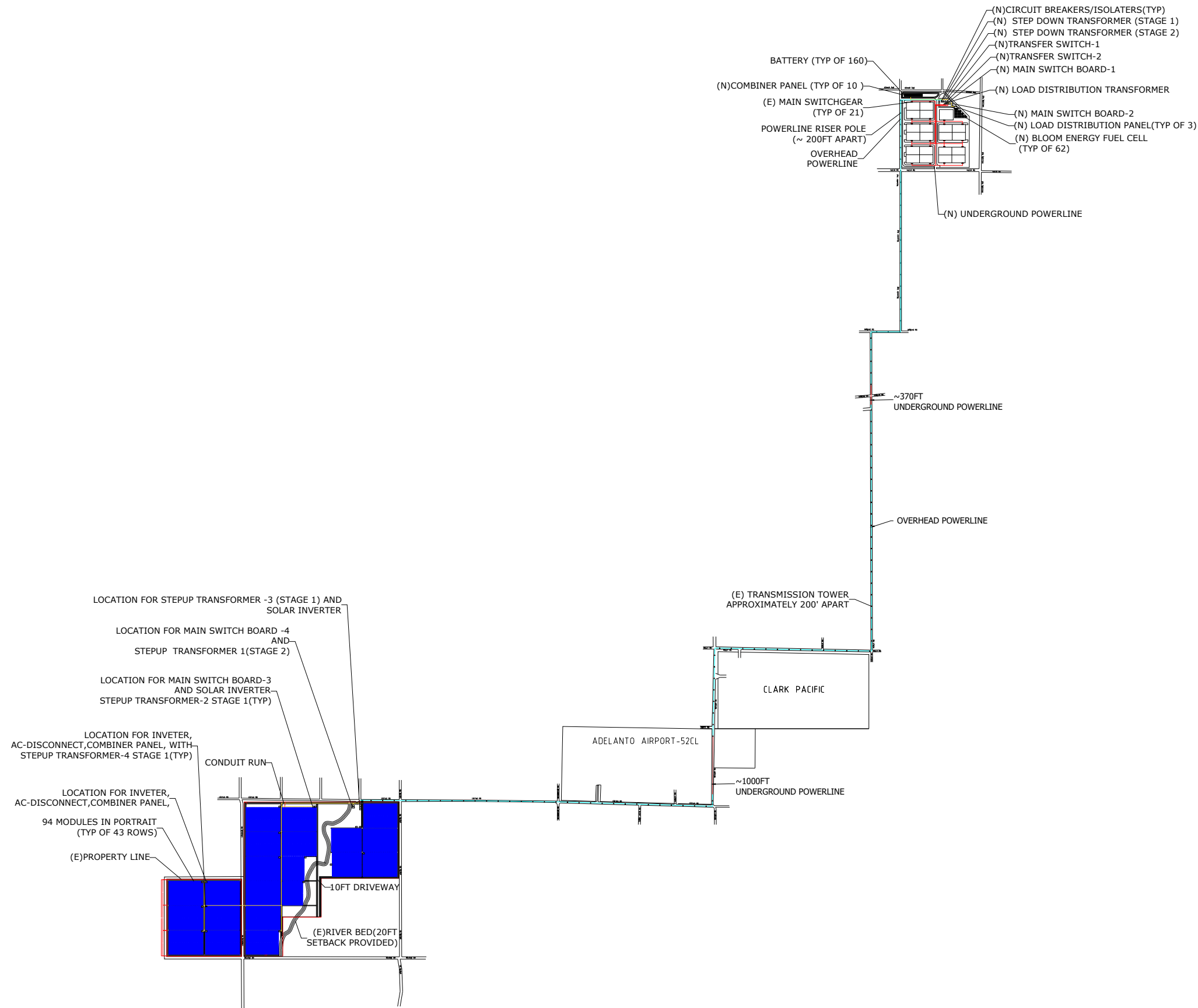


ADELANTO
NEW GRID-INTERACTIVE PHOTOVOLTAIC SYSTEM
DC SYSTEM SIZE (50.2 MW)



SYSTEM DETAILS

DESCRIPTION	NEW GRID-INTERACTIVE PHOTOVOLTAIC SYSTEM WITH NO BATTERY STORAGE
DC RATING OF SYSTEM	SYSTEM SIZE : 50.2 MW DC STC
AC RATING OF SYSTEM	37.25 MW
MAX AC OUTPUT CURRENT	29576.5 A
NO. OF MODULES	(8032) CHINT -ASTRONEGY 625 W BIFACIAL
NO. OF INVERTERS	(149) CPS-SCH275KTL-DO-US-480
RACKING SYSTEM	GROUND MOUNT
POINT OF CONNECTION	TAP AT 12KV LINE
NO.OF BATTERIES	(160) CPS ESS-125KW / 268KWh BATTERY
NO. OF FUEL CELLS	(62) THE BLOOM ENERGY SERVER 5

SITE DETAILS

ASHRAE EXTREME LOW	-6 °C
ASHRAE 2% HIGH	38°C
GROUND SNOW LOAD	5 PSF
WIND SPEED	96 MPH
RISK CATEGORY	II
WIND EXPOSURE CATEGORY	C

GOVERNING CODES

2019 CALIFORNIA BUILDING CODE (CBC)
2019 CALIFORNIA FIRE CODE (CFC)
2019 CALIFORNIA ELECTRICAL CODE (CEC)
2017 NATIONAL ELECTRICAL CODE (NEC)

SHEET INDEX

SHEET NO.	SHEET NAME
PV- 00	COVER PAGE
PV- 01	SITE PLAN
PV- 02	ARRAY LAYOUT
PV- 03	BATTERY AND FUEL CELL PLAN
PV- 04	ELECTRICAL LINE DIAGRAM
PV- 05	ELECTRICAL LINE DIAGRAM
PV- 06	ELECTRICAL LINE DIAGRAM
PV- 07	ELECTRICAL LINE DIAGRAM
PV- 08	ROAD DETAILS
PV- 09	ROAD DETAILS
DS- 01	MODULE DATASHEET
DS-02	INVERTER DATASHEET
DS-03	BATTERY DATASHEET
DS-04	FUEL CELL DATASHEET
DS-05	ATTACHEMENT DATASHEET



COMPANY:
PROSUN SOLAR INC
1 CHANNEL COURT
RANCHO MIRAGE, CA, 92270



DESIGNED BY:
GREEN WORLD RENEWABLE ENERGY

HEAD OFFICE - INDIA B-1109, Mahavir Icon,
Plot No. 89/90, Sector 15, C.B.D Belapur Navi
Mumbai, MH, 400614. IN

PROJECT TITLE:

50.2MW DC/37.25MW AC PHOTOVOLTAIC ON GRID SYSTEM

PROJECT NO.: ADELANTO

PROJECT ADDRESS:

17331 MUSKRAT AVE # 16, ADELANTO,
CA 92301, UNITED STATES

SHEET TITLE:

