistance
Signature:	
Date:	05/25/2016
Reviewed by:	Chad Naggs
Title:	Technician I, Fire Resistance
Signature:	
Date:	05/25/2016

This Verification is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Verification. Only the Client is authorized to permit copying or distribution of this Verification. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test/inspection results referenced in this Verification are relevant only to the sample tested/inspected. This Verification by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

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NEW GRID-TIED SYSTEM 4.38KW
COQUILLE INDIAN HOUSING AUTHORITY
502 MILUK DRIVE
COOS BAY, OR 97420

CLASS A FIRE RATING

PROJECT NO: GSD-20241007-189227

DRAWN BY: SCM

DATE: 10/7/2024



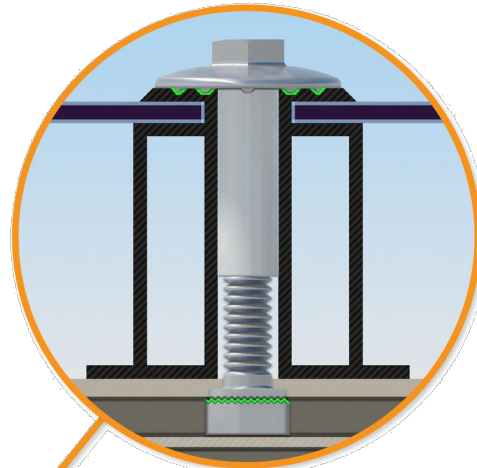
UFO Family of Components

Tech Brief

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.



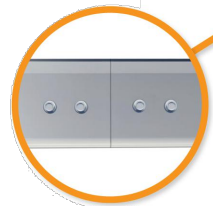
Universal Fastening Object (UFO)

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



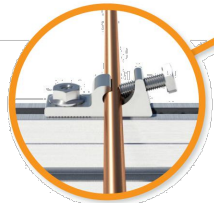
Stopper Sleeve

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



Bonded Splice

Each Bonded Splice uses self-drilling screws to form a secure connection. No bonding strap needed.



Grounding Lug

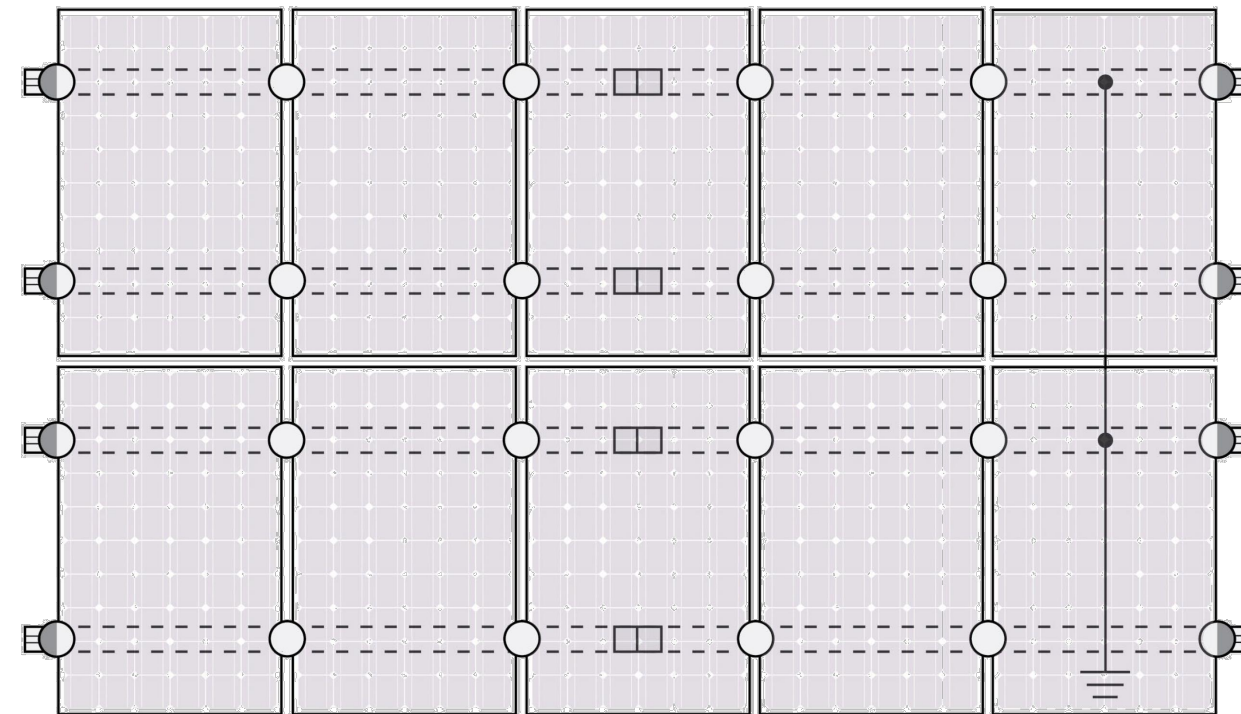
A single Grounding Lug connects an entire row of PV modules to the grounding conductor.



