



Purchasing Division

ADDENDUM NO. 1

DATE: June 12, 2019
FROM: City of Grand Junction Purchasing Division
TO: All Offerors
RE: Persigo Solar Farm Assessment, Repair, and Maintenance RFP-4661-19-DH

Offerors responding to the above referenced solicitation are hereby instructed that the requirements have been clarified, modified, superseded and supplemented as to this date as hereinafter described.

Please make note of the following clarifications:

1. Please see attached drawings for a more representative aspect of the existing Persigo solar farm.

The original solicitation for the project noted above is amended as noted.

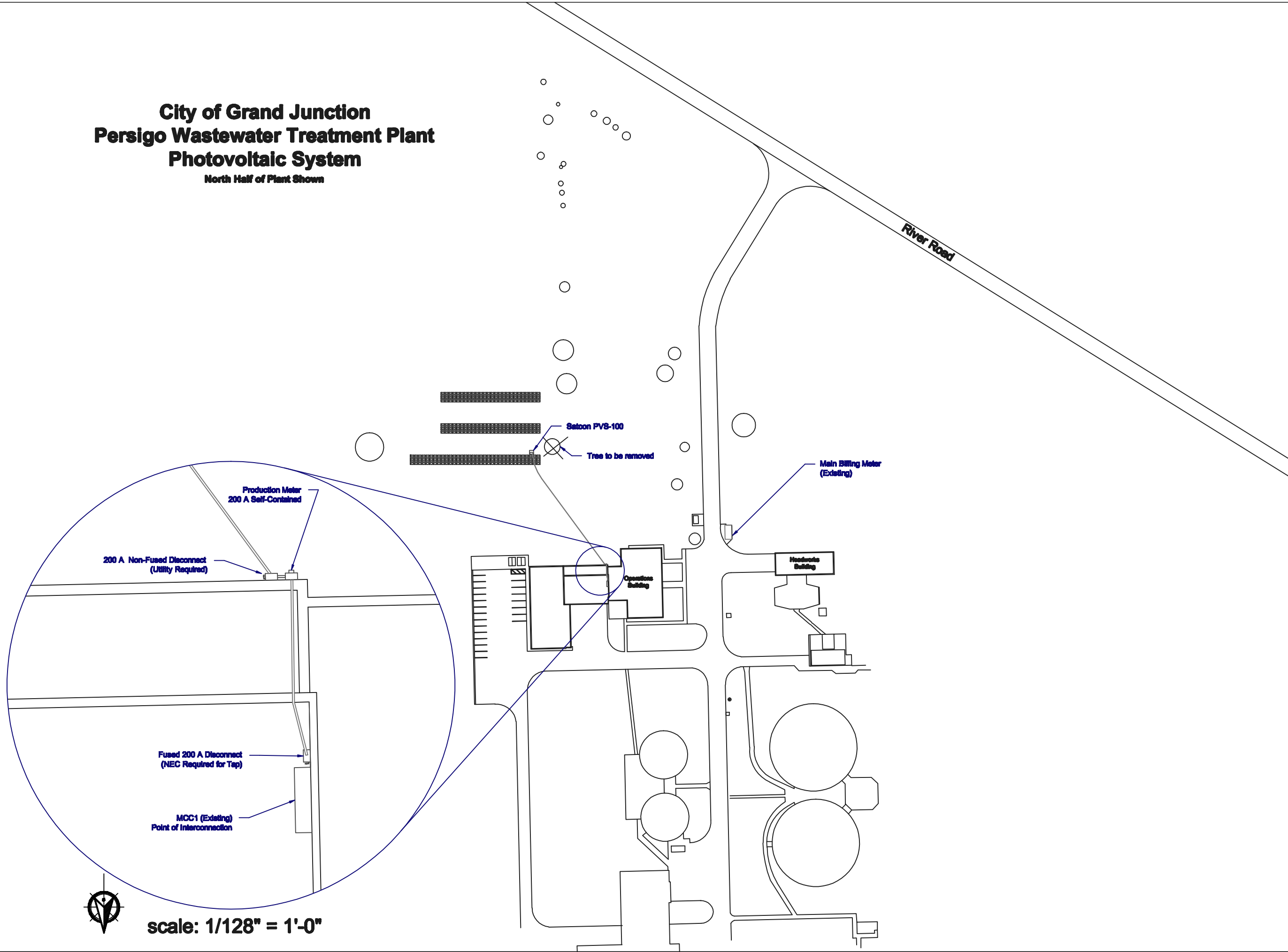
All other conditions of subject remain the same.

Respectfully,

A handwritten signature in black ink, appearing to read "Duane Hoff Jr.", written over a horizontal line.

Duane Hoff Jr., Senior Buyer
City of Grand Junction, Colorado

City of Grand Junction
Persigo Wastewater Treatment Plant
Photovoltaic System
 North Half of Plant Shown