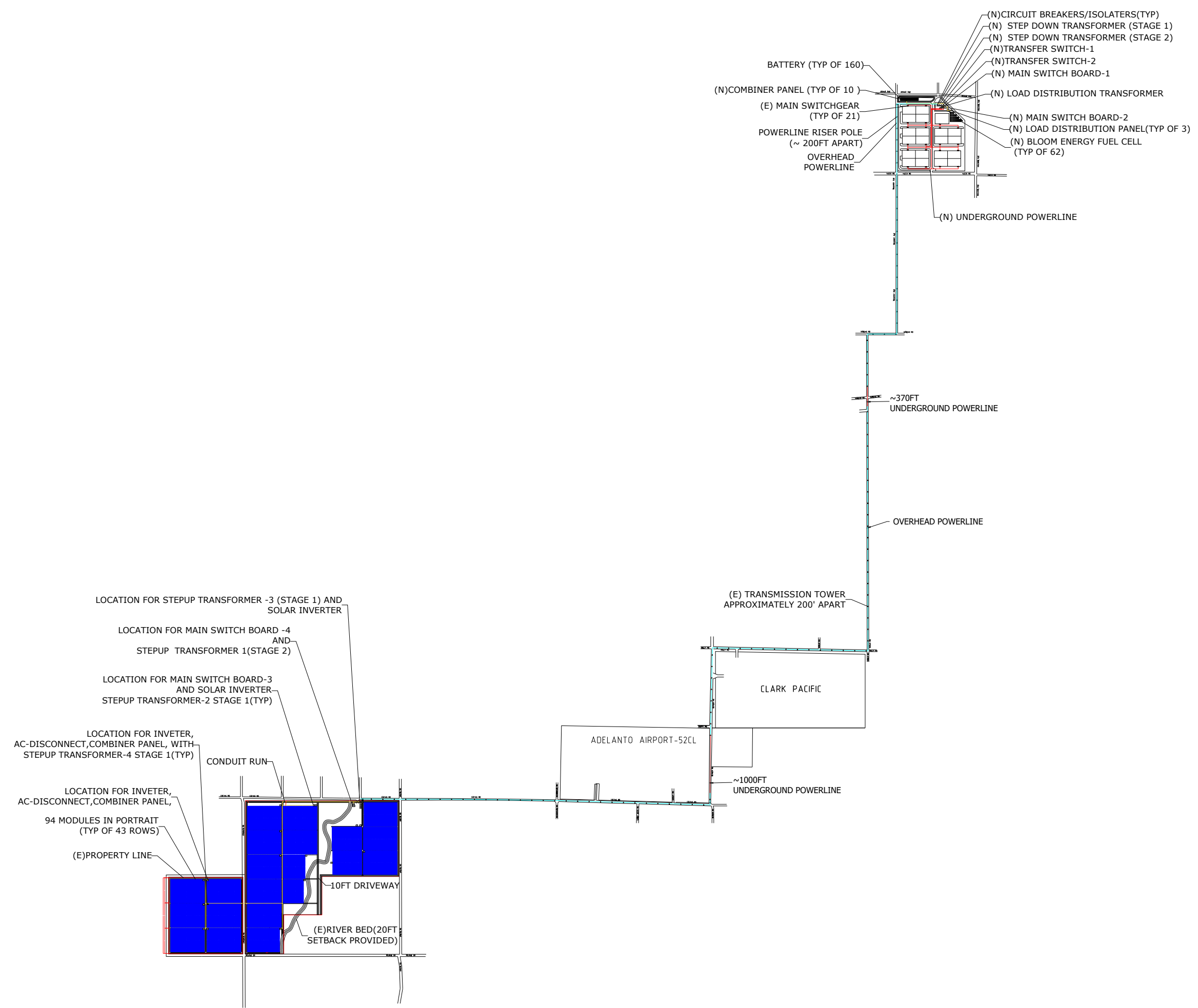
PRELIMINARY SITE PLAN

DRAWN BY:OSP/OVR/OCK

DATE:	04/12/2023
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SCALE:
AS SHOWN

P.V0.0



COMPANY:
PROSUN SOLAR INC
1 CHANNEL COURT
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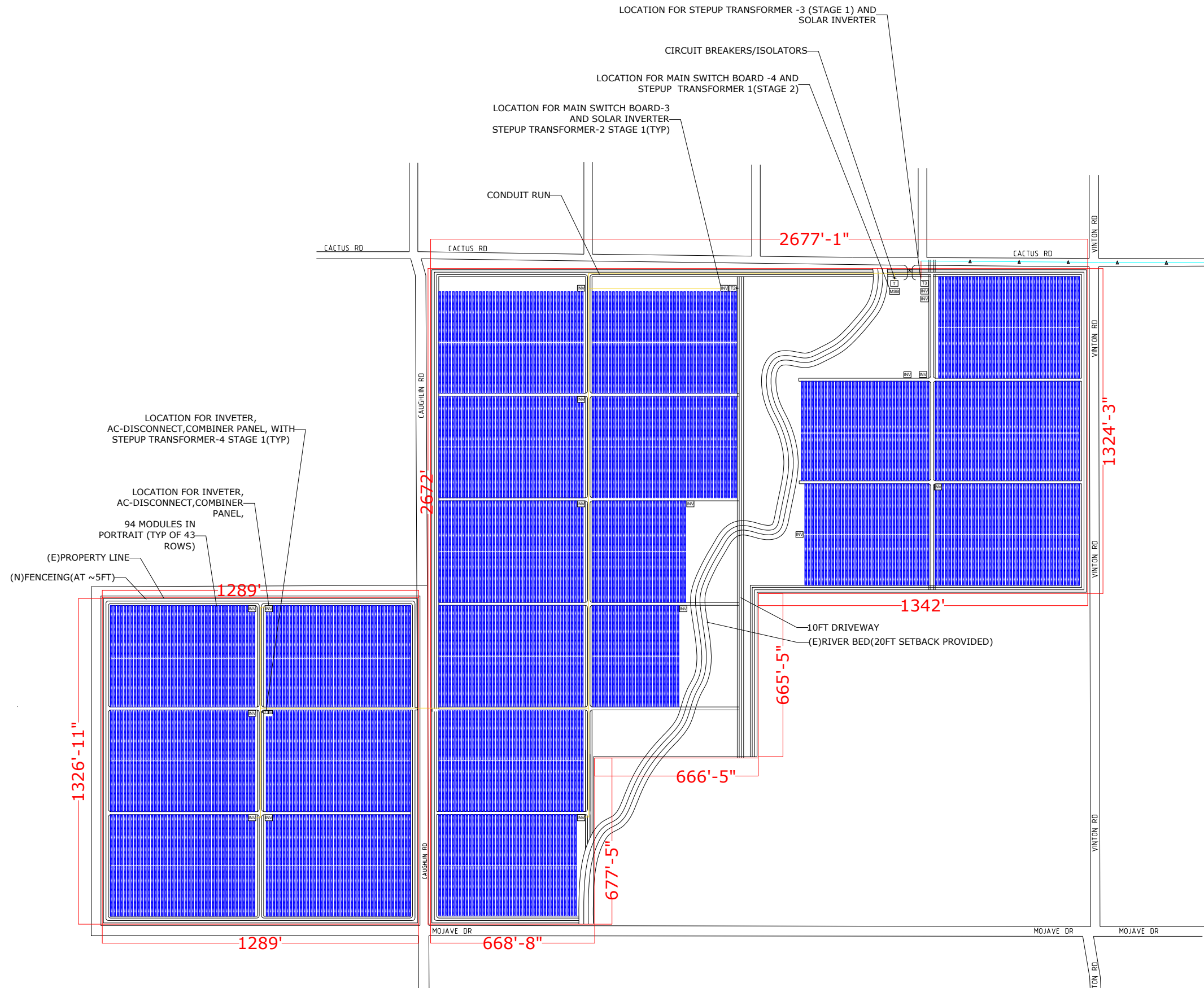
DESIGNED BY:
GREEN WORLD RENEWABLE ENERGY
HEAD OFFICE - INDIA B-1109, Mahavir Icon,
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PROJECT NO.: **ADELANTO**
PROJECT ADDRESS:
**17331 MUSKRAT AVE # 16, ADELANTO,
CA 92301, UNITED STATES**

