



March 2, 2012

Oregon Public Utilities Commission
550 Capital St NE #215
PO Box 2148
Salem, OR 97308-2148

RE: EXPIDITED REQUEST for a waiver of the 12-month installation requirement (OAR 860-084-2010 (1) for the Portland General Electric (PGE) Solar Payment Option program.

To Whom It May Concern:

Christenson Electric is submitting this request on behalf of Ponzi Vineyards which has a Portland General Electric Solar Payment Program reservation (9C98BB) and a system completion date of April 12, 2012.

Specifically, we are asking for a 30-day extension to allow time for system completion.

General Information

The system in question is a 10kW roof mounted system will be located on the roof of the Ponzi Vineyards winery building located at 19500 SW Mountain Home Rd, Sherwood, OR 97140.

Circumstances in Request

All things being equal, we are very confident in our ability to install the system in a timely manner. However, there were a few minor delays during the previous 12 months which, when added together, caused us concern over timing. With our experience in the building and electrical permit process for this jurisdiction (Washington County) along with the possibility of inclement weather during installation we feel a small extension is the prudent path for the ratepayer. These delays included the customer desire to see the results of the BETC rulemaking process. A favorable BETC process would have allowed them to build a larger system. But in the last few weeks, it became apparent that the new BETC rules were going to be very difficult. In addition, there were some extended discussions within the Ponzi Vineyards management as to the right system design. The aesthetics of the building are extremely important to the Ponzi brand. Those discussions are complete per the attached drawing set and we are ready to proceed.

The following work has been completed:
Interconnection application (attached)
System design (attached)
Structural engineering review (attached)
Permit applications (attached)

We are hoping that these circumstances and along with the short extension request will help the commission find in our favor.

Please let us know if any further information would be helpful in your evaluation of our request.

On behalf of Ponzi Vineyards,

Respectfully submitted,

Alan Hickenbottom
General Manager, Energy Services Group

Solar Payment Option System
Application for Level 1 Interconnection

(Applies to a photovoltaic system with 25 kW or less DC nameplate capacity)



Customer Information:

Tracking No. (provided with notification of Capacity Reservation Date): 9C98BB
Name: LUISA PONZI
Company Name (if applicable): PONZI VINEYARDS
Mailing Address: 14665 SW WINERY LANE
City: BEAVERTON State: OR Zip Code: 97007
Daytime Telephone: 503-628-8080 Cell/Evening: _____
E-Mail: LUISA@PONZIWINES.COM

Facility Information:

Existing Account where backfeed will occur (from PGE bill): 468286-872725
Estimated Commissioning Date (when system will pass local authority inspection): 04/01/11
Location (if different from Applicant's address listed above):
Street Address: 19500 MOUNTAIN HOME ROAD
City: SHERWOOD State: OR Zip Code: 97140
Service Voltage: 277/480 Volts Single-Phase 3-Phase
Generator Nameplate Capacity (STC kW total for all panels): 10 DC kW

System Installer Information (must be an Energy Trust Trade Ally):

Company Name: CHRISTENSON ELECTRIC
Contact Name: MAT ELMORE
Contractor License No. 458 Electrical Supervisor: _____
Mailing Address: 111 SW COLUMBIA ST. SUITE 480
City: PORTLAND State: OR Zip Code: 97201
Office Telephone: 503-892-5726 Cell: 503-333-5578
E-Mail: MAT.ELMORE@CHRISTENSON.COM

(Continued on next page)

Inverter Information:

Inverter Manufacturer: SOLECTRIA Model: PVI 10KW

Total Number of Inverters: 1 Max. Capacity per Inverter: 10 AC kW output

Phase: Single Three Inverter Output Voltage: 480 AC Volts

Inverter specifications sheet (manufacturer's cut sheet).

Note: If inverter is not lab-certified by a Nationally Recognized Testing Laboratory (NRTL), then a Level 3 Interconnection Application is required.

Additional Documents:

Disconnect Determination.

Does AC generation capacity exceed 30 amps (*see chart*)?

yes

no

Service Type	Max. AC Output Allowed without a Disconnect
240 Volts, Single-Phase, 3 Wire:	7.2 kW
120/208 Volts, 3-Phase, 4 Wire:	10.5 kW
120/240 Volts, 3-Phase 4 Wire:	12.5 kW
277/480 Volts, 3-Phase 4 Wire:	25.0 kW

If yes, your site requires a readily accessible, lockable disconnect switch and Application will require two drawings:

- i) a **one-line electrical diagram** showing full circuit from solar panels to existing PGE meter, including new production meter, disconnect, all protective devices, etc., and
- ii) a **site plan** showing to-scale the proposed location of the disconnect, existing PGE meter, and new PGE production meter. Distance is to not exceed ten feet (10') unless other arrangements have been made with PGE.

Estimated Energy Generation:

Systems applying for participation in the Solar Payment Option must be sized to generate 90% or less than existing service's annual usage. If annual usage is unavailable, it will be estimated by PGE based upon the rolling average of three years' usage by a similarly situated site.¹

Annual kilowatt-hours (kWh) production estimate must use a forecasting methodology consistent with the methodologies used by the Energy Trust of Oregon and the Oregon Department of Energy.

System Production Estimate (annual): 11,302 kWh

¹ The eligible system is limited to 90 percent of the electric site's previous usage. You can find information about approximate expected generation by visiting the Energy Trust of Oregon web site at <http://energytrust.org/shared-resources/solar-calculator/>. The solar calculator helps you determine how much electricity you can expect to produce, although your Energy Trust Trade Ally will provide a more accurate estimate to complete this application.

503-419 3333

Customer Consent to Data Release

I hereby acknowledge and agree that PGE may release information concerning my participation in the Pilot to the Oregon Department of Revenue, the Oregon Department of Energy, the Oregon Public Utility Commission and the Energy Trust of Oregon. PGE shall use reasonable efforts to pursue appropriate confidentiality terms with the above agencies and organizations.

Customer Signature:

I hereby attest that the information submitted on this application is accurate to the best of my knowledge. I certify that the system is to be constructed from new components and compliant with Oregon Public Utility Commission quality and reliability requirements for photovoltaic systems. I also certify that the system will be first operational and online after July 1, 2010.

Applicant Signature: [Handwritten Signature] Date: 5-13-11

Printed Name: Luisa Ponzi Title (if applicable): Owner

Mail Completed Interconnection Application to:

PGE Solar Payment Option
PO Box 4079
Portland, OR 97208-4079

Interconnection Application Receipt Acknowledgement:

Receipt of a completed application is hereby acknowledged.

Approval for a Level 1 Solar Payment Option System interconnection is contingent upon the Applicant's Generator Facility passing the Level 1 screens and completing the review process set forth in OPUC Rule AR 538, Division 084 and is not granted by the utility's receipt acknowledgement signature on this Application Form. The Applicant will be notified within ten (10) business days of receipt of this acknowledgment whether the interconnection application is approved or denied.

Utility Signature: _____ Date: _____

Printed Name: _____ Title: _____

Interconnection Application Approval:

Utility Signature: _____ Date: _____

Printed Name: _____ Title: _____

111 SW Fifth Avenue Suite 2500
Portland, OR 97204
(503) 227-3251
(503) 227-7980 FAX

AGREEMENT FOR PROFESSIONAL SERVICES

DATE: March 1, 2012

JOB NUMBER: 212127

CLIENT: Christenson Electric, Inc.

PROJECT NAME: Ponzi Winery – Roof PV Installation

LOCATION: Sherwood, OR


SCOPE OF SERVICES: Review existing winery building to support a 10kW PV solar array. Scope includes review of existing structure and connections. Structural information will be marked-up on Christenson drawing set as required.

SPECIAL CONDITIONS: N/A

FEE: \$1,150

Offered By (KPFF, Inc.)

Accepted by (Christenson Electric)



(Signature)

(Signature)

Josh Richards, S.E. / Associate

(Printed Name and Title)

Jeff Zimmerman

(Printed Name and Title)

Please sign in the space provided and return to our office for our signature. We will return a fully executed copy of the Agreement to you for your records.

TERMS AND CONDITIONS

KPFF, Inc. ("KPFF") shall perform the services outlined in this agreement pursuant to the stated fee arrangement.

1. Additional Services

Should the Scope of Services change from those set forth in the Agreement for Professional Services, the fee for such additional services will be negotiated between Client and KPFF.

2. Limitation of Liability

To the greatest extent allowed by law, the aggregate liability of KPFF for any and all injuries, claims, demands, losses, expenses or damages, of whatever kind, arising out of or in any way related to this Agreement or the services provided by KPFF on this project, shall be limited to \$25,000 or the total fee received by KPFF pursuant to this Agreement, whichever is greater. Further, no officer, director, shareholder or employee of KPFF shall bear any personal liability to Client for any and all injuries, claims, demands, losses, expenses or damages, of whatever kind or character, arising out of or in any way related to this Agreement or the services provided by KPFF on this project.

3. Mediation

All disputes between Client and KPFF arising out of or relating to this Agreement shall be submitted to nonbinding mediation prior to commencement of any other judicial proceeding.

4. Dispute Handling

KPFF shall make no claim against Client without first providing Client with a written notice of damages and providing Client thirty (30) days to cure before an action is commenced. The Client shall make no claim either directly or in a third party claim, against KPFF unless the Client has first provided KPFF with a written certification executed by an independent professional currently practicing in the same discipline as KPFF and licensed in the state of the subject project. This certification shall a) contain the name and license number of the certifier; b) specify each and every act or omission that the certifier contends is a violation of the standard of care expected of a professional performing professional services under similar circumstances; and c) state in complete detail the basis for the certifier's opinion that each such act or omission constitutes such a violation. This certificate shall be provided to KPFF not less than thirty (30) calendar days prior to the presentation of any claim or the institution of any judicial proceeding.