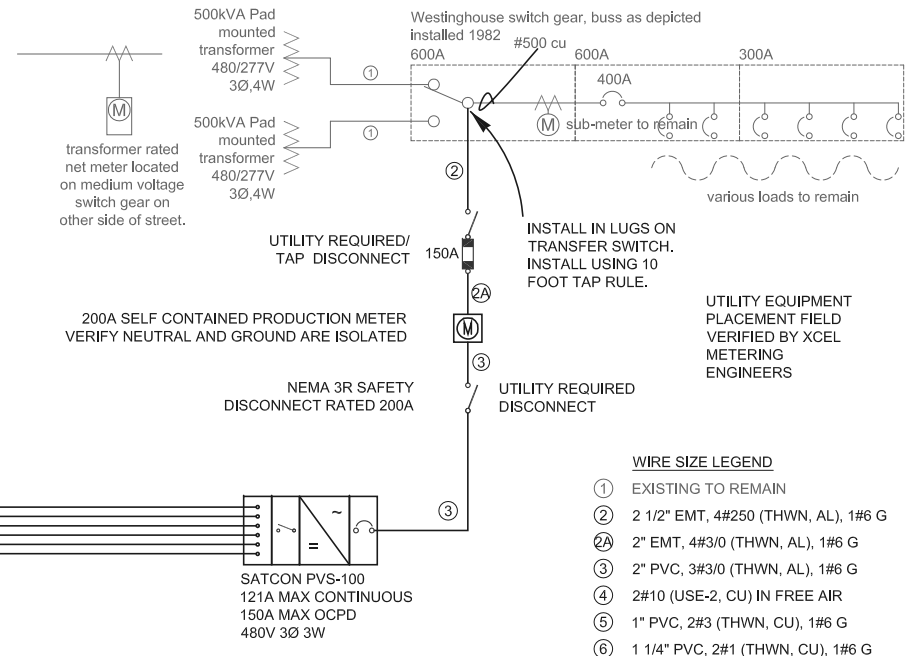
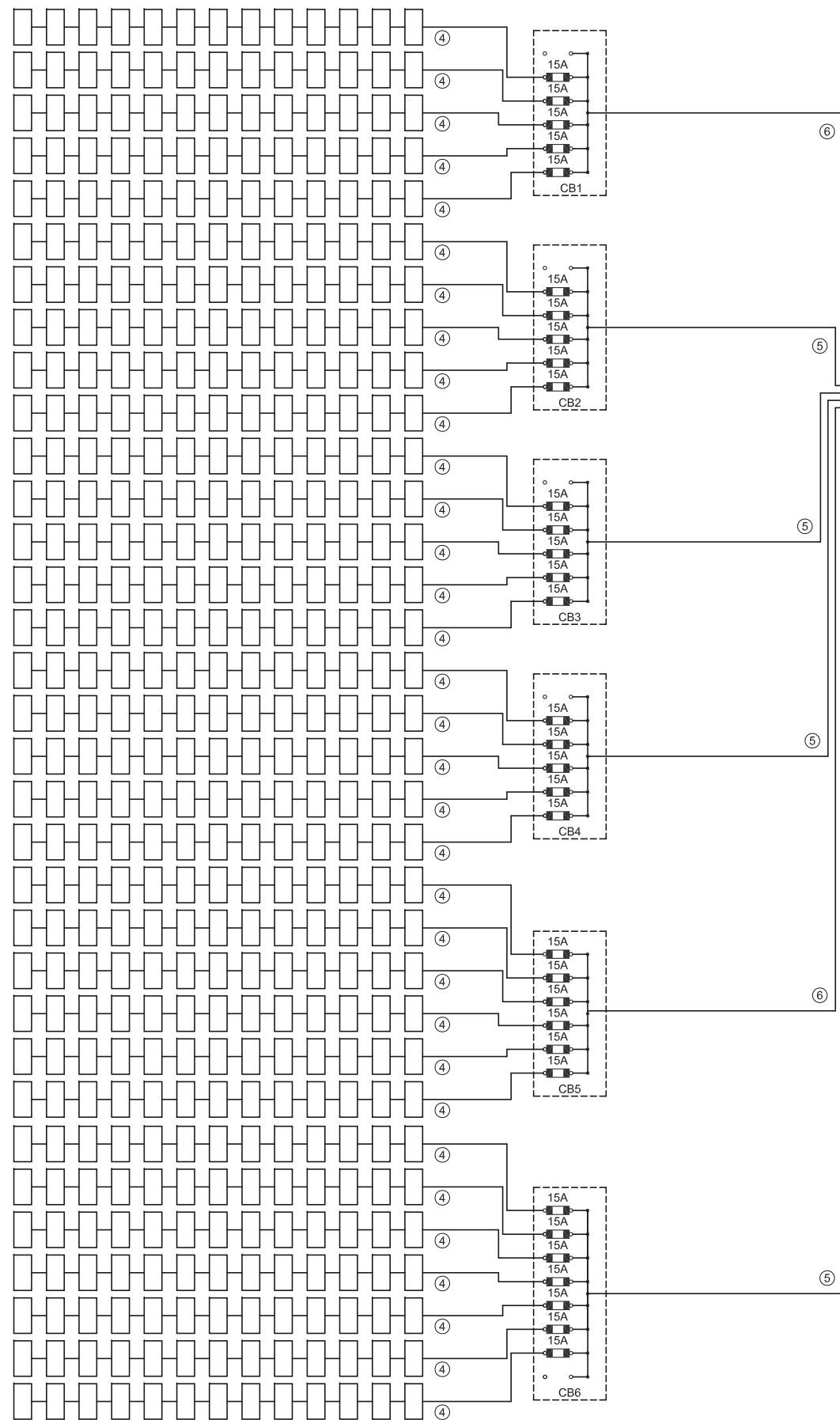


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REV. NO.	DESCRIPTION	DATE	BY
1.0	Initial Drawing	3-28-11	JWL

Site Name Persigo Wastewater Treatment Plant
Project Solar Photovoltaic System
Address: 2145 River Road
 Grand Junction, CO 81505
Drawing No. PV-010 **REV.** 1.0
Drawing: Electrical Site Plan

1629 Debrae Way, Ste. E, Carbondale, CO 81623
 www.sunensesolar.com 970.963.1420



PROPOSED ONE LINE DIAGRAM

NO SCALE

ONE-LINE DIAGRAM NOTES:

1. CONTRACTOR SHALL VERIFY THAT ANY AND ALL PORTIONS OF THE PV SYSTEM COMPLY WITH THE NEC, THE UTILITY, AND THE JHA REQUIREMENTS.
2. INSTALL LABELING AT METER PER UTILITY'S REQUIREMENTS.
3. INSTALL INVERTER FUSING PER MANUFACTURER'S REQUIREMENTS.