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.

System Diagram



○ UFO ◐ Stopper Sleeve ● Grounding Lug □ Bonded Splice ≡ Ground Wire

⚠ 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](https://www.ironridge.com/UFO)

Cross-System Compatibility			
Feature	Flush Mount	Tilt Mount	Ground Mount
XR Rails	✓	✓	XR1000 Only
UFO/Stopper	✓	✓	✓
Bonded Splice	✓	✓	N/A
Grounding Lugs	1 per Row	1 per Row	1 per Array
Microinverters & Power Optimizers	Enphase - M250-72, M250-60, M215-60, C250-72 Darfon - MIG240, MIG300, G320, G640 SolarEdge - P300, P320, P400, P405, P600, P700, P730		
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.		

Tech Brief

GSC INC.

PHONE: (503) 544-7312

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NEW GRID-TIED SYSTEM 4.38KW

COQUILLE INDIAN HOUSING AUTHORITY
502 MILUK DRIVE
COOS BAY, OR 97420

GROUNDING DETAILS

PROJECT NO: GSD-20241007-189227

DRAWN BY: SCM

DATE: 10/7/2024

PV-9



28357 Industrial Blvd.
Hayward, CA 94545
1-800-227-9523
IronRidge.com

Attn: Corey Geiger, COO, IronRidge Inc.
Date: July 13th, 2022

Re: Structural Certification and Span Tables for the IronRidge Flush Mount System

This letter addresses the structural performance and code compliance of IronRidge's Flush Mount System. The contents of the letter shall be read in its entirety before applying to any project design. The Flush Mount System is a proprietary rooftop mounting system used to support photovoltaic (PV) modules installed in portrait or landscape orientation and set parallel to the underlying roof surface. PV modules are supported by extruded aluminum XR Rails and secured to the rails with IronRidge mounting clamps. The XR Rails are side mounted to a selected roof attachment with 3/8" stainless steel bonding hardware and then attached directly to the roof structure or to a stanchion that is fastened to the underlying roof structure. Assembly details of a typical Flush Mount installation and its core components are shown in Exhibit EX-0015.

The IronRidge Flush Mount System is designed and certified to the structural requirements of the reference standards listed below, for the load conditions and configurations tabulated in the attached span tables.