SHEET TITLE:
PRELIMINARY SITE PLAN
DRAWN BY:OSP/OVR/OCK
DATE:
04/12/2023
SCALE:
AS SHOWN
P.V1.0

A SOLAR ARRAY LAYOUT



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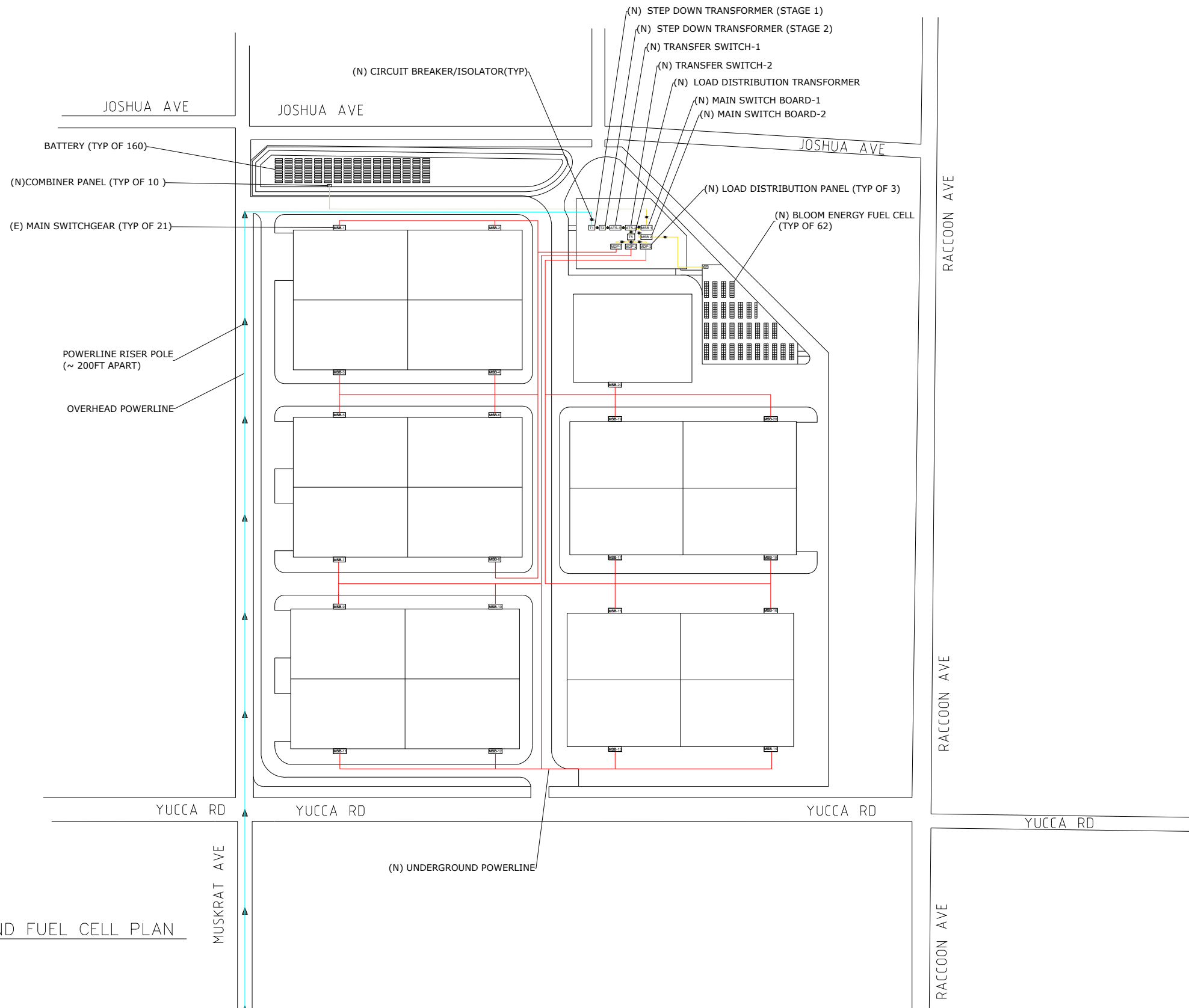
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PROJECT ADDRESS:
**17331 MUSKRAT AVE # 16, ADELANTO,
CA 92301, UNITED STATES**

SHEET TITLE:
ARRAY LAYOUT

DRAWN BY:OSP/OVR/OCK

DATE:
04/12/2023
SCALE:
AS SHOWN
P.V2.0

A BATTERY AND FUEL CELL PLAN



COMPANY:
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PROJECT NO.: **ADELANTO**

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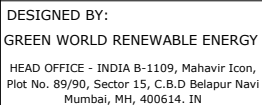
**BATTERY AND
FUEL CELL PLAN**

DRAWN BY:OSP/OVR/OCK

DATE:
04/12/2023

SCALE:
AS SHOWN

P.V3.0



PROJECT TITLE:

50.2MW DC/37.25 MW AC
PHOTOVOLTAIC
ON GRID SYSTEM

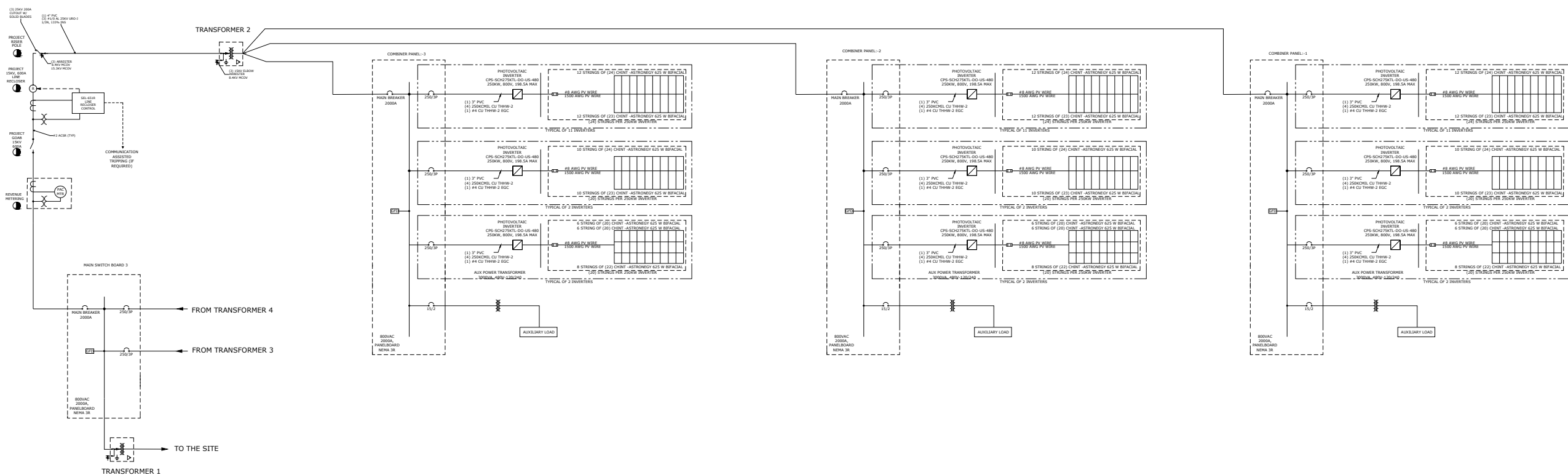
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PROJECT ADDRESS:	17331 MUSKRAT AVE # 16, ADELANTO, CA 92301, UNITED STATES