- SOLAR MODULE NOTES:**
- 1) ALL MODULES ARE SHARP 230 $V_{oc}=36.9$ $V_{mp}=29.3$ $I_{sc}=8.45$ $I_{mp}=7.85$
 - 2) MODULES ARE GROUND MOUNTED ON A STEEL STRUCTURE USING A CONCRETE FOUNDATION.

DC SYSTEM:
 COMBINER 1: 65 X 230 = 14,950W
 COMBINER 2: 65 X 230 = 14,950W
 COMBINER 3: 65 X 230 = 14,950W
 COMBINER 4: 65 X 230 = 14,950W
 COMBINER 5: 78 X 230 = 17,940W
 COMBINER 6: 91 X 230 = 20,930W
 TOTAL SYSTEM: = 98,670W

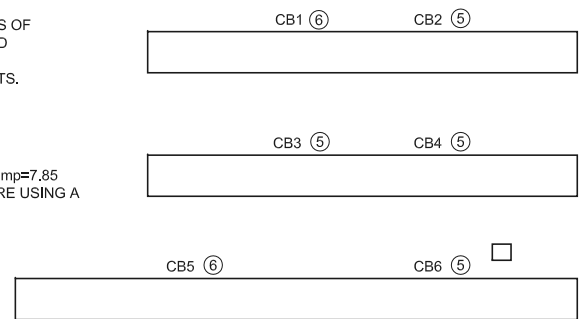
ARRAY GROUNDING

NO SCALE

- NOTES:**
- 1) INSTALL A GROUND ROD AT THE NORTH WESTERN AND SOUTH EASTERN PART OF THE ARRAY AND BOND TO #6CU PER 690.47(B), 250.166, 250.52.

- WIRE SIZE LEGEND**
- ① EXISTING TO REMAIN
 - ② 2 1/2" EMT, 4#250 (THWN, AL), 1#6 G
 - ②A 2" EMT, 4#3/0 (THWN, AL), 1#6 G
 - ③ 2" PVC, 3#3/0 (THWN, AL), 1#6 G
 - ④ 2#10 (USE-2, CU) IN FREE AIR
 - ⑤ 1" PVC, 2#3 (THWN, CU), 1#6 G
 - ⑥ 1 1/4" PVC, 2#1 (THWN, CU), 1#6 G

CONTRACTOR MAY INCREASE CONDUCTOR OR RACEWAY SIZE TO FACILITATE INSTALLATION.



COMBINER BOX LOCATION PLAN

NO SCALE

- GENERAL NOTES**
1. INASMUCH AS DESIGN FOR REMODELING AND/OR REHABILITATION REQUIRES THAT CERTAIN ASSUMPTIONS BE MADE REGARDING EXISTING CONDITIONS, AND BECAUSE SOME OF THESE ASSUMPTIONS CANNOT BE VERIFIED WITHOUT DESTROYING OTHERWISE ADEQUATE OR SERVICEABLE PORTIONS OF THE BUILDING, THE ENGINEER CANNOT ASSURE THE OWNER OR THE CONTRACTOR THAT THE PROFESSIONAL CONSULTING SERVICES HEREIN ENCOMPASS ALL CONTINGENCIES. FIELD COORDINATION DURING CONSTRUCTION IS IMPERATIVE. CONTRACTORS BIDDING THIS WORK MUST MAKE REASONABLE ALLOWANCES FOR UNFORESEEN CONTINGENCIES.
 2. THE SERVING ELECTRICAL ASSOCIATION SHALL ADVISE THE OWNER AND/OR THE ENGINEER PRIOR TO SERVICE MODIFICATION REQUIRING COST TO THE OWNER.
 3. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES AS REQUIRED.
 4. CONTRACTOR SHALL FIELD VERIFY ALL CONTROLLING FACTORS BEFORE BEGINNING ANY WORK AND REPORT DISCREPANCIES TO THE ENGINEER.
 5. ALL ELECTRICAL WORK SHALL COMPLY WITH LATEST EDITION ENFORCED OF NEC AND ALL APPLICABLE LOCAL CODES.
 6. THESE DRAWINGS ARE DIAGRAMMATIC. FIELD VERIFY ALL REQUIREMENTS PRIOR TO ANY WORK.
 7. THE CONTRACTOR SHALL MAINTAIN FIRE-RATINGS FOR ALL CONDUIT PENETRATIONS THROUGH FIRE-RATED CONSTRUCTION.
 8. COORDINATE ANY AND ALL EQUIPMENT LOCATIONS WITH THE OWNER PRIOR TO ROUGH-IN. COORDINATE ANY AND ALL WIRING DEVICE LOCATIONS WITH THE EXISTING EQUIPMENT, CASEWORK, ETC.
 9. ANY AND ALL ITEMS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
 10. ALL BRANCH CIRCUITS AND FEEDERS SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR. ALL CONDUCTORS SHALL BE SIZE #12 AWG UNLESS NOTED OTHERWISE.
 11. CONTRACTOR SHALL VERIFY THAT ANY AND ALL PORTIONS OF THE PV SYSTEM COMPLY WITH THE NEC, THE UTILITY, AND THE AHJ REQUIREMENTS.