5. Suspension of Services

If Client fails to make payments to KPFF in accordance with this Agreement, such failure shall provide KPFF the option to suspend performance of services under this Agreement upon seven (7) days written notice to Client. In the event of a suspension of services, KPFF shall have no liability for any delays or damages caused because of such suspension. Before resuming services, KPFF shall be paid all sums due prior to suspension and any expenses incurred by KPFF in the interruption and resumption of its services. KPFF's fees for the remaining services and time schedules shall be equitably adjusted. If any invoice is in dispute, Client shall pay under written protest to keep the project on schedule and resolve the payment dispute after substantial completion.

6. Termination

This Agreement may be terminated by either party with seven (7) days written notice to the other in the event of a substantial failure of performance by the other party through no fault of the terminating party. If this Agreement is terminated, KPFF shall be paid for services performed to the termination notice date, including reimbursable expenses due.

7. Ownership of Documents

All documents produced by KPFF are instruments of service and are, and shall remain, the property of KPFF, whether the project for which they are made is executed or not. They are not to be used on other projects or extensions to this project except by agreement in writing.

8. Contract Administration

It is understood that KPFF will not provide design and construction review services relating to safety measures of any contractor or subcontractor on the project. Further, it is understood that KPFF will not provide any supervisory services relating to the construction for the project. Any opinions solicited from KPFF relating to any such review or supervisory services shall be considered only as general information and shall not be the basis for any claim against KPFF.

9. No Third Party Beneficiary

Nothing in this Agreement shall create a contractual relationship with or a cause of action in favor of any third party against KPFF or Client.

10. No Assignments

Neither party to this Agreement shall transfer, sublet or assign any rights under or interest in this Agreement (including but not limited to monies that are due or monies that may be due) without the prior written consent of the other party.

11. Payments

KPFF will submit monthly invoices. Payment is due on the date of the invoice and becomes delinquent one month thereafter. A late charge will be added to delinquent amounts at the rate of one-and-one-half percent (1-½ %) for each one month of delinquency (or the maximum allowable by law, whichever is lower). If KPFF initiates suit to recover delinquent sums owed by Client, KPFF shall be entitled to recover all reasonable costs incurred, including staff time, court costs, attorney's fees, expert fees and other related costs and expenses.



Building Permit Application

Washington County Phone: 503-846-3470, Fax: 503-846-3993, Inspection Request: 503-846-3699
 155 N. 1st AV, Suite 350, MS 12, Hillsboro, OR 97124 www.co.washington.or.us
 Land Use Approval: **Project #** **Permit #**

TYPE OF WORK	
<input type="checkbox"/> New construction	<input type="checkbox"/> Demolition
<input checked="" type="checkbox"/> Addition/alteration/replacement	<input type="checkbox"/> Other:
CATEGORY OF CONSTRUCTION	
<input type="checkbox"/> 1- and 2-family dwelling	<input checked="" type="checkbox"/> Commercial/industrial
<input type="checkbox"/> Accessory building	<input type="checkbox"/> Multi-family
JOB SITE INFORMATION AND LOCATION	
Job site address: 19500 SW Mountain Home Road	
City/State/ZIP: Sherwood, OR 97140	
Suite/bldg./apt. no.:	Project name: Collina del Sogno
Cross street/directions to job site: on Mountain Home Road about 1.2 miles south of highway 219	
Plan No.	Reissue: Yes <input type="checkbox"/> No <input type="checkbox"/>
Subdivision:	Lot no.:
Tax map/parcel no.:	
DESCRIPTION OF WORK	
Install a 9.9kW solar array on the roof of an existing building.	
<input type="checkbox"/> PROPERTY OWNER	<input type="checkbox"/> TENANT
Name:	
Address:	
City/State/ZIP:	
Phone: ()	Fax: ()
<input checked="" type="checkbox"/> APPLICANT	<input checked="" type="checkbox"/> CONTACT PERSON
Business name: See CONTRACTOR below	
Contact name: Jeff Zimmerman	
Address:	
City/State/ZIP:	
Phone: (503) 419-3643	Fax: (503) 419-3743
E-mail: jeff.zimmerman@christenson.com	
CONTRACTOR	
Business name: Christenson Electric, Inc.	
Address: 111 SW Columbia, Ste. 480	
City/State/ZIP: Portland, OR 97201	
Phone: (503) 419-3643	Fax: (503) 419-3743
CCB lic.: 458	
Engineer: KPFF	Architect:
Address: 111 SW fifth Ave., Ste. 2500 Portland, OR 97204	Address:
Phone:(503)227-3251	Phone:()
Email:	Email:

REQUIRED DATA: 1- AND 2-FAMILY DWELLING	
Permit fees* are based on the value of the work performed. Indicate the value (rounded to the nearest dollar) of all equipment, materials, labor, overhead, and the profit for the work indicated on this application.	
Valuation	
Number. of bedrooms:	
Number of bathrooms:	
Total number of floors:	
New dwelling area: square feet	
Garage/carport area: square feet	
Covered porch area: square feet	
Deck area: square feet	
Other structure area: 850 square feet	
REQUIRED DATA: COMMERCIAL-USE CHECKLIST	
Permit fees* are based on the value of the work performed. Indicate the value (rounded to the nearest dollar) of all equipment, materials, labor, overhead, and the profit for the work indicated on this application.	
Valuation :PV structural racking \$12,995.00	
Existing building area: square feet	
New building area: square feet	
Number of stories:	
Type of construction:	
Occupancy groups:	
Existing:	
New:	
NOTICE	
All contractors and subcontractors are required to be licensed with the Oregon Construction Contractors Board under ORS 701 and may be required to be licensed in the jurisdiction in which work is being performed. If the applicant is exempt from licensing, the following reasons apply:	
BUILDING PERMIT FEES*	
Please refer to fee schedule	
Fees due upon application	\$378.79
Amount received	\$
Date received:	

This permit application expires if a permit is not obtained within 180 days after it has been accepted as complete.

* Fee methodology set by Tri-County Building Industry Service Board

Authorized signature: *Robert Bruone*
 Print name: **Robert Bruone** Date: **5/28/12**



Renewable Electrical Energy Permit Application

Department of Land Use and Transportation
 Building Services Section
 155 N. 1st Avenue, Suite 350, MS 12
 Hillsboro, OR 97124
 (503) 846-3470, Fax: (503) 846-3993
 www.co.washington.or.us

DEPARTMENT USE ONLY	
Project No.:	
Permit No.:	
By:	Date:
LOCAL GOVERNMENT APPROVAL	
Zoning approval verified?	<input type="checkbox"/> Yes <input type="checkbox"/> No

This permit is issued under OAR 918-309-0410. Permits are non-transferable. Permits expire if work is not started within 180 days of issuance or if work is suspended for 180 days.

JOB SITE INFORMATION AND LOCATION	
Job site address: 19500 SW Mountain Home Road	
City/State/ZIP: Sherwood, Oregon 97140	
Tax Map & Lot No:	
Project name: Collina del Sogno PV Array	
Directions to job site: 219 south 11 miles, left on Mt. Home Rd. , 1.2 miles (Ponzi Vineyards)	
Subdivision:	Lot no.:
DESCRIPTION OF WORK	
Install 9.9kW roof mount, grid tied PV array	
Job no.:	
PROPERTY OWNER INSTALLATION	
Name:	
Address:	
City/State/ZIP:	
Contact phone: ()	E-mail:
This installation is being made on residential or farm property owned by me or a member of my immediate family. This property is not intended for sale, exchange, lease, or rent. [ORS 479.540(1) and 479.560(1)]	
Sign here:	
CONTRACTOR INSTALLATION	
Business name: Christenson Electric, Inc.	
Address: 111 SW Columbia, Ste. 480	
City/State/ZIP: Portland, OR 97102	
Contact phone: (503) 419.3643	Fax: (503) 419.3743
E-mail: jeff.zimmerman@christenson.com	
CCB lic.: 458	CD lic. no.: 26-34C
Signature: <i>Robert Bruene</i>	
Name of signing supervisor: <i>Robert Bruene</i> Lic. no. 52155	

FEE SCHEDULE			
Number of inspections per item = ()	No. of items	Cost each	Sum
ALL Renewable energy installations per system-total up to 25 KVA			
5 KVA or less (2)		\$90.50	\$ 0.00
5.01 to 15 KVA (2)	1	\$120.50	\$ 120.50
15.01 to 25 KVA (2)		\$182.00	\$ 0.00
Wind generation system over 25 KVA			
25.01 to 50 KVA (3)		\$271.00	\$ 0.00
50.01 to 100 KVA (3)		\$507.50	\$ 0.00
100.1 KVA and over: OAR 918-309-0040	Use standard electrical service or feeder fees below.		
Service or feeders in amps per OAR 918-309-0040			
200 amps or less (2)	1	\$95.75	\$ 95.75
201 amps to 400 amps (2)		\$127.00	\$ 0.00
401 amps to 600 amps (2)		\$191.00	\$ 0.00
601 amps to 1,000 (2)		\$286.00	\$ 0.00
Over 1,000 amps or volts (2)		\$535.00	\$ 0.00
Each branch circuit with above service or feeder(s).	4	\$9.00	\$ 36.00
Solar generation system over 25 KVA			
Each KVA over 25.01 up to 100 KVA (3)		\$6.25	\$ 0.00
100.01 KVA and over no additional fee. [OAR 918-309-0070 (11)(c)(B)]	No additional fee		
Each additional inspection (1) OAR 918-309-0070		\$105.00	\$ 0.00
Miscellaneous fees, hourly rate		\$105.00	\$ 0.00
FEE TOTALS			
(A) Subtotal of above fees		\$	252.25
(B) State surcharge. 12% of subtotal.		\$	30.27
(C) Plan review required for systems over 25 KVA at 25% of (A). (No 12% surcharge)		\$	
Total fees and surcharges:		\$	282.52