- ASCE/SEI 7-16 Minimum Design Loads for Buildings and Other Structures (ASCE 7-16)
- 2018 International Building Code (IBC-2018)
- 2019 Oregon Structural Specialty Code (OSSC-2019)
- 2015 Aluminum Design Manual (ADM-2015)
- Report SEAOC (Structural Engineer Association of California) PV2-2017 Wind Design for Solar Arrays

The tables included in this letter provide the maximum allowable spans of XR Rails in the Flush Mount System for the respective loads and configurations listed, covering wind exposure categories B, C, & D, roof zones provided in ASCE 7-16 for gable & hip roof profiles, and roof slopes of 8° to 45°. The tabulated spans are applicable when the following conditions are met:

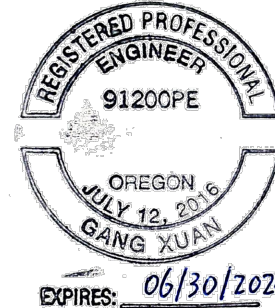
1. *Span* is the distance between two adjacent roof attachment points (measured at the center of the attachment fastener).
2. Each module shall be supported by 2 rails (2 rail system) or 3 rails (3 rail system). Spans are calculated based on 2 rail systems, and conservatively deemed acceptable for 3 rail systems.
3. The underlying roof slope, measured between the roof surface and horizontal plane, is 8° to 45°.
4. The *mean roof height*, defined as the average of the roof eave height and the roof ridge height measured from grade, does not exceed 30 feet.
5. A clearance from the underside of the array to the roof surface of 2" minimum shall be provided and the height of the array, the distance from the module top surface to the roof surface (defined as h_2), shall not exceed 10".
6. Module length and area shall not exceed the maximum values listed on the respective span tables.
7. All Flush Mount components shall be installed in a professional workmanlike manner per IronRidge's *Flush Mount Installation Manual* and other applicable standards for the general roof construction practice.



28357 Industrial Blvd.
Hayward, CA 94545
1-800-227-9523
IronRidge.com

The span tables provided in this letter are certified based on the structural performance of IronRidge XR Rails only with no consideration of the structural adequacy of the chosen roof attachments, PV modules, or the underlying roof supporting members. It is the responsibility of the installer or system designer to verify the structural capacity and adequacy of the aforementioned system components in regards to the applied or resultant loads of any chosen array configuration. This letter certifies the IronRidge products referenced within this document and provides no determination of the project specific conditions including site loads, building profile, & roof zones, which remain the responsibility of the installer or system designer.

Sincerely,



Gang Xuan, PE
Senior Structural Engineer

Digitally signed by
Gang Xuan
Date: 2022.07.14
14:00:43 -07'00'

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NEW GRID-TIED SYSTEM 4.38KW
COQUILLE INDIAN HOUSING AUTHORITY
502 MILUK DRIVE
COOS BAY, OR 97420

ENGINEERING LETTER

PROJECT NO: GSD-20241007-189227
DRAWN BY: SCM
DATE: 10/7/2024

PV-10



F6M_E7G-BB / 120 cells
345W - 365 W
Mono-Crystalline PV Module

URE modules use URE's state-of-the-art cell cutting technology and advanced module manufacturing experience.

Electrical Data

Model - STC		F6M345E7G-BB	F6M350E7G-BB	F6M355E7G-BB	F6M360E7G-BB	F6M365E7G-BB
Maximum Rating Power (Pmax)	[W]	345	350	355	360	365
Module Efficiency	[%]	18.68	18.95	19.22	19.50	19.77
Open Circuit Voltage (Voc)	[V]	39.90	40.10	40.30	40.50	40.70
Maximum Power Voltage	[V]	33.40	33.60	33.80	34.00	34.20
Short Circuit Current (Isc)	[A]	11.13	11.19	11.26	11.35	11.43
Maximum Power Current	[A]	10.33	10.42	10.51	10.59	10.68

*Standard Test Condition (STC): Cell Temperature 25 °C, Irradiance 1000 W/m², AM 1.5
*Values without tolerance are typical numbers. Measurement tolerance: ± 3%

Mechanical Data

Item	Specification
Dimensions	1762 mm (L) ¹ x 1048 mm (W) ¹ x 35 mm (D) ² / 69.37" (L) ¹ x 41.26" (W) ¹ x 1.38" (D) ²
Weight	19.6 kg / 43.21 lbs
Solar Cell	Mono / 83 mm x 166mm
Front Glass	White toughened safety glass, 3.2mm thickness
Frame	Black anodized aluminum profile
Junction box	IP ≥67, 3 diodes
Connectors Type	MC4 Compatible
Cable	1200mm (cable length can be customized), 4mm ²
Packaging Configuration	31 pcs Per Pallet, 806 pcs per 40' HQ container