LEGEND

- EXISTING FUSE
- NEW FUSE
- NEW CIRCUIT BREAKER
- EXISTING CIRCUIT BREAKER
- EXISTING RACEWAY WITH CONDUCTORS
- NEW RACEWAY WITH CONDUCTORS
- EXISTING TRANSFORMER
- EXISTING PANELBOARD
- NEW INVERTER
- EXISTING PANEL
- NEW DISCONNECT
- EXISTING DISCONNECT

UTILITY NOTES

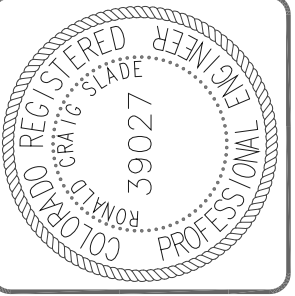
1. THE SELF-CONTAINED METERING SHALL BE IN COMPLIANCE WITH THE MARCH 1, 2011 REVISION OF THE XCEL ENERGY STANDARD, SPECIFICALLY SECTION 4 PAGES 44-47. A. NOTE: EFFECTIVE JUNE 1, 2010, ALL SINGLE-PHASE SELF-CONTAINED METER SOCKETS FOR THE UTILITY PV PRODUCTION METER IS REQUIRED TO BE LEVER BYPASS.
2. THE SELF-CONTAINED PV PRODUCTION METER SHALL HAVE THE PV GENERATION WIRED TO THE LINE SIDE TERMINALS (TOP OF METER BLOCK) SO THAT XCEL STANDARD METERS CAN BE UTILIZED.
3. THE METER SOCKET FOR THE PV PRODUCTION METER SHALL BE MARKED WITH A STAMPED BRASS, ALUMINUM, OR STAINLESS STEEL TAG, INDICATING THE ADDRESS INCLUDING THE UNIT, TYPICALLY "PV PROD" IN ACCORDANCE WITH THE REQUIREMENTS FOR "METER IDENTIFICATION" ON PAGE 49 OF THE XCEL ENERGY STANDARD.
4. THE TWO METERS SHALL BE LOCATED AS DIRECTED BY XCEL METERING DEPARTMENT AS DEPICTED ON THE SITE DRAWING E2.
5. INSTALL A 2"x4.75" BRIGHT YELLOW PLACARD WITH 11/32" HIGH BLACK LETTERING PER UTILITY REQUIREMENTS AT METER LOCATION. THE PLACARD SHALL BE PLASTIC LAMINATE. IF ANY RUST WHATSOEVER IS EVIDENT, THE CONTRACTOR SHALL INSTALL AT LEAST TWO SCREWS OR RIVETS. THE PLACARD SHALL HAVE THE FOLLOWING MESSAGE:

PHOTOVOLTAIC SYSTEM CONNECTED

REVISIONS:

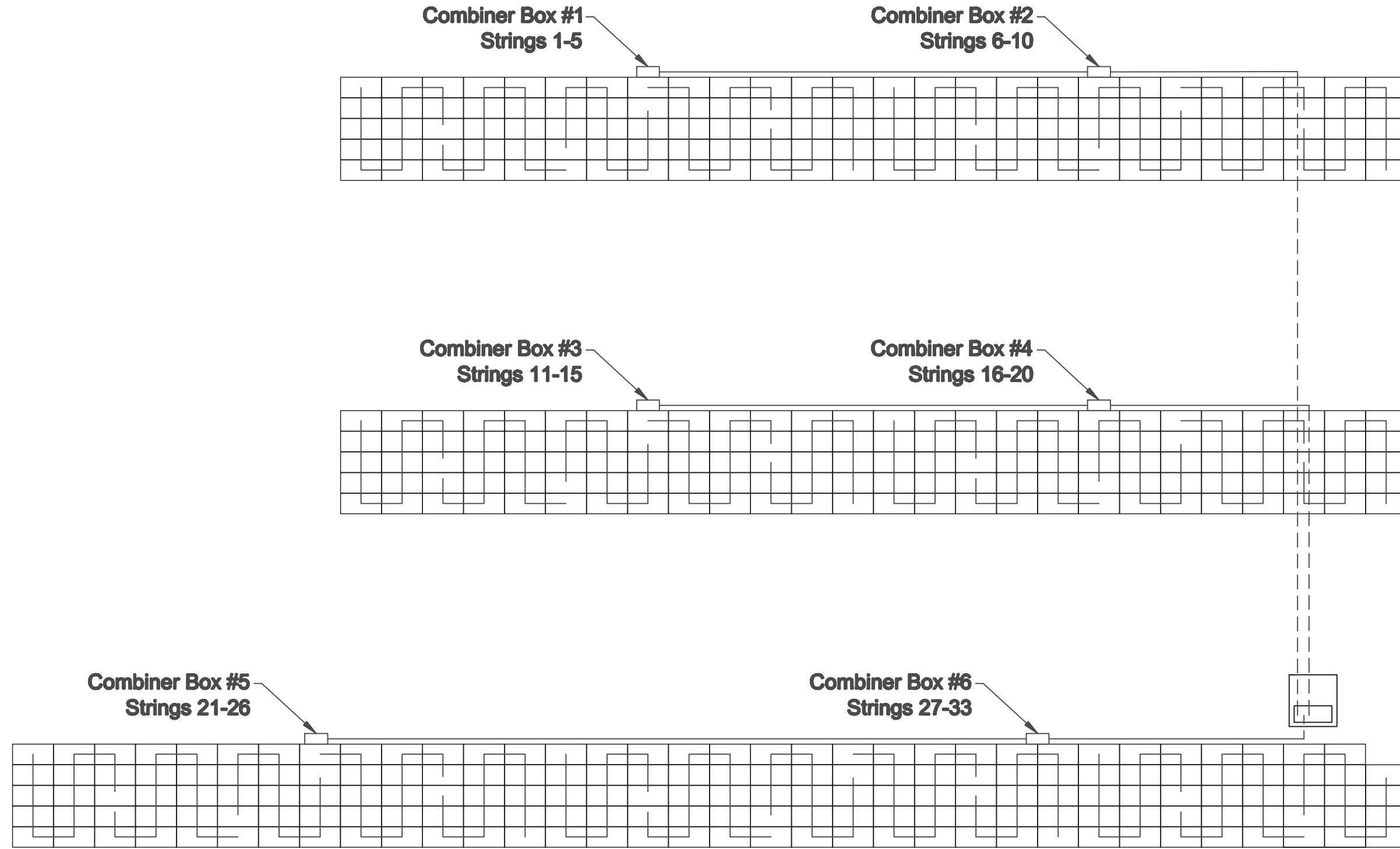
REVISION #1	5/4/2011
REVISION #2	9/26/2011
REVISION #3	12/11/2011