SHEET TITLE:

ELECTRICAL LINE DIAGRAM 3

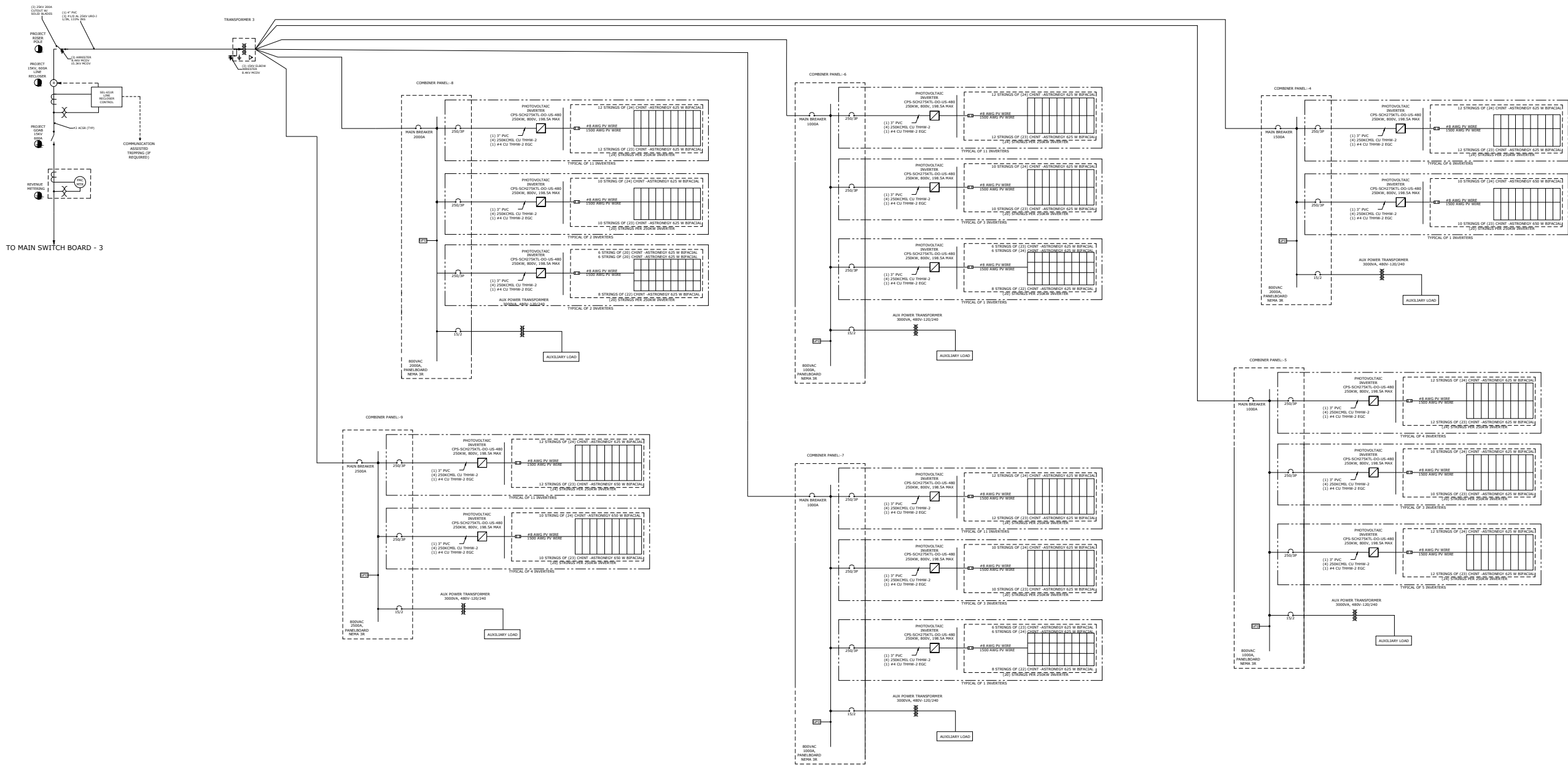
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DATE: 04/12/2023	P.V 4.0
SCALE:	



NOTES:

1. LINE RECLOSER INCLUDES CONTROL TO PROVIDE ALL PROTECTION FUNCTIONS REQUIRED BY UTILITY SERVICE PROVIDER AND INTERCONNECTION AGREEMENT.
2. IF ACCEPTED BY UTILITY SERVICE PROVIDER , PROTECTIVE RELAY WILL OPERATE MAIN BREAKER, IN LIEU OF MEDIUM VOLTAGE LINE RECLOSER.
3. UTILITY TRANSFORMER GROUNDED WYE TO 480V GROUNDED WYE. PADMOUNT STYLE. LOOP FEED WITH BUSHING WELLS AND INSERTS. DETC +/- 2-STEPS @ 2.5%. STANDARD ACCESSORIES INCLUDING BAYONET AND PARTIAL RANGE CURRENT LIMITING FUSES, OIL TEMPERATURE GAUGE, TANK PRESSURE/VACUUM GAUGE, OIL SITE GLASS, SECONDARY TERMINALS, OIL SAMPLE AND DRAIN VALVE, OIL FILL PLUG, FUSE ACCESS HATCH IN TOP.
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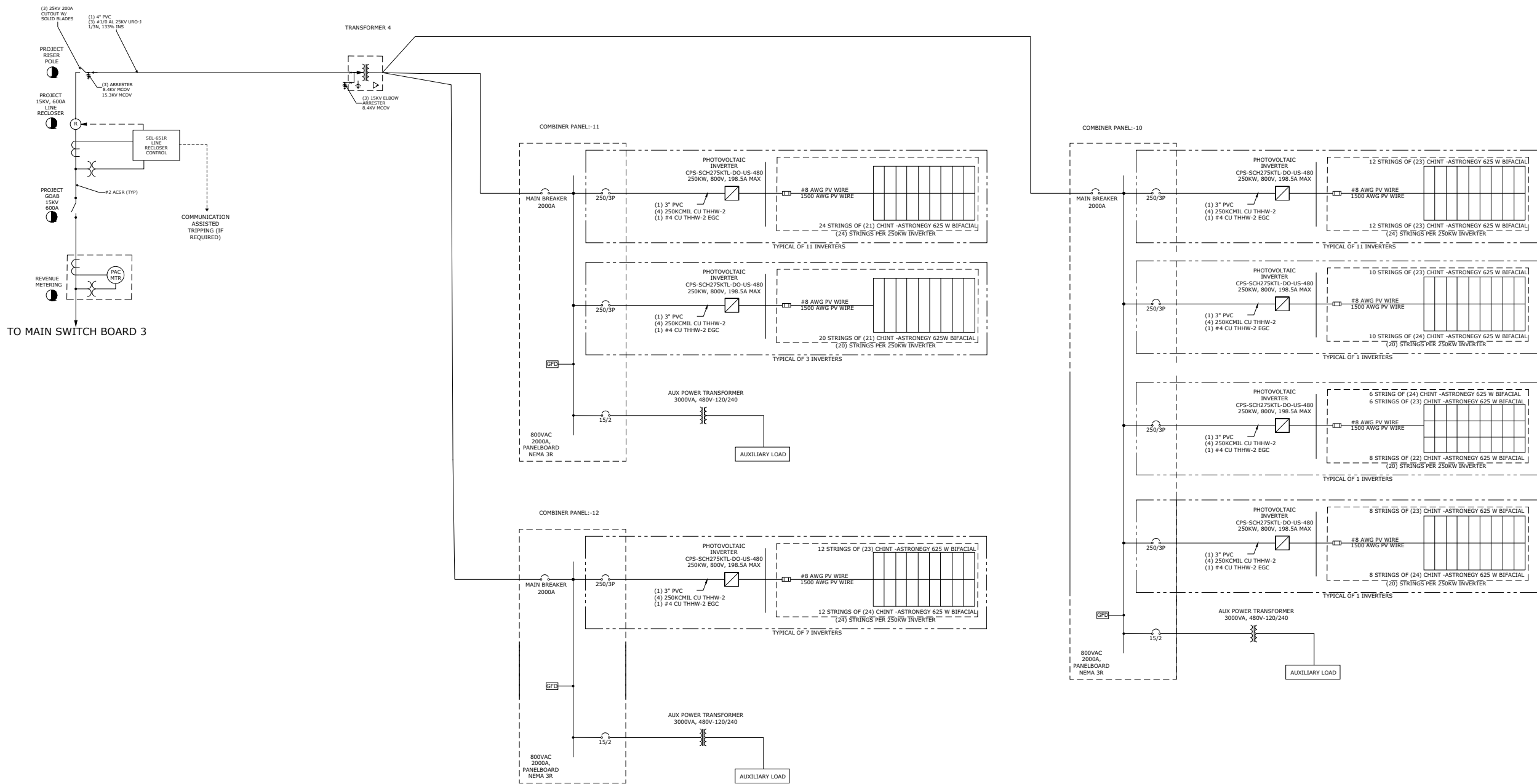
ELECTRICAL LINE DIAGRAM 3

DRAWN BY:OSP/OVR/OCK

DATE:
04/12/2023

SCALE:
AS SHOWN

P.V 5.0



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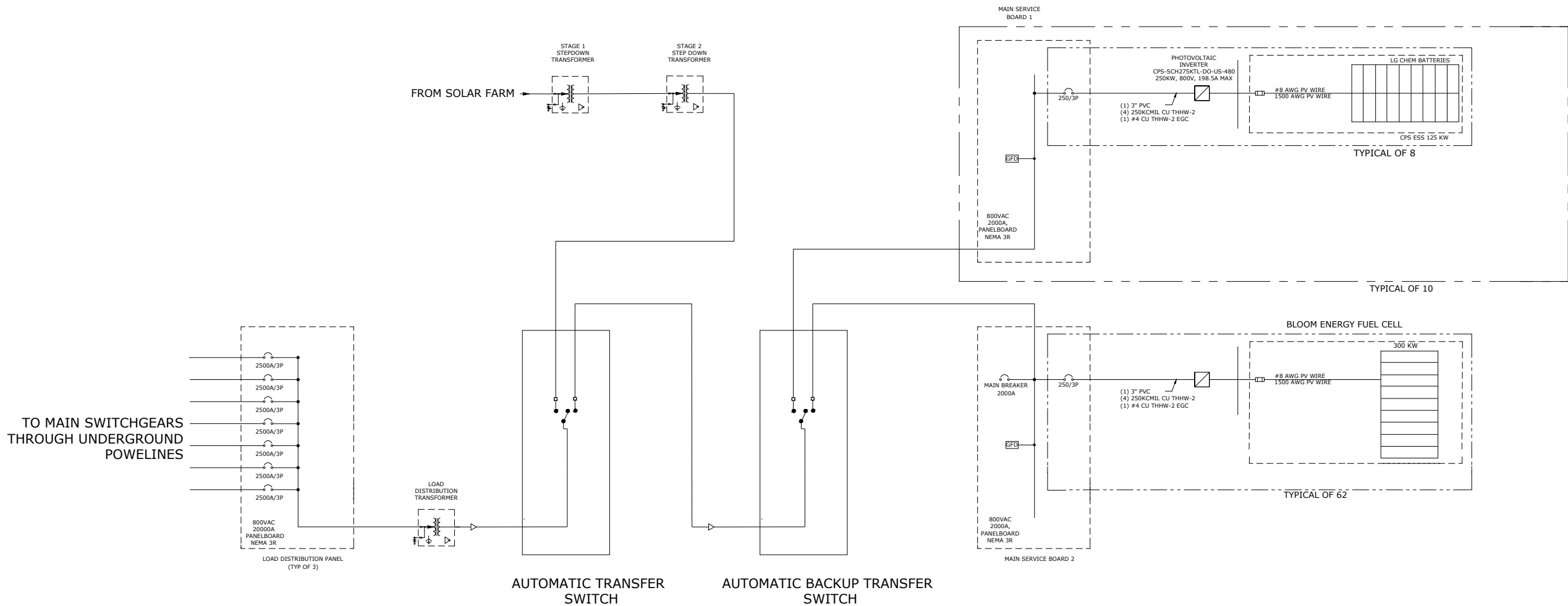
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DRAWN BY:OSP/OVR/OCK

DATE:
04/12/2023

SCALE:
AS SHOWN

P.V 6.0



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SHEET TITLE:

ELECTRICAL LINE DIAGRAM 3

DRAWN BY:OSP/OVR/OCK

DATE:
04/12/2023

SCALE:
AS SHOWN

P.V 7.0

NOT USED

SCALE: NTS

9

ROUND SECTIONS

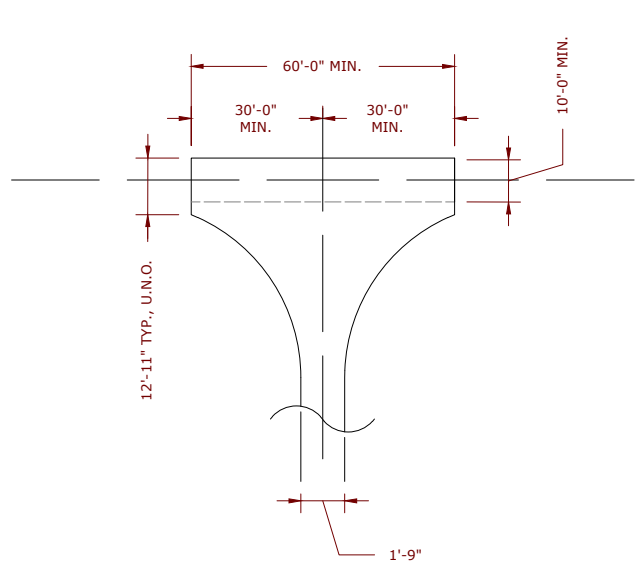
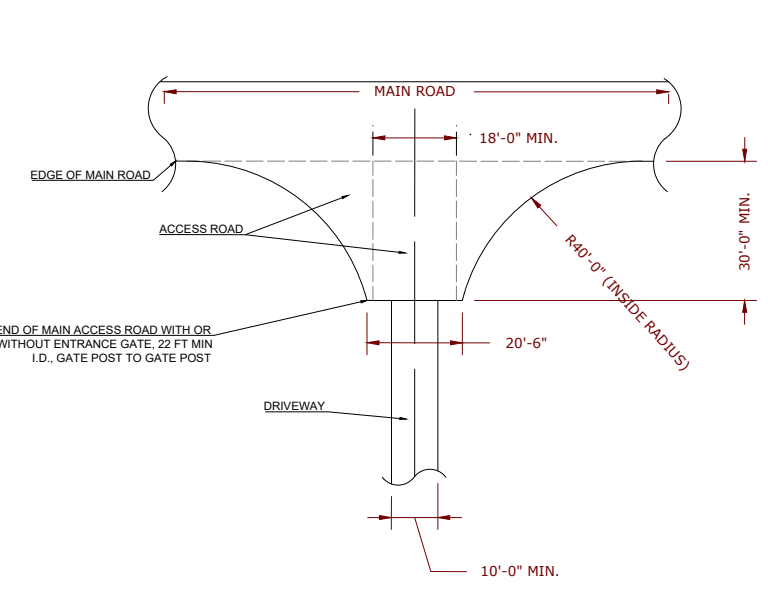
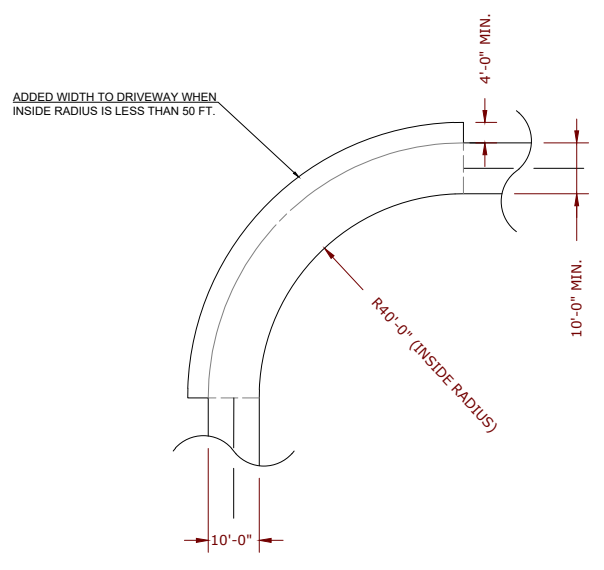
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"T" TURNAROUND

SCALE: NTS

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ALTERNATE 90° TURN

SCALE: NTS

8

MAIN ACCESS

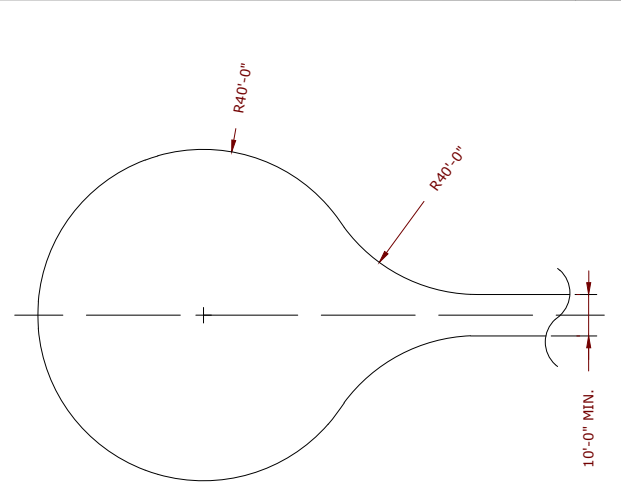
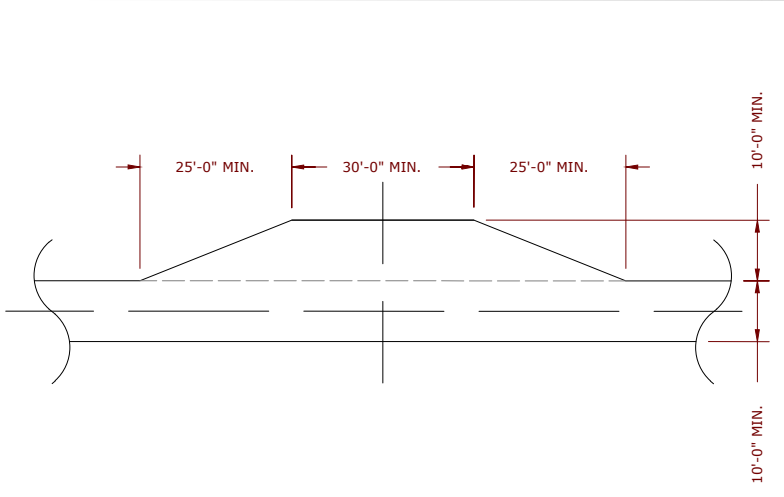
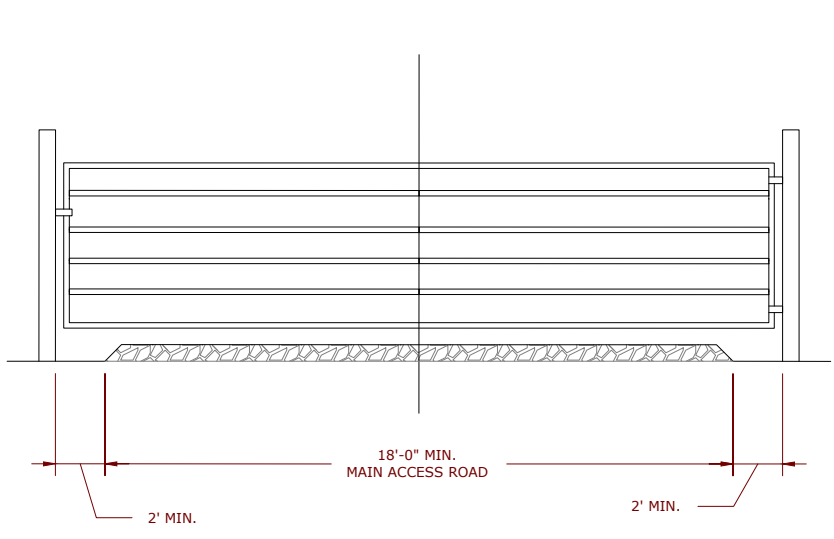
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HAMMERHEAD TURNAROUND