¹: With assembly tolerance of ± 2 mm [± 0.08"]
²: With assembly tolerance of ± 0.8 mm [± 0.03"]

Operating Conditions

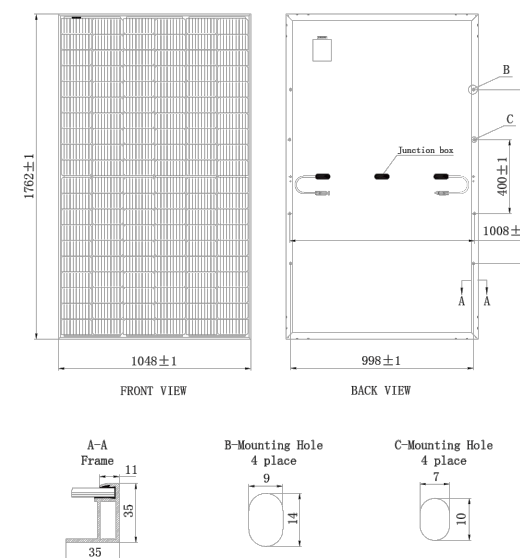
Item	Specification
Mechanical Load	5400 Pa
Maximum System Voltage	1000 VDC
Series Fuse Rating	20 A
Operating Temperature	-40 to 85 °C

Temperature Characteristics

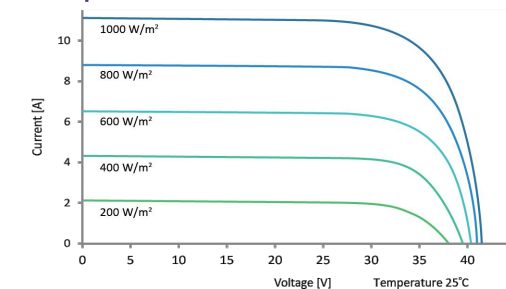
Item	Specification
Nominal Module Operating Temperature	45 °C ± 2°C
Temperature Coefficient of Isc	0.048 % / °C
Temperature Coefficient of Voc	-0.27 % / °C
Temperature Coefficient of Pmax	-0.35 % / °C

*Nominal module operating temperature (NMOT): Air mass AM 1.5, irradiance 800W/m², temperature 20°C, windspeed 1 m/s.
*Reduction in efficiency from 1000W/m² to 200W/m² at 25°C: 3.5 ± 2%.

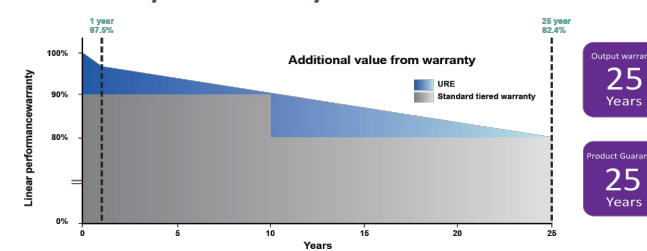
Engineering Drawing (mm)



Dependence on Irradiance



Reliability with Warranty



Key Features

- + Publicly Traded Taiwanese Company. Formed as the merger of four Cell and Module Manufacturers in 2018. All four founding companies (Neo Solar Power, Gintech, Solartech, NDF) were in existence since 2008 or earlier.
- + Winner of Taiwan Excellence Award 7 Consecutive Years for Highest Efficiency Module.
- + Super All Black Design for High Profile Residential and Commercial Installations.
- + Over 400MW Of Projects Installed in the United States.
- + High Quality Solar Cell Technology allows URE to be major international exporter to Solar Module manufacturers in the United States and Europe.
- + 25 Year Output Warranty and 25 Year Product Guarantee