RON SLADE PE LLC
 2029 Joshua Ct
 Grand Junction, Colorado 81507
 phone/fax 970.434.7221
 e-mail: ronsladepe@yahoo.com



Persigo Wash Wastewater Treatment Plant Solar
 2145 River Road
 Grand Junction, CO

STATUS	CD
DATE	9/26/2011
JOB NUMBER	11C09
SHEET	E1

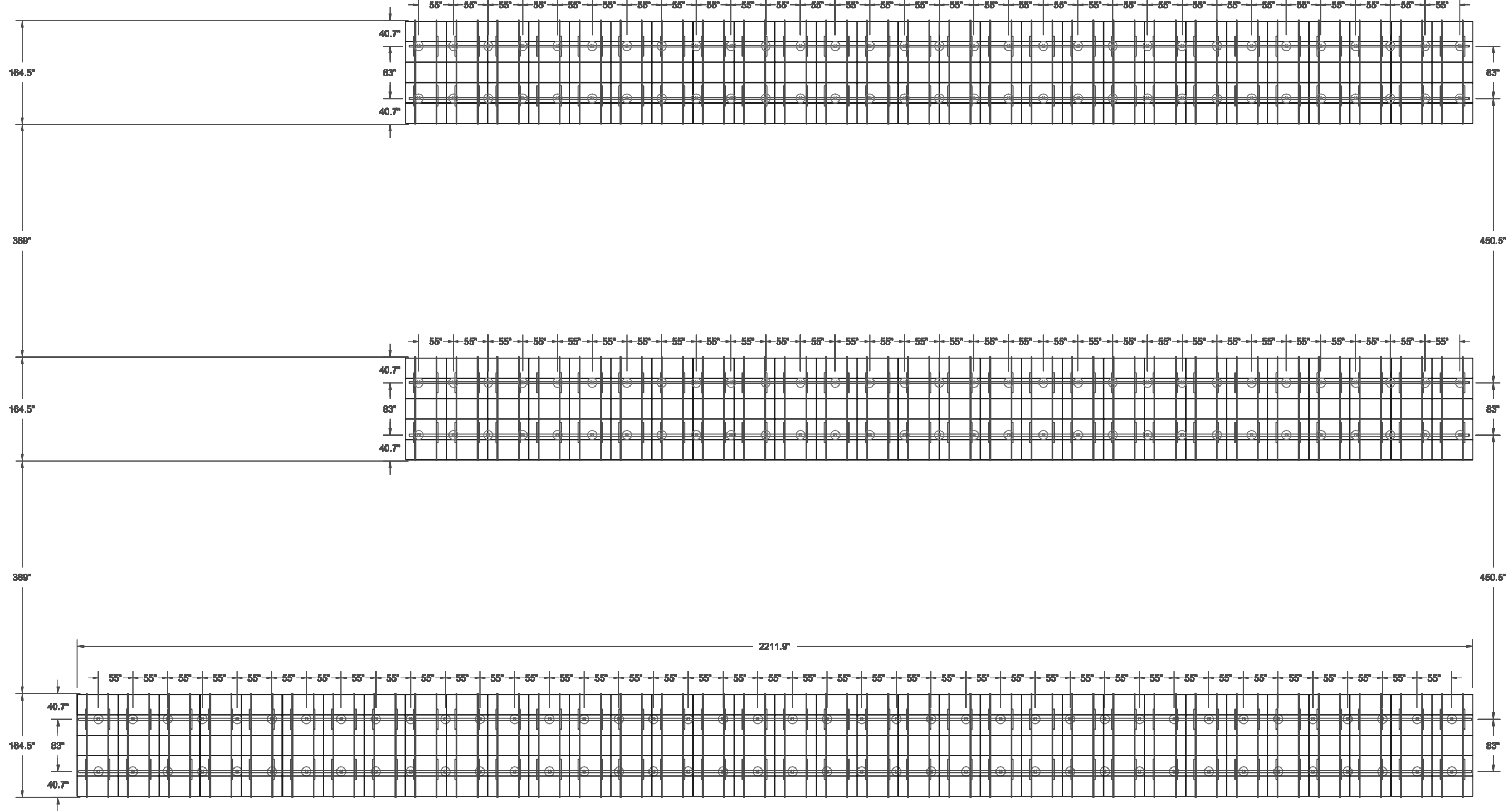


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REV. NO.	DESCRIPTION	DATE	BY
1.0	Initial Drawing	4-18-11	JWL