Make checks or money orders payable to Washington County.
 Credit card payments are accepted in person or by submitting our "Credit Card Authorization" form along with this application. (Located under "Payments & Fees, Payment Options" on our website)

**PHOTOVOLTAIC SYSTEM
PONZI VINEYARDS - COLLINA DEL SOGNO
19500 SW MOUNTAIN HOME RD.
SHERWOOD, OREGON 97140**

OWNER

PONZI VINEYARDS
19500 SW MOUNTAIN HOME RD.
SHERWOOD, OREGON 97140
503.628.1227

PROJECT MANAGER

CHRISTENSON ELECTRIC
111 SW COLUMBIA, SUITE 480
PORTLAND, OREGON 97201
503.419.3330

GENERAL/ELECTRICAL CONTRACTOR

CHRISTENSON ELECTRIC
111 SW COLUMBIA, SUITE 480
PORTLAND, OREGON 97201
503.419.3330

STRUCTURAL ENGINEER

KPFF CONSULTING ENGINEERS
111 SW FIFTH AVENUE, SUITE 2500
PORTLAND, OREGON 97204
503.227.3251

SYSTEM DESIGN

TANNER CREEK ENERGY
111 SW COLUMBIA, SUITE 480
PORTLAND, OREGON 97201
503.892.5726

SYSTEM DESCRIPTION

- (44) SOLARWORLD 225 POLY PV MODULES
- (1) POWER-ONE AURORA TRIO 10kW INVERTER
- 9,900 WATTS DC STC

SCOPE OF WORK

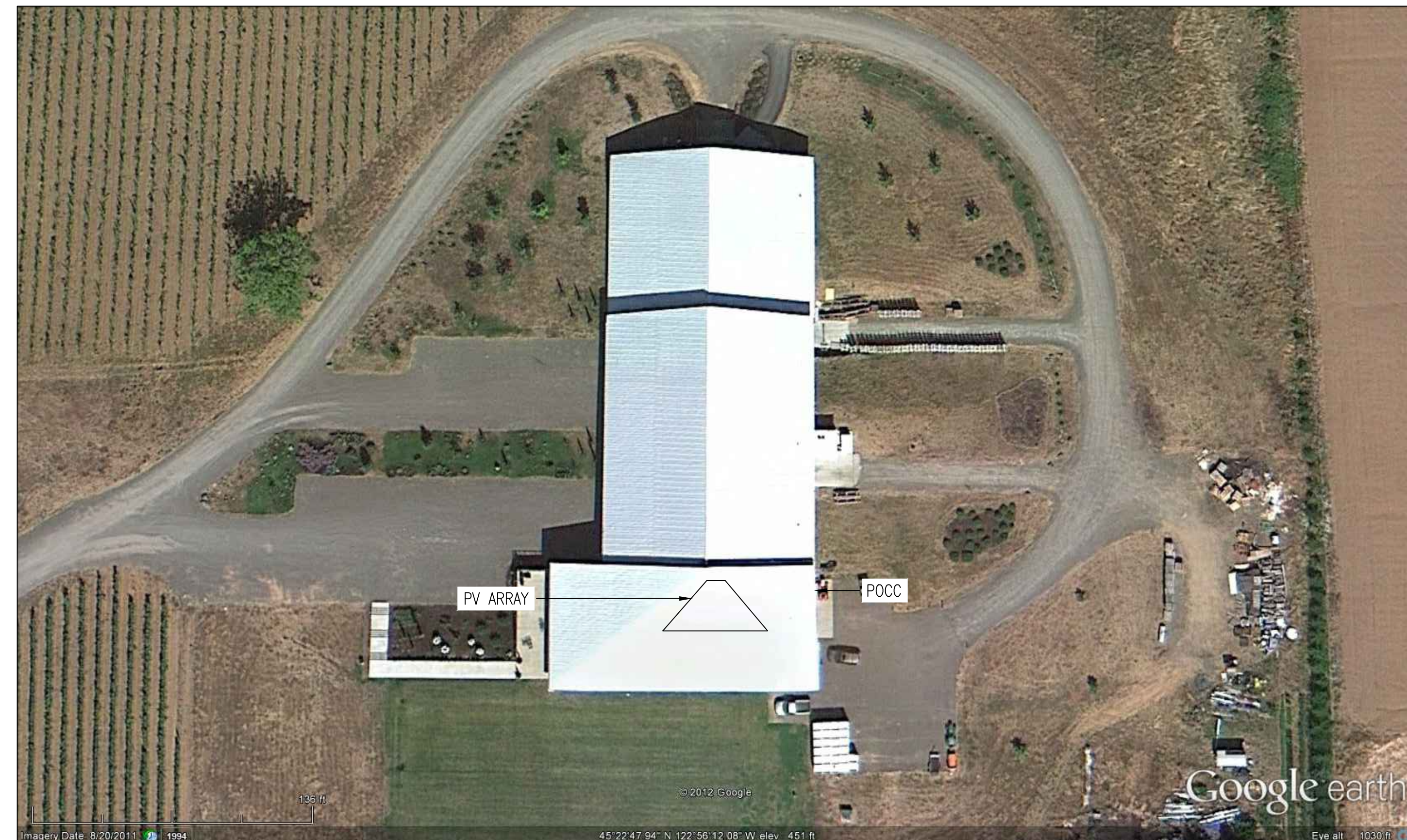
THE PROJECT SCOPE INCLUDES THE DESIGN AND INSTALLATION OF A 9,900 W DC GRID-TIED SOLAR PHOTOVOLTAIC (PV) SYSTEM AT PONZI VINEYARDS IN SHERWOOD, OREGON.

THE PV SYSTEM CONSISTS OF ONE NON-COMBUSTIBLE ROOF MOUNTED SOLAR ARRAY, ONE INVERTER AND RELATED ELECTRICAL EQUIPMENT.

DURING DAYLIGHT HOURS THIS PV SYSTEM WILL PROVIDE ELECTRICITY IN PARALLEL WITH THE LOCAL ELECTRIC UTILITY SERVICE PROVIDER.

ALL EQUIPMENT WILL BE INSTALLED AS REQUIRED BY APPLICABLE CODES (2010 OREGON SOLAR INSTALLATION SPECIALTY CODE) AND PORTLAND GENERAL ELECTRIC SOLAR PAYMENT REQUIREMENTS.

SHEET LIST TABLE	
T	TITLE PAGE & SITE PLAN
A	LAYOUT & ELEVATION
E.1	ELECTRICAL NOTES & PLAN
E.2	ELECTRICAL DIAGRAM
E.3	SIGNAGE
S.1	RACKING SUPPORT
S.2	RAIL & MODULE LAYOUT
S.3	RACKING DETAILS



1
T
SITE PLAN
SCALE: N/A

Christenson
ELECTRICAL, POWER & TECHNOLOGICAL SERVICES
111 SW Columbia Street, Ste. 480
Portland, OR 97201
main: 503.419.3300
fax: 503.419.3333
www.christenson.com

Revisions:

PONZI VINEYARDS - COLLINA DEL SOGNO
PHOTOVOLTAIC PROJECT
19500 SW Mountain Home Rd.
Sherwood, Oregon 97140