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United Renewable Energy Co., Ltd.
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NEW GRID-TIED SYSTEM 4.38KW

COQUILLE INDIAN HOUSING AUTHORITY
502 MILUK DRIVE
COOS BAY, OR 97420

MODULE DATASHEET

PROJECT NO: GSD-20241007-189227
DRAWN BY: SCM
DATE: 10/7/2024

PV-11



Leading the Industry in
Solar Microinverter Technology



DS3 Series The most powerful Dual Microinverter

- One microinverter connects to two solar modules
- Max output power reaching 640VA, 768VA or 880VA
- Two independent input channels (MPPT)
- CA Rule 21 (UL 1741 SB) compliant
- NEC 2020 690.12 Rapid Shutdown Compliant
- Encrypted Wireless ZigBee Communication
- Phase Monitored and Phase Balanced

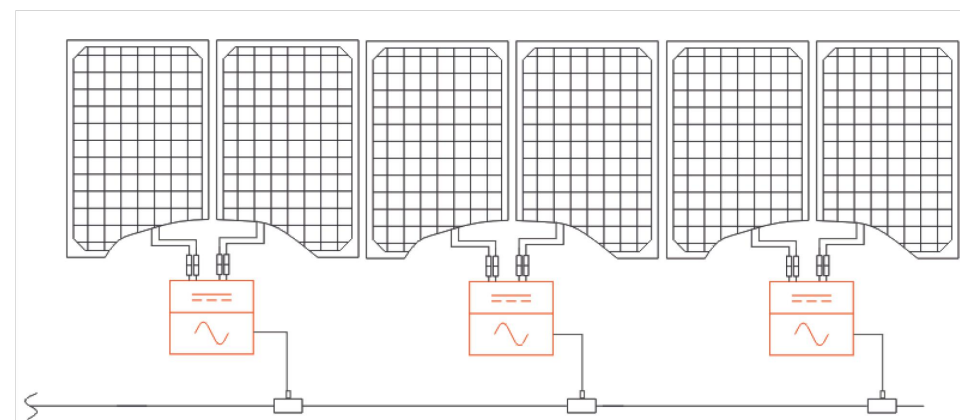
PRODUCT FEATURES

APsystems' 3rd generation of dual-module microinverters, the DS3 product family represents the culmination of years of power conversion expertise and innovation in high-efficiency, high-density power conversion to maximize the peak performance of today's high-capacity PV modules.

The DS3 series reaches unprecedented levels of power output. It features 2 input channels, each with independent MPPT, and encrypted wireless ZigBee communication. An innovative and compact design makes the product lighter while maximizing power production, and silicone-encapsulated components reduce stress on electronics, facilitate thermal dissipation, and enhance weatherproofing. Reliability is significantly increased thanks to 20% fewer components than previous generations. A 24/7 energy access through apps or web based portal facilitate remote diagnosis and maintenance.

The DS3 series is grid-interactive and fully compliant with CA Rule 21 requirements. With an excellent performance and high conversion efficiency, a unique integration with less components, the APsystems DS3 series is a gamechanger for residential and commercial solar.

WIRING SCHEMATIC



2024/02/22 Rev2.0

Datasheet | DS3 Microinverter Series

Model	DS3-S	DS3-L	DS3
Region		USA / Canada	
Input Data (DC)			
Recommended PV Module Power (STC) Range	250Wp-480Wp+	265Wp-570Wp+	300Wp-660Wp+
Peak Power Tracking Voltage	28V-45V		
Operating Voltage Range	26V-60V		
Maximum Input Voltage	60V		
Maximum Input Current	16A x 2	18A x 2	20A x 2
Maximum input short circuit current	20A per input	22.5A per input	25A per input