SCALE: NTS

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ENTRANCE GATE

SCALE: NTS

7

TURNOUT

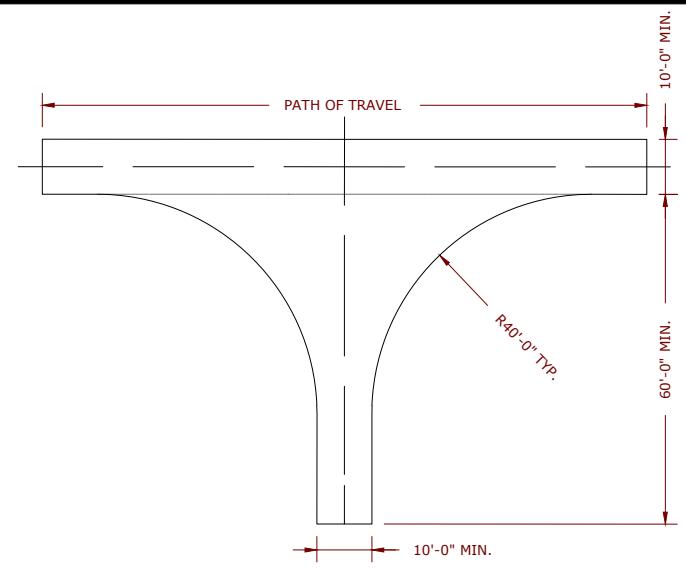
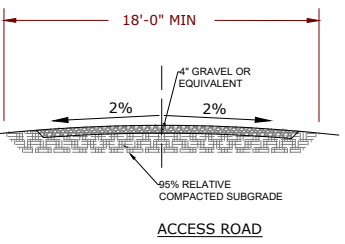
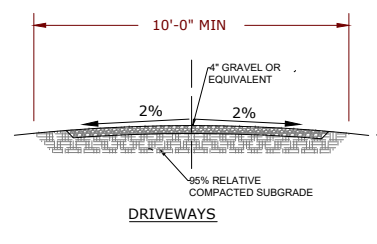
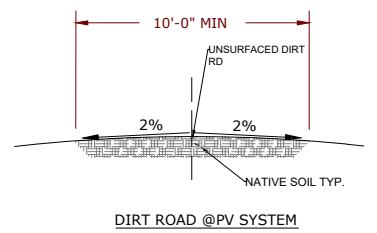
SCALE: NTS

4

CIRCULAR TURNAROUND

SCALE: NTS

1



COMPANY:
PROSUN SOLAR INC
1 CHANNEL COURT
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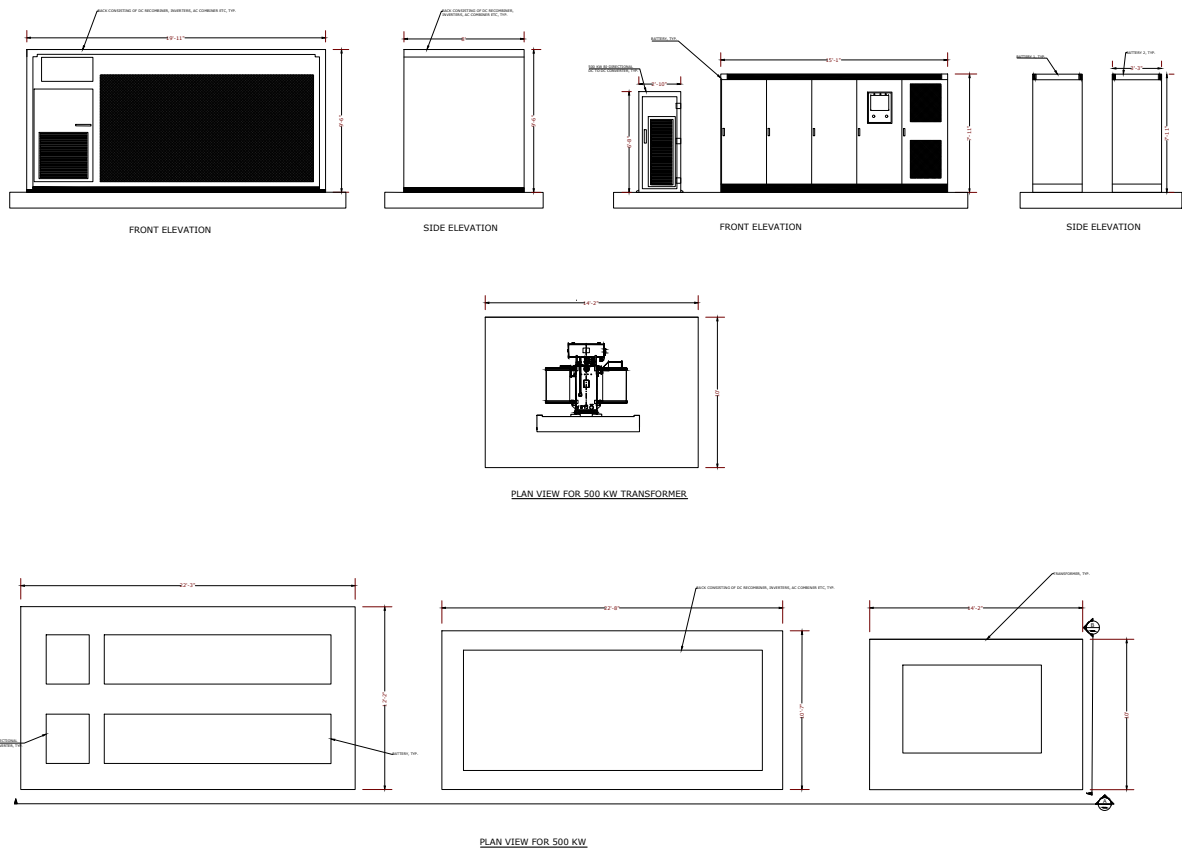
PROJECT TITLE:
**50.2MW DC/37.25MW AC
PHOTOVOLTAIC
ON GRID SYSTEM**

PROJECT NO.: **ADELANTO**
PROJECT ADDRESS:
**17331 MUSKRAT AVE # 16, ADELANTO,
CA 92301, UNITED STATES**

SHEET TITLE:
ROAD DETAILS

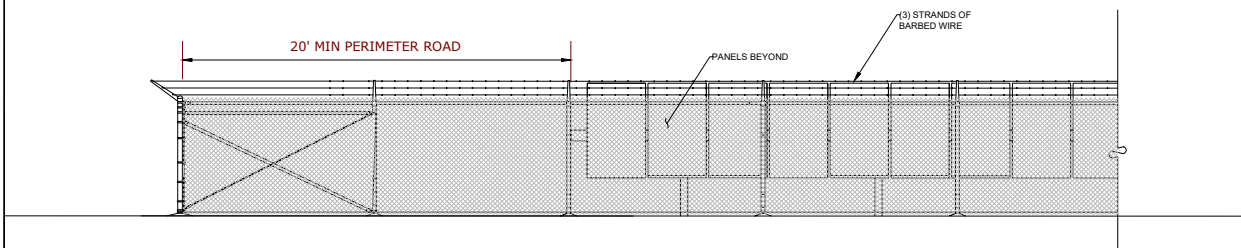
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DATE:
04/12/2023
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PV-8.0