Sheet Title:
TITLE PAGE +
SITE PLAN

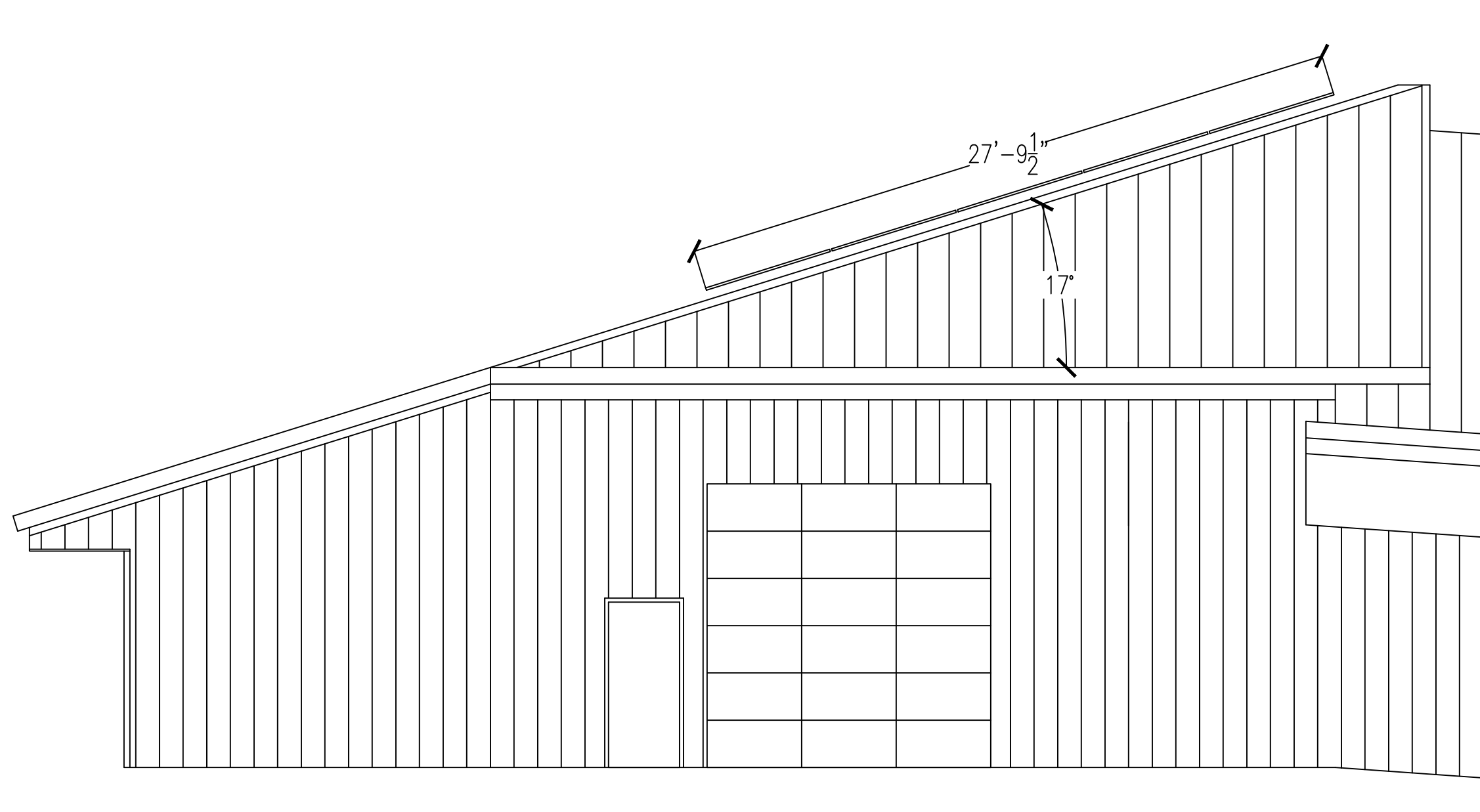
Date: 02/24/2012
CEI Project No.
CEI Project Manager: JZ
Designed By: KK
Drawn By: KK
Checked By:
Project Type: 230

Sheet Number:

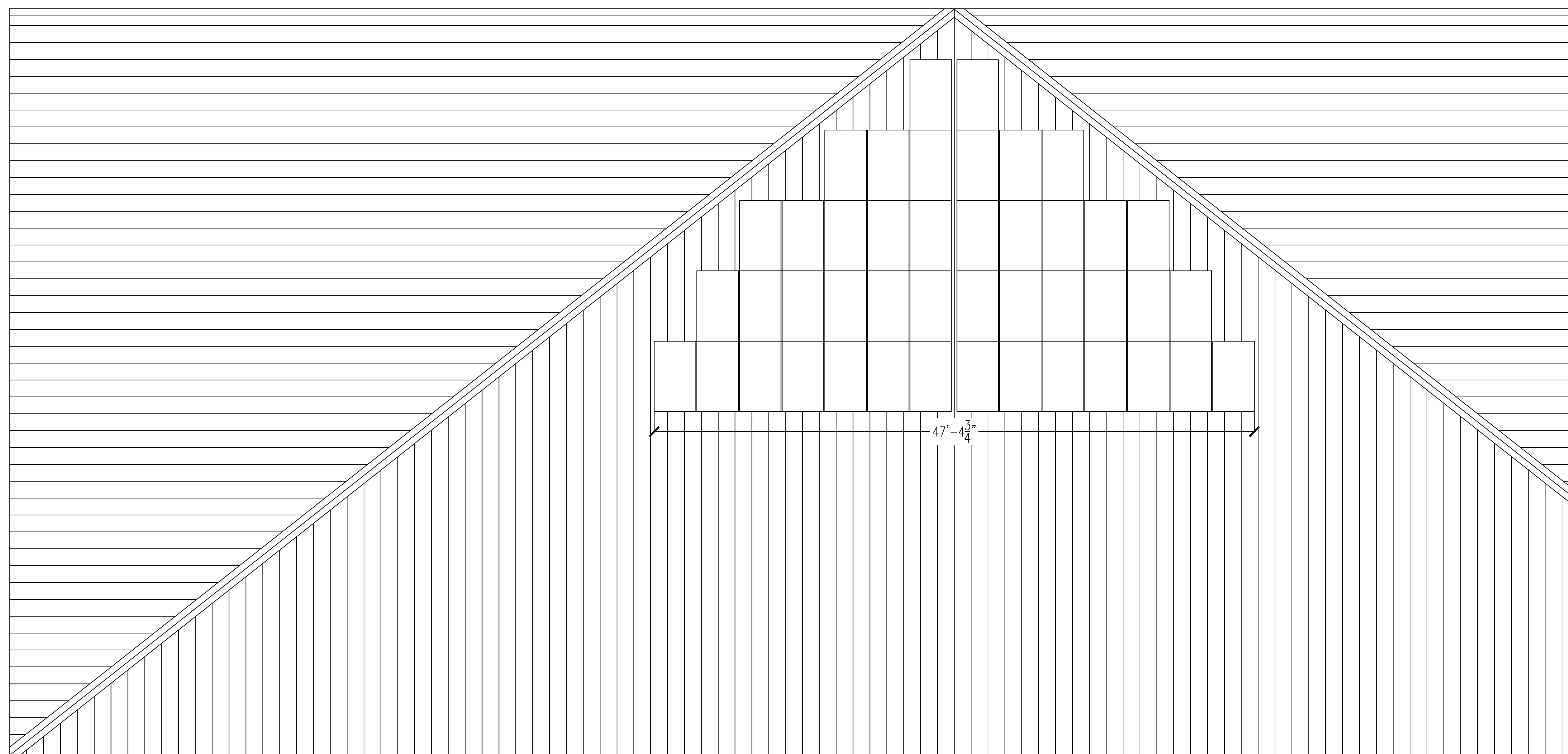
T

DESIGN

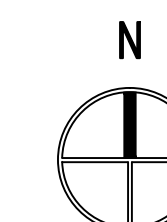
SYSTEM DESCRIPTION	
MODULE TYPE	SOLARWORLD 225 POLY
QUANTITY	44 MODULES
SYSTEM SIZE	9.9 kW DC STC
TILT ANGLE	17°
AZIMUTH	180°
INVERTER	POWER-ONE AURORA TRIO 10kW



1 EAST ELEVATION
SCALE: 3/16" = 1' - 0"



2 PV LAYOUT
SCALE: 3/16" = 1' - 0"



Revisions:

PONZI VINEYARDS - COLLINA DEL SOGNO
PHOTOVOLTAIC PROJECT
19500 SW Mountain Home Rd.
Sherwood, Oregon 97140

Sheet Title:
LAYOUT +
ELEVATION

Date: 02/24/2012
CEI Project No.
CEI Project Manager: JZ
Designed By: KK
Drawn By: KK
Checked By:
Project Type: 230

Sheet Number:

A

SYSTEM DESCRIPTION

1 ARRAY, 44 MODULES TOTAL
 1 INVERTER (POWER-ONE AURORA TRIO 10kW) – 480VAC/14A)
 SIZE – 9,900 W DC STC
 EST. ANNUAL PRODUCTION – 11,393 kWh AC

SOURCE CIRCUIT

PHOTOVOLTAIC MODULE:
 SOLARWORLD SW 225 POLY, 225 W STC
 Voc = 36.8V (40.9V @ -8°C – ASHRAE MEAN EXTREME LOW TEMP)
 Vmp = 29.5V (22.8V @ 37°C – ASHRAE 0.4% HIGH TEMP)
 Isc = 8.2A
 Imp = 7.6A

PHOTOVOLTAIC ARRAY

44 MODULES, 11 MODULES/STRING (4 STRINGS TOTAL)
 Voc = 450.2V @ -8°C
 Vmp = 324.5V TYPICAL (251.3V @ 37°C)
 Isc = 8.2A
 Imp = 7.6A

OUTPUT CIRCUITS

- MODULES MOUNTED TO UNIRAC RACKING SYSTEM ATTACHED TO STANDING SEAM ROOF.
- SOURCE CIRCUIT CONDUIT ENTERS BUILDING AT ARRAY. CONDUIT IS EMT WITH BOTTOM EDGE NO LESS THAN 4" FROM ROOF DECK OUTSIDE AND TOP EDGE NO LESS THAN 18" FROM BOTTOM OF ROOF DECK.
- INVERTER WITH DC DISCONNECT & AC DISCONNECT MOUNTED INSIDE ON SOUTHEAST WALL.
- INVERTER OUTPUT CONDUIT ROUTED TO OUTDOOR PV PRODUCTION METER (ADJACENT TO EXISTING UTILITY METER) OUTSIDE ON THE EAST WALL OF BUILDING.
- POINT OF COMMON CONNECTION (POCC) LOCATED IN EXISTING ELECTRICAL SUBPANEL.

ELECTRICAL NOTES FOR NEW PV SYSTEM

- THIS PROPOSED SOLAR ELECTRIC SYSTEM IS INTENDED TO OPERATE IN PARALLEL DURING THE DAY WITH POWER RECEIVED FROM THE UTILITY SERVICE PROVIDER.
- ALL EQUIPMENT IS UL APPROVED AND IDENTIFIED FOR USE IN THE PV SYSTEM.
- THIS SYSTEM IS INTENDED TO CONNECT TO THE EXISTING FACILITY POWER SYSTEM AT ONE POINT, POINT OF COMMON COUPLING (POCC). THIS CONNECTION SHALL BE IN COMPLIANCE WITH THE NEC ARTICLE 705.12 "POINT OF CONNECTION".