Output Data (AC)			
Maximum Continuous Output Power	640VA	768VA	880VA
Nominal Output Voltage/Range ⁽¹⁾	240V / 211V-264V		
Nominal Output Current	2.66A	3.2A	3.7A
Maximum Output Fault Current (ac) And Duration	5.691Apk, 26.75ms of duration; 3.307Arms		
Nominal Output Frequency/ Range ⁽¹⁾	60Hz/58.8Hz-61.2Hz(HECO:57Hz-63Hz)		
Power Factor (Default/Adjustable)	0.99/0.8 leading...0.8 lagging		
Maximum Units per 12AWG Branch ⁽²⁾	6 (20A breaker)	5 (20A breaker)	4 (20A breaker)
Maximum Units per 10AWG Branch ⁽²⁾	9 (30A breaker)	7 (30A breaker)	6 (30A breaker)

Efficiency			
Peak Efficiency	97.3%		
CEC Efficiency	97%		
Nominal MPPT Efficiency	99.5%		
Night Power Consumption	20mW		

Mechanical Data			
Operating Ambient Temperature Range ⁽³⁾	-40°F to +149°F (-40°C to +65°C)		
Storage Temperature Range	-40°F to +185°F (-40°C to +85°C)		
Dimensions (W x H x D)	10.3" x 8.6" x 1.6" (263mm x 218mm x 41.2mm)	10.3" x 8.6" x 1.7" (263mm x 218mm x 42.5mm)	
Weight	5.7lbs(2.7kg)	6.8lbs(3.1kg)	
DC Connector Type	Stäubli MC4 PV-ADBP4-S2&ADSP4-S2		
Cooling	Natural Convection - No Fans		
Enclosure Environmental Rating	Type 6		

Features			
Communication (Inverter To ECU) ⁽⁴⁾	Encrypted ZigBee		
Isolation Design	High Frequency Transformers, Galvanically Isolated		
Energy Management	Energy Management Analysis (EMA) system		
Warranty ⁽⁵⁾	10 Years Standard ; 25 Years Optional		

Compliance			
Safety and EMC Compliance	UL1741; CSA C22.2 No. 107.1-16; UL1741SA; UL1741SB; IEEE1547; Rule 21; SRD-V2.0; FCC Part15; ICES-003; NEC2014&NEC2017&NEC2020 Section 690.11 DC Arc-Fault circuit Protection; NEC2014&NEC2017&NEC2020 Section 690.12 Rapid Shutdown of PV systems on Buildings		

⁽¹⁾Nominal voltage/frequency range can be extended beyond nominal if required by the utility.
⁽²⁾Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.
⁽³⁾The inverter may enter to power de-grade mode under poor ventilation and heat dissipation installation environment.
⁽⁴⁾ Recommend no more than 80 inverters register to one ECU for stable communication.
⁽⁵⁾To be eligible for the warranty, APsystems microinverters need to be monitored via the EMA portal. Please refer to our warranty T&Cs available on usa.APsystems.com.

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 Specifications subject to change without notice please ensure you are using the most recent update found at web : usa.APsystems.com

APsystems
 8627 N. Mopac Expy, Suite 150, Austin, TX 78759
apsystems.com



GSC INC.
 PHONE: (503) 544-7312
 LICENSE NO. 71741 (CCB)

CONFIDENTIAL: THE INFORMATION CONTAINED IN THIS DRAWING SET IS CONFIDENTIAL AND SHALL NOT BE DISCLOSED IN FULL OR IN PART TO ANYONE EXCEPT THOSE INVOLVED IN THE DESIGN AND INSTALLATION OF THE PV SYSTEM REPRESENTED IN THIS PLAN.