Site Name Persigo Wastewater Treatment Plant
Project Solar Photovoltaic System
Address 2145 River Road
 Grand Junction, CO 81505
Drawing No. PV-011 **REV.** 1.0
Drawing Electrical Site Plan

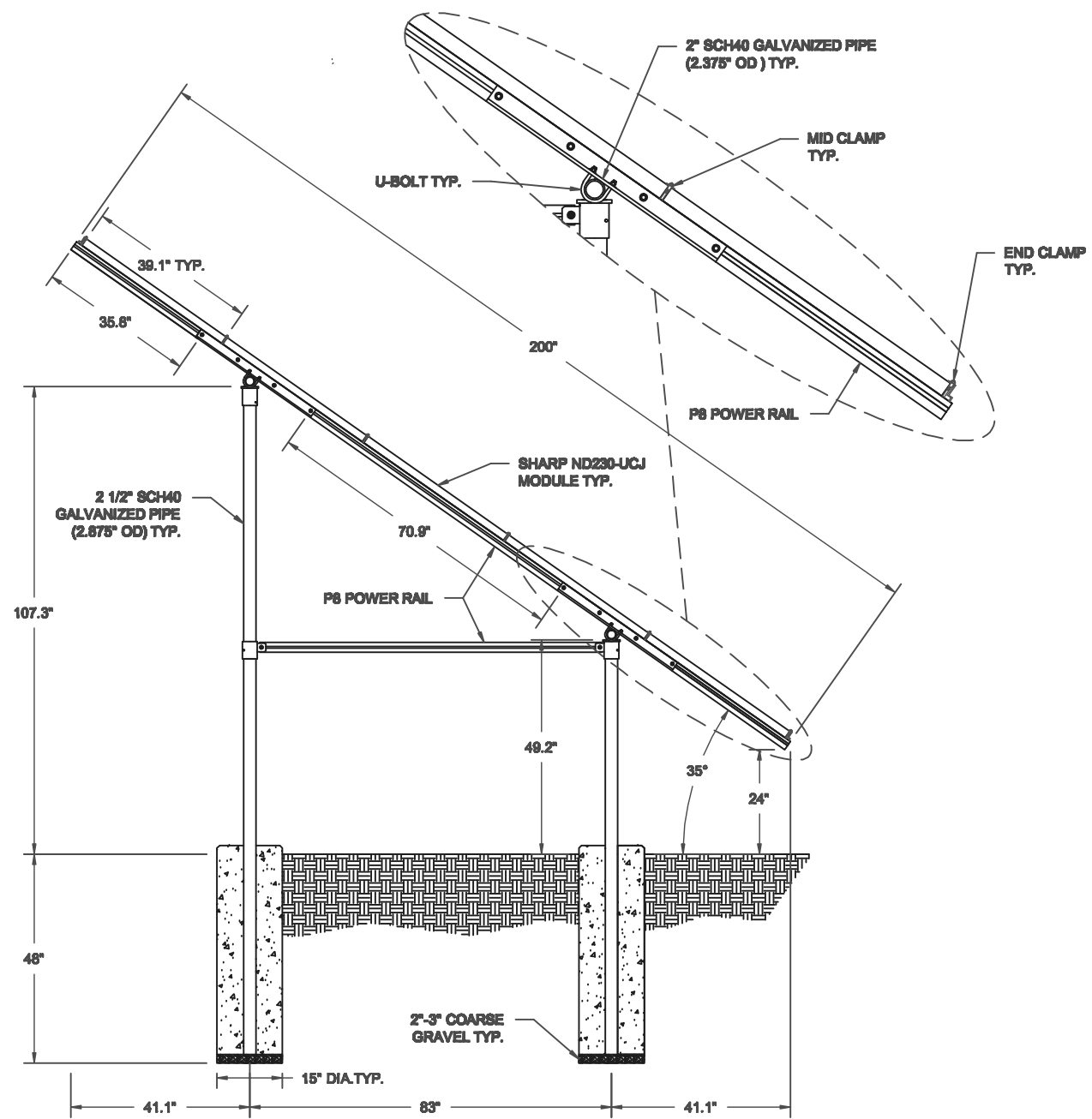
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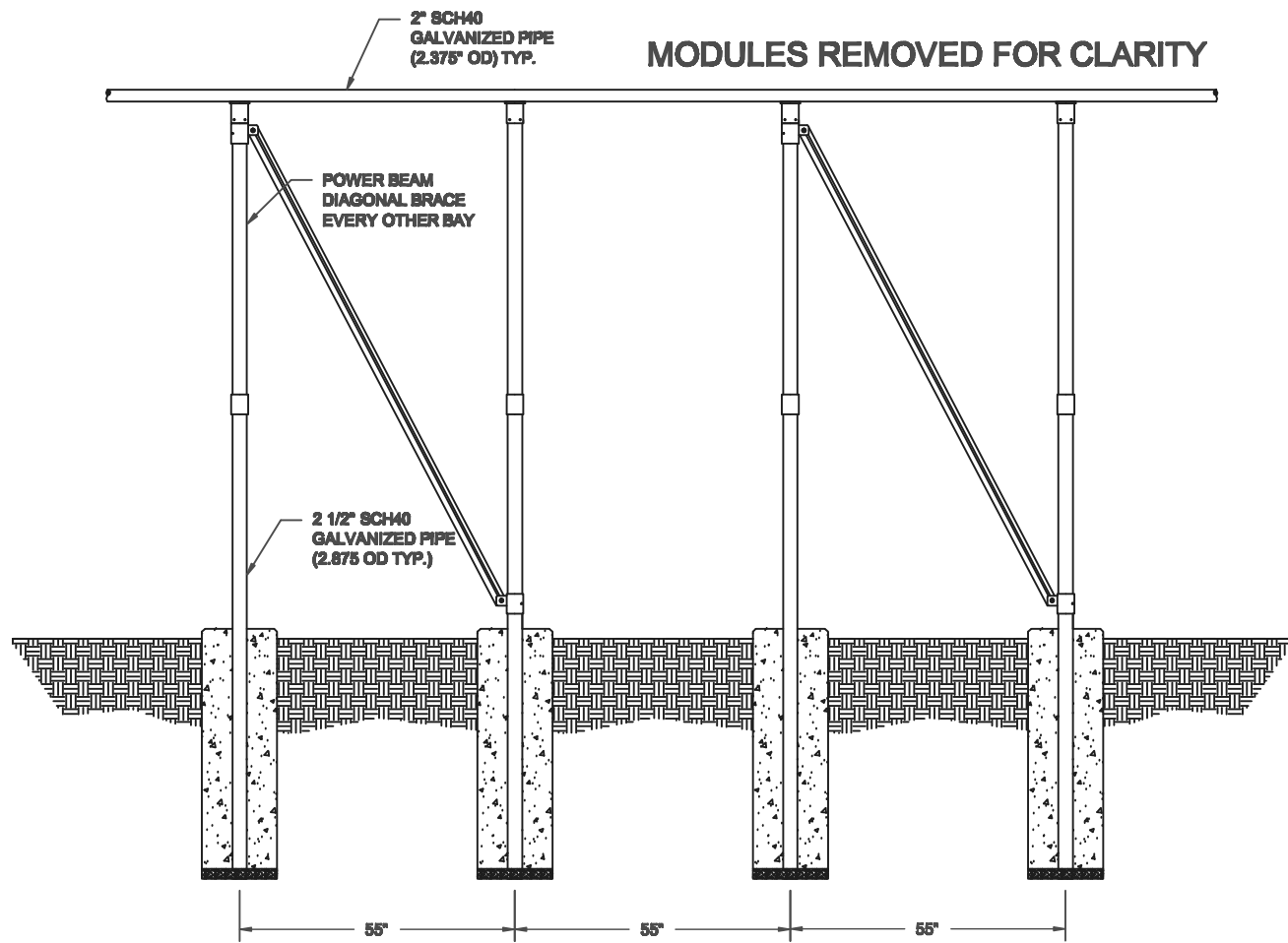
Site Name Persigo Wastewater Treatment Plant
Project Solar Photovoltaic System
Address: 2145 River Road
 Grand Junction, CO 81505
Drawing No. PV-020 **REV.** 1.1
Drawing Array Foundation Layout