WIRING + WIRING METHODS

ALL WIRING METHODS AND INSTALLATION PRACTICES CONFORM TO THE NATIONAL ELECTRIC CODE, OREGON SOLAR INSTALLATION SPECIALTY CODE, AND OTHER APPLICABLE LOCAL CODES.

GROUNDING

SEE E.2 – ELECTRICAL DIAGRAM FOR MORE GROUNDING INFORMATION.

GROUND FAULT PROTECTION

PHOTOVOLTAIC INVERTERS ARE EQUIPPED WITH DC GROUND FAULT PROTECTION TO REDUCE FIRE HAZARDS. INVERTERS ARE ALSO EQUIPPED WITH ANTI-ISLANDING CIRCUITRY.

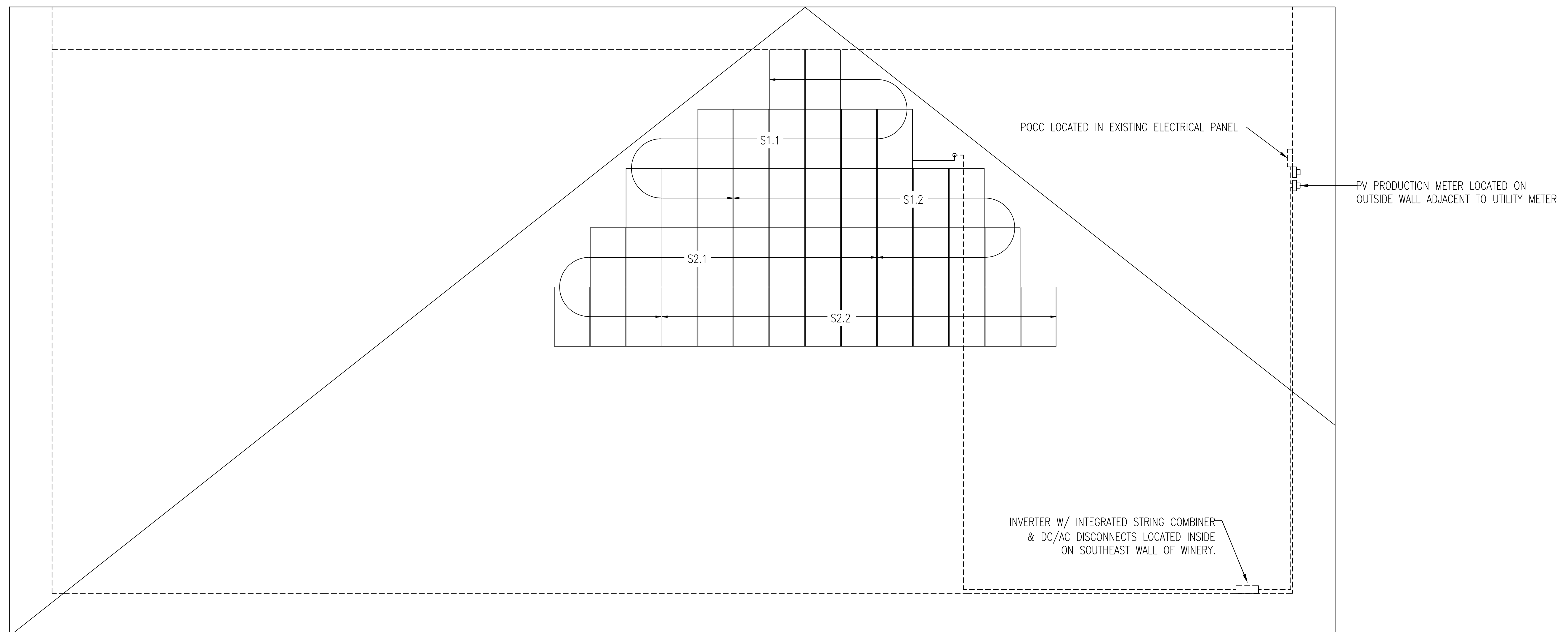
DISCONNECTING MEANS

MEANS ARE PROVIDED TO DISCONNECT ALL CURRENT CARRYING CONDUCTORS OF THE PHOTOVOLTAIC POWER SOURCE FROM ALL OTHER CONDUCTORS AT THE LOCATION.

REQUIRED SAFETY SWITCHES, LABELS + MARKINGS

REQUIRED SAFETY SIGNS AND LABELS ARE PERMANENTLY ATTACHED BY ADHESIVE, OR OTHER MECHANICAL MEANS. LABELS COMPLY WITH ARTICLE 690 OF THE NEC OR OTHER APPLICABLE STATE AND LOCAL CODES. SEE E.3 – SIGNAGE FOR MORE DETAILS.

1 ELECTRICAL NOTES
 E.1 SCALE: N/A



2 ELECTRICAL PLAN
 E.1 SCALE: 3/16" = 1' - 0"

SYSTEM DESCRIPTION	
MODULE TYPE	SOLARWORLD 225 POLY
QUANTITY	44 MODULES
SOURCE CIRCUITS	(4) TOTAL
JUNCTION BOXES	N/A
INVERTERS	(1) TOTAL

Revisions:

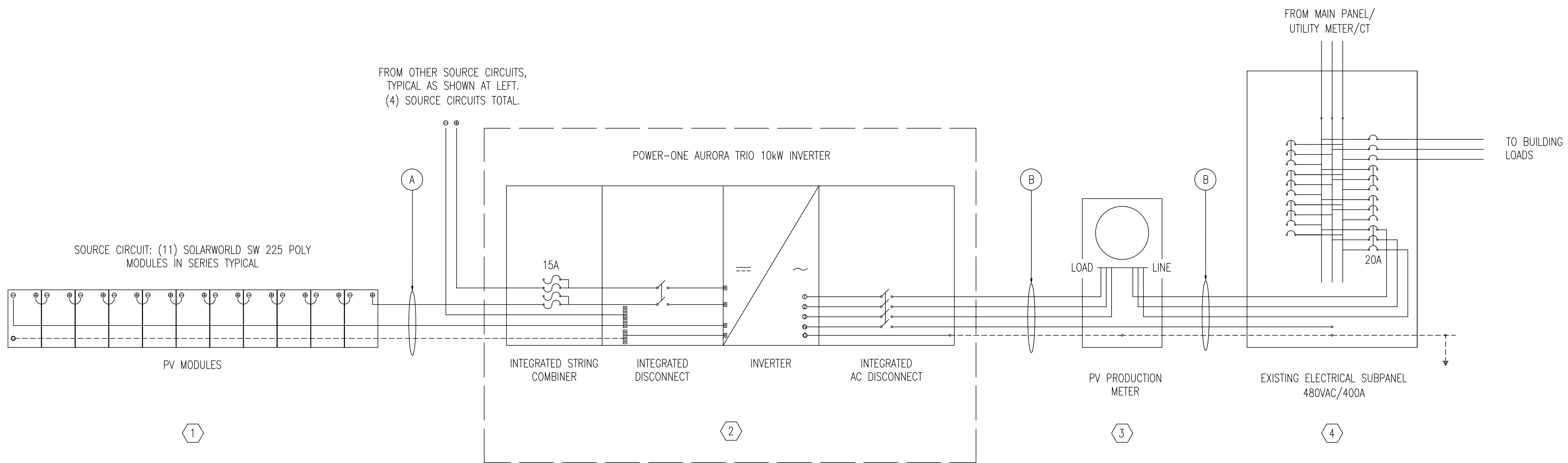
PONZI VINEYARDS - COLLINA DEL SOGNO
 PHOTOVOLTAIC PROJECT
 19500 SW Mountain Home Rd.
 Sherwood, Oregon 97140

Sheet Title:
ELEC NOTES + PLAN

Date: 02/24/2012
 CEI Project No.
 CEI Project Manager: JZ
 Designed By: KK
 Drawn By: KK
 Checked By:
 Project Type: 230

Sheet Number:

E.1



SOURCE CIRCUIT: (11) SOLARWORLD SW 225 POLY
MODULES IN SERIES TYPICAL

FROM OTHER SOURCE CIRCUITS,
TYPICAL AS SHOWN AT LEFT.
(4) SOURCE CIRCUITS TOTAL.

SHEET NOTES

- 1 SOLARWORLD 225 POLY PV MODULES W/ MC TYPE 4 CONNECTORS. GROUNDING W/ WEEB GROUNDING CLIPS TO RAILS, GROUNDING LUGS ON RAILS AND CONNECTED TO INVERTER GROUND LUG. FURNISHED BY CEI.
- 2 POWER-ONE AURORA TRIO 10kW INVERTER W/ INTEGRATED STRING COMBINER & DC/AC DISCONNECTS (PVI-10.0-I-OUTD-S2-US-480-NG W/ STRING COMBINER) - (1) TOTAL INVERTERS. SEE DATASHEET FOR DETAILED BLOCK DIAGRAM. FURNISHED BY CEI.
- 3 PV PRODUCTION METER (COOPER B-LINE 1171B) - METER BASE TO BE FURNISHED BY CEI, METER TO BE FURNISHED & INSTALLED BY UTILITY.
- 4 EXISTING ELECTRICAL SUBPANEL (SQUARE D NF PANELBOARD) - 480Y/277V, 600A, 15A/3P CIRCUIT BREAKER (SQUARE D EDB34015) FOR PV SYSTEM FURNISHED BY CEI.