NEW GRID-TIED SYSTEM 4.38KW
 COQUILLE INDIAN HOUSING AUTHORITY
 502 MILUK DRIVE
 COOS BAY, OR 97420

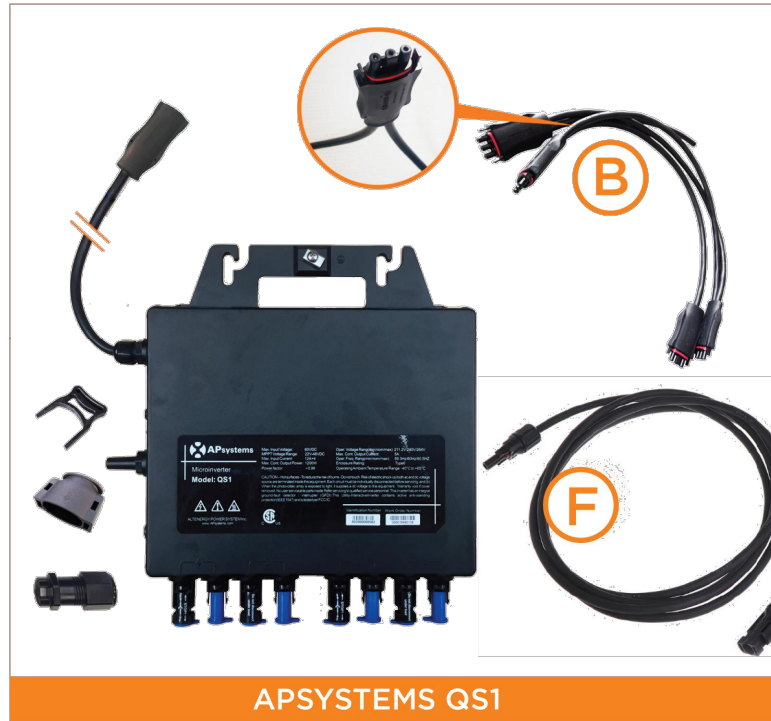
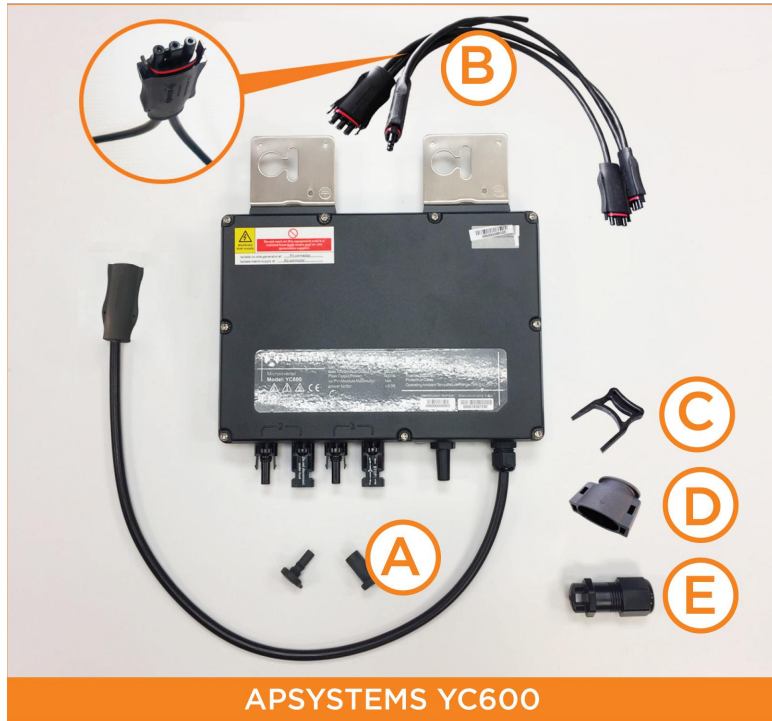
INVERTER DATASHEET

PROJECT NO: GSD-20241007-189227
 DRAWN BY: SCM
 DATE: 10/7/2024

PV-12

APsystems Accessories

The APsystems microinverter solution includes a full range of certified products and accessories to suit any PV application. Contact your APsystems distributor, or see our full catalog online at APsystems.com.