REV. NO.	DESCRIPTION	DATE	BY
1.0	Initial Drawing	4-18-11	JWL
1.1	New Foundation Layout	10-13-11	JWL

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SIDE VIEW
DO NOT SCALE



BACK VIEW
DO NOT SCALE

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REV. NO.	DESCRIPTION	DATE	BY
1.0	Initial Drawing	4-18-11	JWL
1.1	Revised for SCH40 Ver. Pipe	10-12-11	JWL

Site Name Persigo Wastewater Treatment Plant
Project Solar Photovoltaic System
Address: 2145 River Road
 Grand Junction, CO 81505
Drawing No. PV-021
REV. 1.1
REV. 1.1
Drawing: Array Side & Back View

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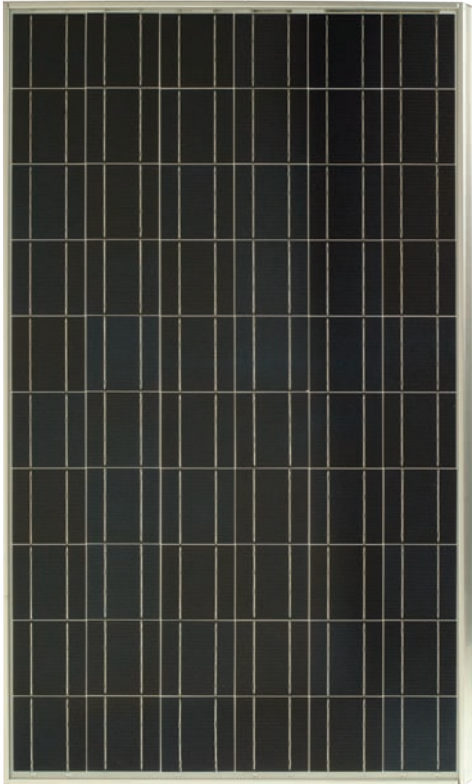


solar electricity

230 WATT

MULTI-PURPOSE MODULE

NEC 2008 Compliant



ND-230UCJ

MULTI-PURPOSE 230 WATT
MODULE FROM THE WORLD'S
TRUSTED SOURCE FOR SOLAR.