TABLE A: PV SOURCE CIRCUIT CONDUCTOR & CONDUIT IDENTIFICATION

CONDUCTOR LOCATION A	# OF MODULES IN SERIES	Isc (A)	Imp (A)	Voc (VDC)	Vmp (VDC)	MAX. ONE WAY LENGTH (FT.)	VOLTAGE DROP %	CURRENT CARRYING CONDUCTOR SIZE	CONDUCTOR TYPE	BONDING CONDUCTOR	CONDUIT
MODULES TO INVERTER	11	8.20	7.60	450.2	324.5	110'-0"	0.60%	#10	USE-2	#6	FREE AIR --> 1" EMT

TABLE B: INVERTER OUTPUT CIRCUIT CONDUCTOR & CONDUIT IDENTIFICATION

CONDUCTOR LOCATION	NOMINAL VOLTAGE (VAC)	PHASES	GENERATION AMPACITY (A)	DISTANCE	VOLTAGE DROP %	CURRENT CARRYING CONDUCTOR SIZE	CONDUCTOR TYPE	GROUNDING CONDUCTOR	CONDUIT
B	480	3	14.0	60'-0"	0.50%	#12	THWN-2	#6	1/2" EMT

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ELEC DIAGRAM

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Revisions:

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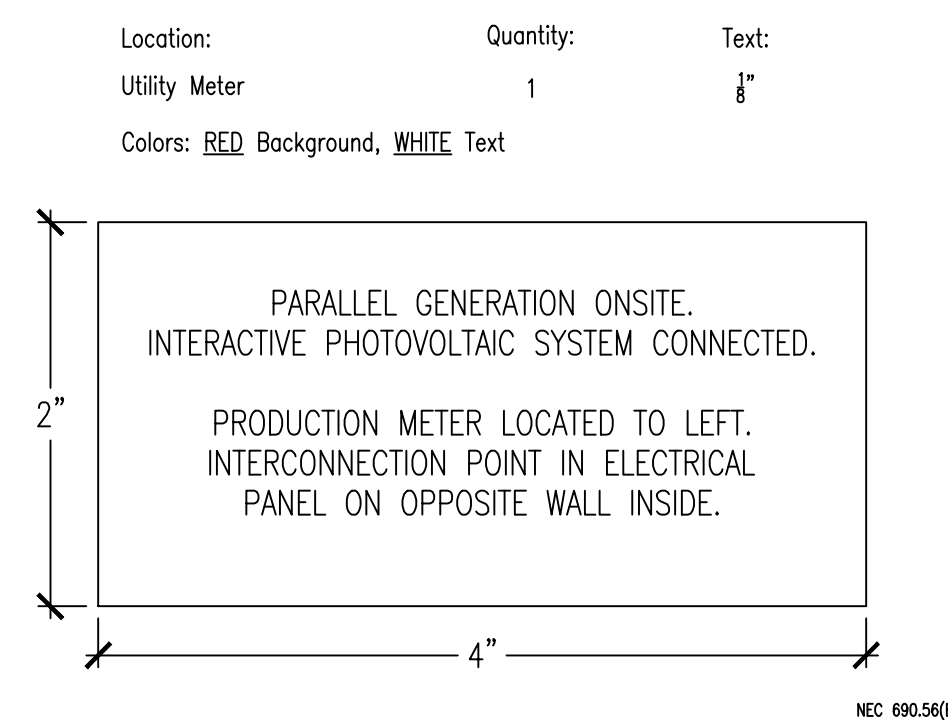
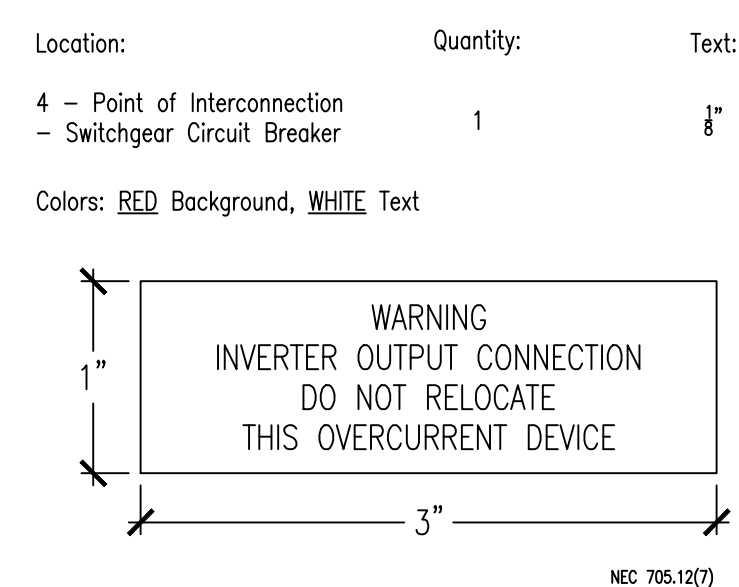
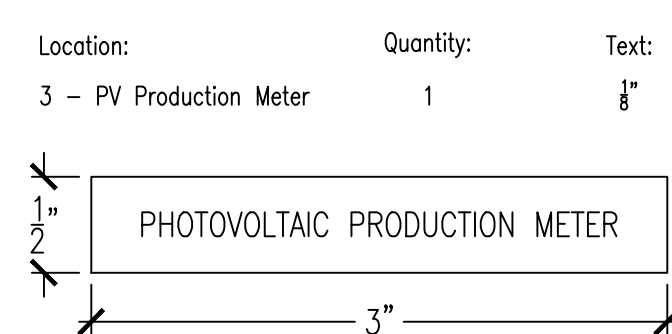
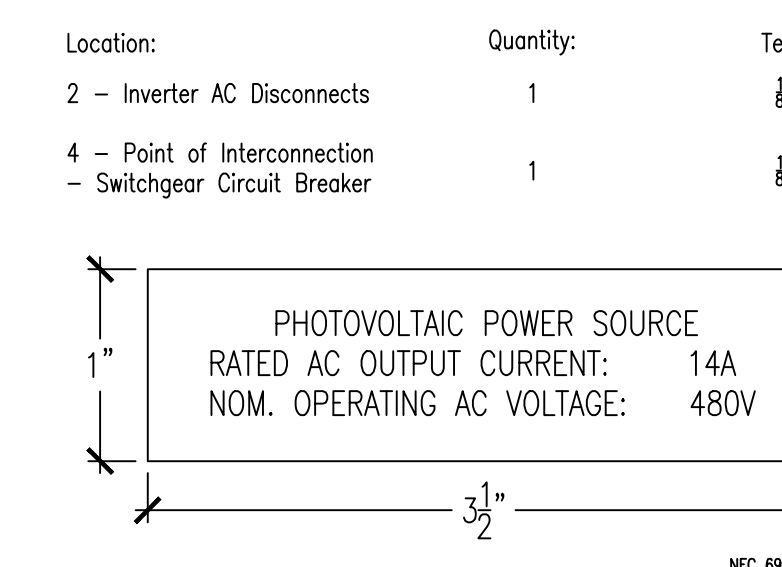
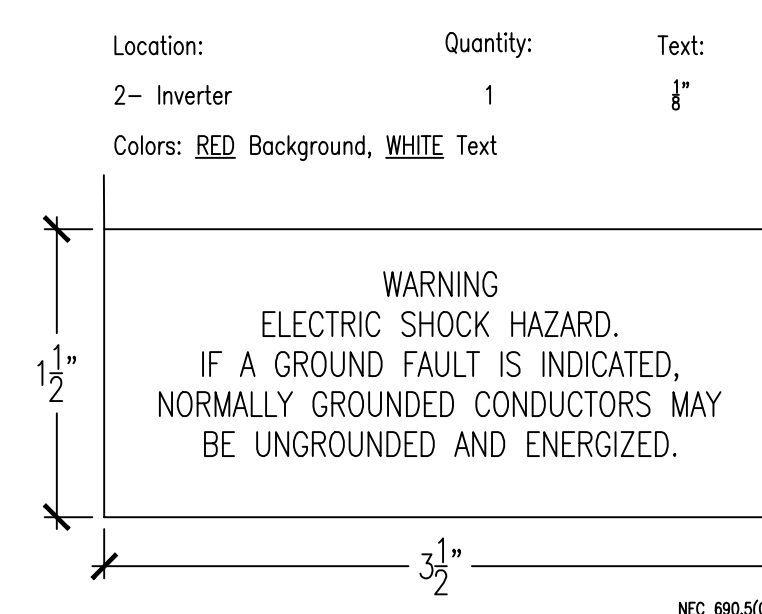
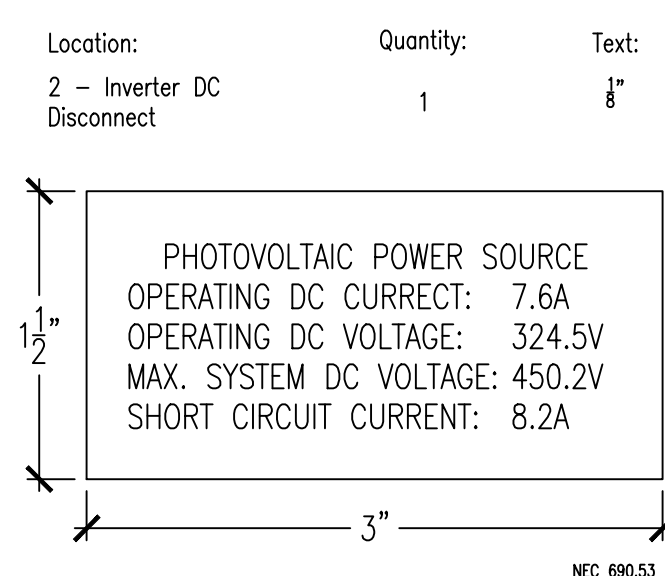
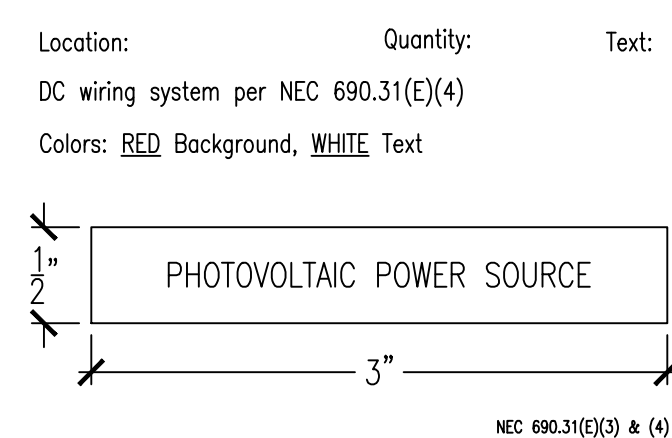
Sheet Title:
SIGNAGE