A	MC4 DC Connector Cap - M	Sealing cap for DC Connector - Male (purchase w/ F)	2060401006
	MC4 DC Connector Cap - F	Sealing cap for DC Connector - Female (purchase w/ M)	2060402006
B	Y3 Bus Cable - 2m	Y3 Trunk cable for YC600/QS1 - 2m (12AWG, TC-ER cULus, 2M, BK-RD-GN)	2322301303
	Y3 Bus Cable - 4m	Y3 Trunk cable for YC600/QS1 - 4m (12AWG, TC-ER cULus, 4M, BK-RD-GN) E489601 (UL) Type TC-ER 3C/12AWG 90C Wet or Dry 600V --- c(UL) Type CIC 90C 600V FT4 Dir Bur Sun Res -40C Cold Bend Hwatek	2322401303
C	YC600-Y/QS1 AC Cable Unlocking Tool	Unlocks the inverter and the AC bus	2352000001
D	YC600-Y/QS1 Conn Cap	Protects an unused connector on the AC Bus	2061702007
E	YC600-Y/QS1 AC Bus End Cap	Waterproofs the end of the AC bus	2060700007
F	DC Extension Cable	2m DC Extension Cable (MC4)	2310360214
	AC Connector - M	AC Cable Connector - Male	2300531032
	AC Connector - F	AC Cable Connector - Female	2300532032



ECU-R

The ECU-R is the information gateway designed for residential and commercial applications that do not require consumption monitoring. It collects and transfers module performance data giving you comprehensive monitoring and control over each individual module, optimizing the performance of your solar array.



ECU-C

The ECU-C, designed from the ground up as a multi-featured gateway for residential and commercial applications, offers advanced functionality for more data-centric installations, with consumption and production monitoring, contact and relay ports, and high-frequency metering.

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ACCESSORIES

PROJECT NO: GSD-20241007-189227
DRAWN BY: SCM
DATE: 10/7/2024

PV-13



Certificate of Compliance

Certificate: 80069963 **Master Contract:** 259077
Project: 80106790 **Date Issued:** 2021-12-15
Issued to: Altenergy Power System Inc.
No.1 Yatai Road
Jiaxing, Zhejiang, 314050
CHINA
Attention: Kevin Lu

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only



Issued by: *Magic Zhang*
Magic Zhang

PRODUCTS

CLASS - C531109 - POWER SUPPLIES - Distributed Generation Power Systems Equipment
CLASS - C531189 - POWER SUPPLIES - Distributed Generation-Power Systems Equipment - Certified to U.S. Standards

Grid Support Utility Interactive Microinverter, Models DS3-H, DS3, DS3-L and DS3-S, rack mounted.

For details related to rating, size, configuration, etc., reference should be made to the CSA Certification Record, Certificate of Compliance Annex A, or the Descriptive Report.

APPLICABLE REQUIREMENTS

CSA-C22.2 No.107.1-16 - Power Conversion Equipment
*UL Std No. 1741-Third Edition - Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources (Third Edition, Dated September 28, 2021)



Certificate: 80069963 **Master Contract:** 259077
Project: 80106790 **Date Issued:** 2021-12-15

*Note: Conformity to UL 1741 (Third Edition, Dated September 28, 2021) includes compliance with applicable requirements of IEEE 1547-2003 (R2008), IEEE 1547.1-2005(R2011), California Rule 21 and Supplement SA8-SA18.

*Note: This product is PV Rapid Shut Down Equipment and conforms with NEC-2014, NEC-2017 and NEC-2020 Article 690.12 and CEC-2018, CEC-2021 Sec 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, when installed according manufacturer's instructions.

Notes:

Products certified under Class C531109 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca



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NEW GRID-TIED SYSTEM 4.38KW

COQUILLE INDIAN HOUSING AUTHORITY
502 MILUK DRIVE
COOS BAY, OR 97420

RAPID SHUTDOWN

PROJECT NO: GSD-20241007-189227

DRAWN BY: SCM

DATE: 10/7/2024

1 APSYSTEMS RAPID SHUTDOWN CERTIFICATION
PV-14 SCALE: NTS

PV-14