Using breakthrough technology, made possible by nearly 50 years of proprietary research and development, Sharp's ND-230UCJ solar module incorporates an advanced surface texturing process to increase light absorption and improve efficiency. Common applications include commercial and residential grid-tied roof systems as well as ground mounted arrays. Designed to withstand rigorous operating conditions, this module offers high power output per square foot of solar array.

Business leaders install this module in large commercial applications, demonstrating financial astuteness and environmental stewardship.

ENGINEERING EXCELLENCE

High module efficiency for an outstanding balance of size and weight to power and performance.

DURABLE

Tempered glass, EVA lamination and weatherproof backskin provide long-life and enhanced cell performance.

RELIABLE

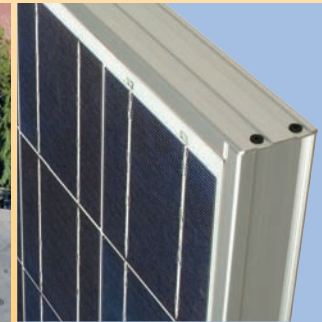
25-year limited warranty on power output.

HIGH PERFORMANCE

This module uses an advanced surface texturing process to increase light absorption and improve efficiency.



Sharp multi-purpose modules offer industry-leading performance for a variety of applications.



Improved Frame Technology

SHARP: THE NAME TO TRUST

When you choose Sharp, you get more than well-engineered products. You also get Sharp's proven reliability, outstanding customer service and the assurance of our 25-year limited warranty on power output. A global leader in solar electricity, Sharp powers more homes and businesses than any other solar manufacturer worldwide.

BECOME POWERFUL

230 WATT

ND-230UCJ

NEC 2008 Compliant

Module output cables: 12 AWG PV Wire

ELECTRICAL CHARACTERISTICS

Maximum Power (Pmax)*	230 W
Tolerance of Pmax	+10%/-5%
Type of Cell	Polycrystalline silicon
Cell Configuration	60 in series
Open Circuit Voltage (Voc)	36.9 V
Maximum Power Voltage (Vpm)	29.3 V
Short Circuit Current (Isc)	8.45 A
Maximum Power Current (Ipm)	7.85 A
Module Efficiency (%)	14.1%
Maximum System (DC) Voltage	600 V
Series Fuse Rating	15 A
NOCT	47.5°C
Temperature Coefficient (Pmax)	-0.485%/°C
Temperature Coefficient (Voc)	-0.36%/°C
Temperature Coefficient (Isc)	0.053%/°C

*Illumination of 1 kW/m² (1 sun) at spectral distribution of AM 1.5 (ASTM E892 global spectral irradiance) at a cell temperature of 25°C.

MECHANICAL CHARACTERISTICS

Dimensions (A x B x C below)	39.1" x 64.6" x 1.8"/994 x 1640 x 46 mm
Cable Length (G)	43.3"/1100 mm
Output Interconnect Cable**	12 AWG with MC4 Locking Connector
Weight	41.9 lbs / 19.0 kg
Max Load	50 psf (2400 Pascals)

**A safety lock clip (Multi Contact part number PV-SSH4) may be required in readily accessible locations per NEC 2008 690.33 (C)

**PV Wire per UL Subject 4703

QUALIFICATIONS

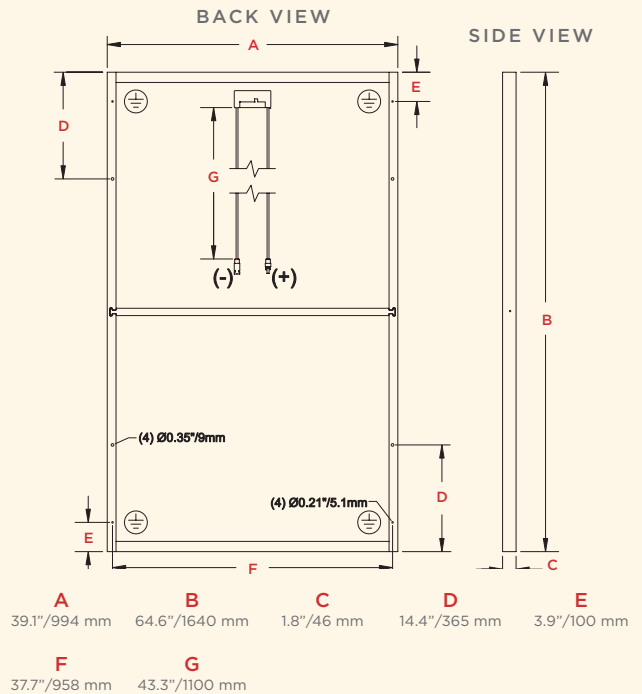
UL Listed	UL 1703
Fire Rating	Class C



WARRANTY

25-year limited warranty on power output
Contact Sharp for complete warranty information

DIMENSIONS



Contact Sharp for tolerance specifications

"BUY AMERICAN"

Sharp solar modules are manufactured in the United States and Japan, and qualify as "American" goods under the "Buy American" clause of the American Recovery and Reinvestment Act (ARRA).



SHARP®

SHARP ELECTRONICS CORPORATION
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www.sharpusa.com/solar