Date: 02/24/2012
CEI Project No.
CEI Project Manager: JZ
Designed By: KK
Drawn By: KK
Checked By:
Project Type: 230

Sheet Number:

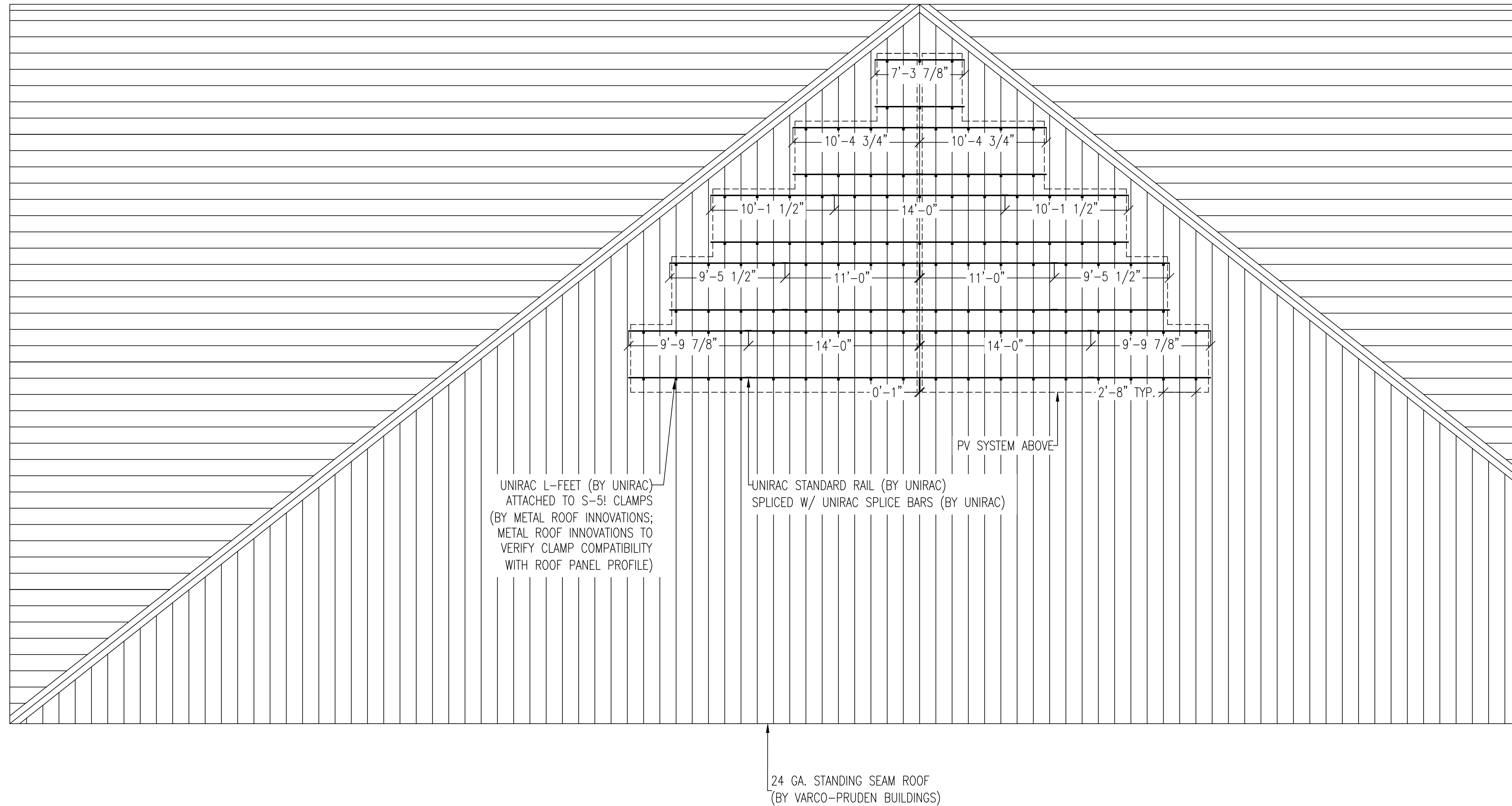
E.3

DESIGN



ALL TEXT UNLESS SPECIFIED TO BE:
COLOR: WHITE TEXT, BLACK BACKGROUND
MATERIAL: ABS UV
FONT: ARIAL

1 SIGNAGE
E.3 SCALE: 1" = 1"



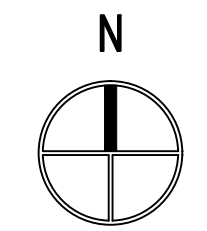
UNIRAC L-FEET (BY UNIRAC)
 ATTACHED TO S-51 CLAMPS
 (BY METAL ROOF INNOVATIONS;
 METAL ROOF INNOVATIONS TO
 VERIFY CLAMP COMPATIBILITY
 WITH ROOF PANEL PROFILE)

UNIRAC STANDARD RAIL (BY UNIRAC)
 SPLICED W/ UNIRAC SPLICE BARS (BY UNIRAC)

PV SYSTEM ABOVE

24 GA. STANDING SEAM ROOF
 (BY VARCO-PRUDEN BUILDINGS)

1 RACKING LAYOUT
 S.1 SCALE: 3/16" = 1' - 0"



Revisions:

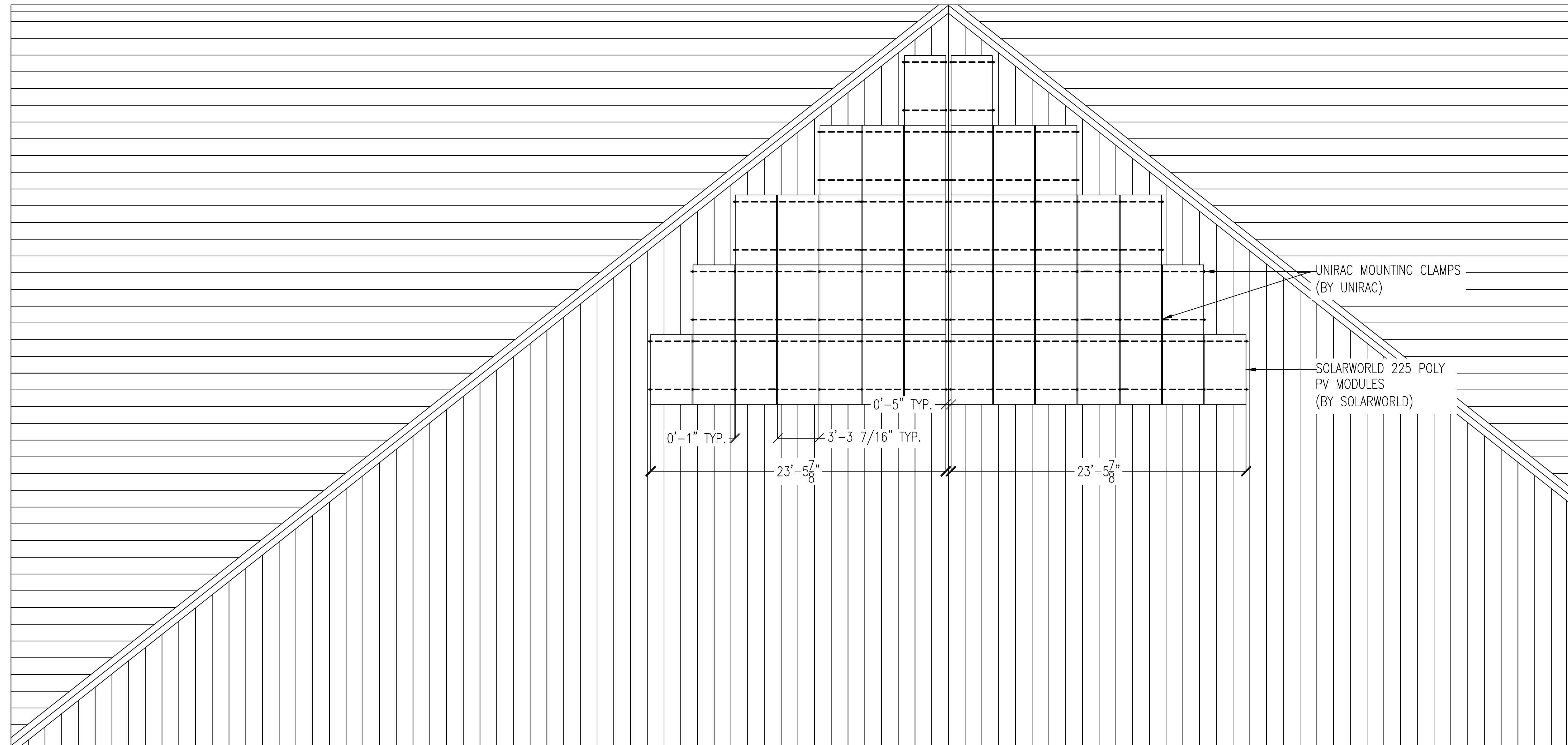
PONZI VINEYARDS - COLLINA DEL SOGNO
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Sheet Title:
 RACKING LAYOUT

Date: 02/24/2012
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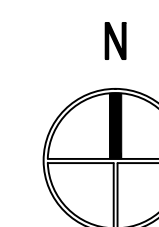
Sheet Number:

S.1



SYSTEM DESCRIPTION	
MODULE TYPE	SOLARWORLD 225 POLY
QUANTITY	44 MODULES
SYSTEM SIZE	9.9 kW DC STC
TILT ANGLE	17°
AZIMUTH	180°

1
S.2 MODULE LAYOUT
SCALE: 3/16" = 1' - 0"



Revisions:

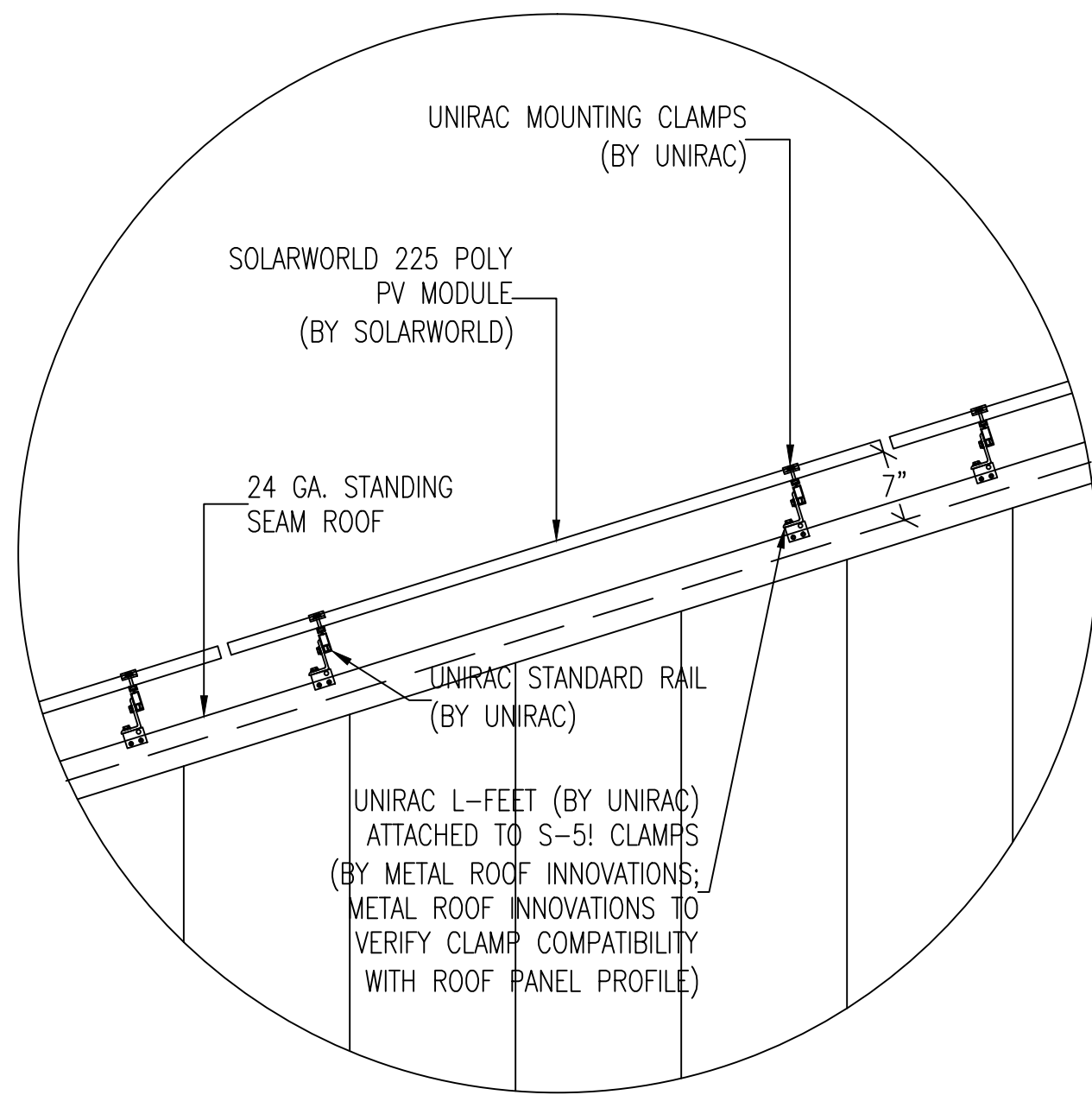
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Sheet Title:
MODULE LAYOUT

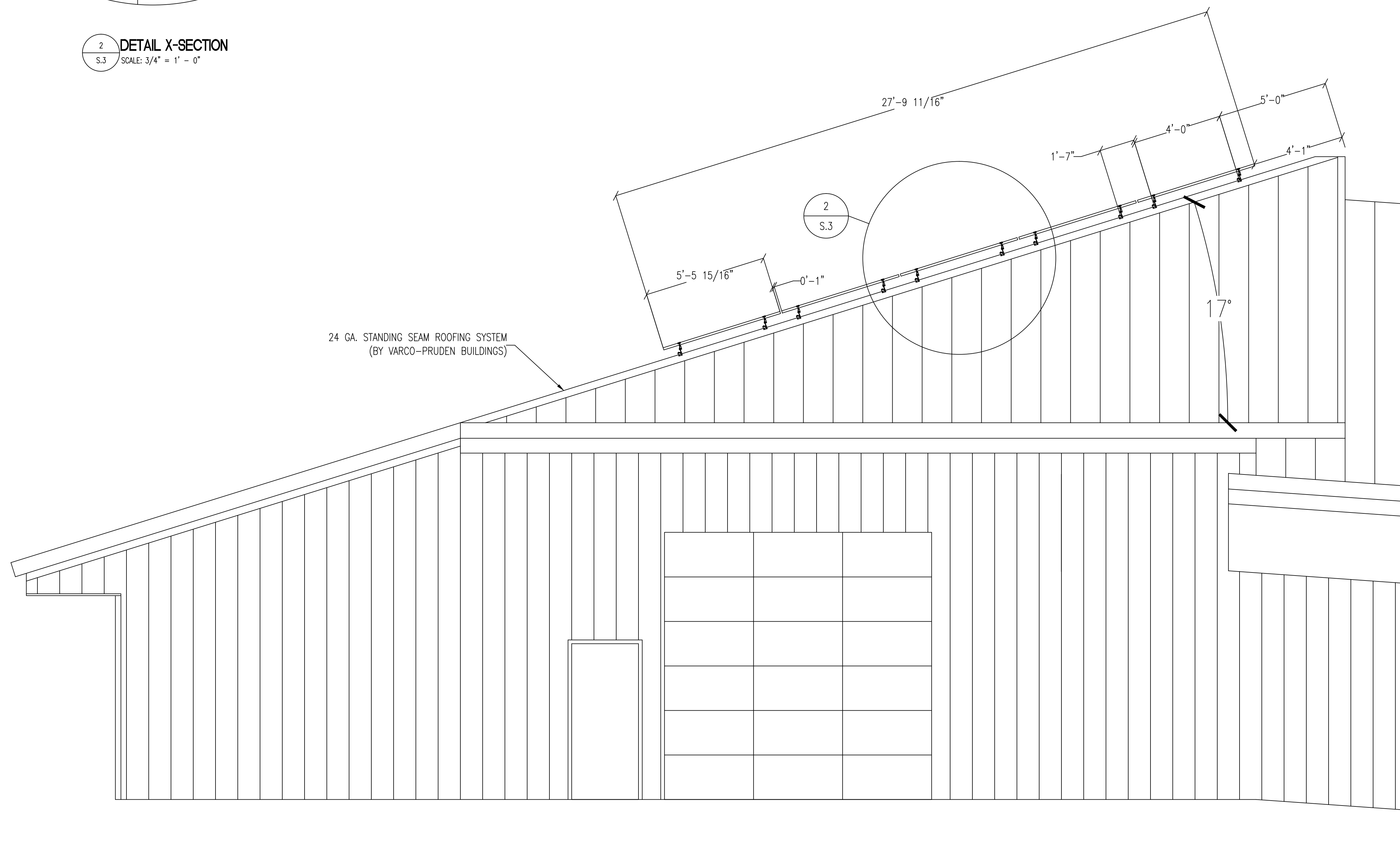
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Sheet Number:

S.2



2
S.3
DETAIL X-SECTION
SCALE: 3/4" = 1' - 0"



1
S.3
ROOF ELEVATION
SCALE: 3/8" = 1' - 0"

Revisions:

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Sheet Title:
ROOF ELEVATION

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S.3