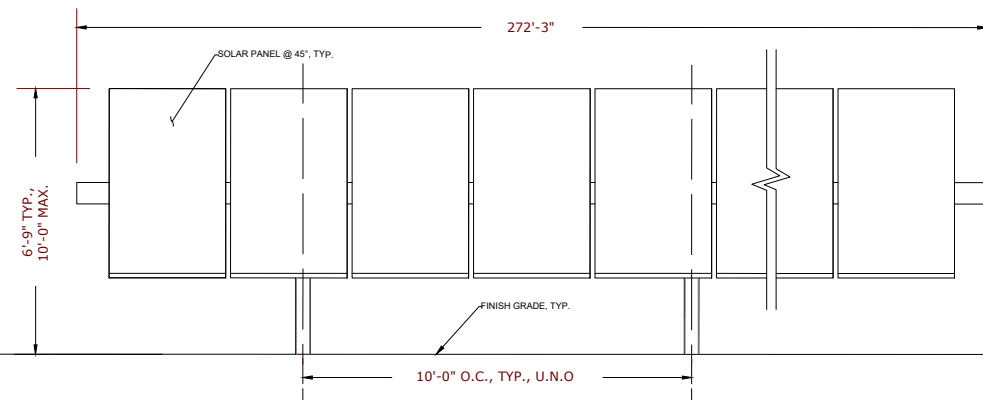


INVERTER/ TRANSFORMER, TYP.

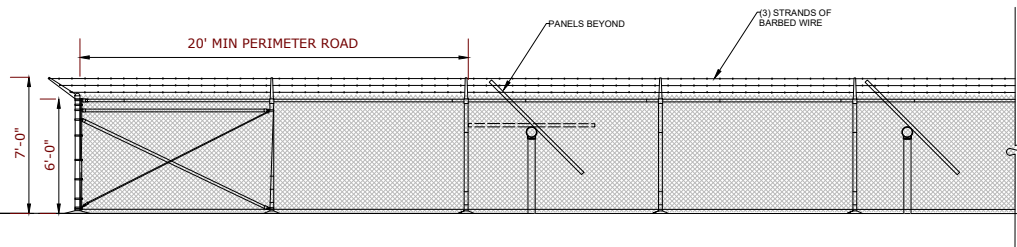
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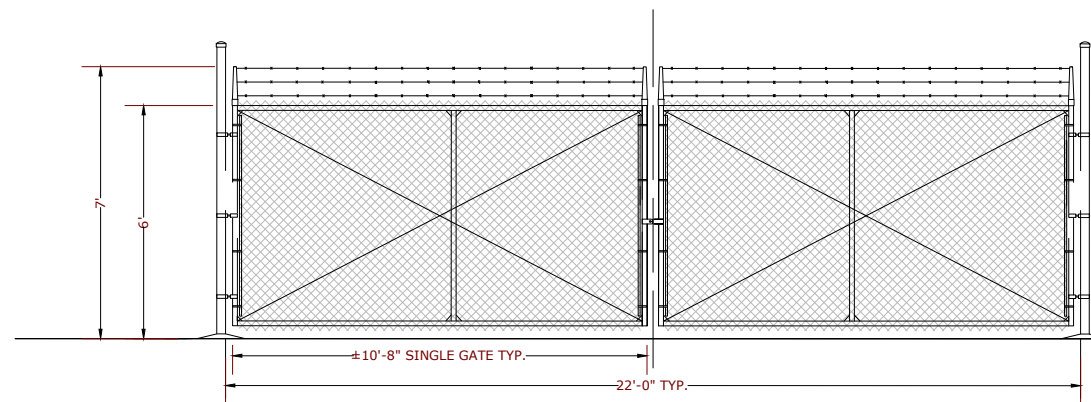
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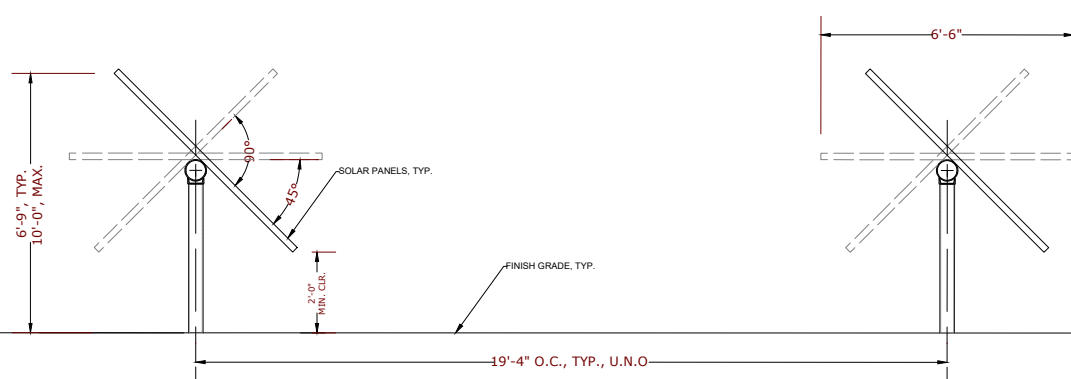
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NORTH OR SOUTH PERIMETER ELEVATION, TYP. SCALE: 1/2"=1'-0" 2



BIDIRECTIONAL GATE ELEVATION, TYP. SCALE: 1/2"=1'-0" 5



NORTH OR SOUTH TRACKER ELEVATION, TYP. SCALE: 1/2"=1'-0" 1



COMPANY:
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SHEET TITLE:

ROAD DETAILS

DRAWN BY:OSP/OVR/OCK

DATE:
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SCALE:
AS SHOWN

PV-9



ASTRO N5

Create Sustainable and Efficient Green Energy

CHSM78N(DG)/F-BH
Bifacial Series (182)

605~625W

TOPCon / Half-cut

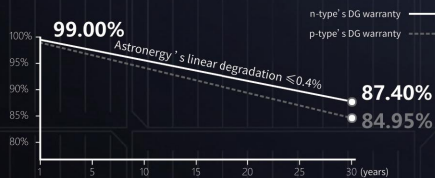
Low temperature coefficient (Pmpp)

Non-destructive cutting

PID resistance

Bifacial gain

Low BOS cost & LCOE



12-year Product Warranty
30-year Linear Power Warranty



ISO 9001:2015 ISO Quality Management System
ISO 14001:2015 ISO Environment Management System
ISO 45001:Occupational Health and Safety
The first solar company which passed the Nord IEC/TS 62941 certification audit.



Tier 1
BloombergNEF



605~625W

POWER RANGE

0~+5W

POWER SORTING

22.4%

MAX MODULE
EFFICIENCY

≤ 1.0%

FIRST YEAR
POWER DEGRADATION

≤ 0.4%

YEAR 2-30
POWER DEGRADATION

Electrical Specifications

STC: Irradiance 1000W/m², Cell Temperature 25° C, AM=1.5

Rated output (Pmpp / Wp)	605	610	615	620	625
Rated voltage (Vmpp / V)	45.63	45.79	45.96	46.12	46.29
Rated current (Impp / A)	13.26	13.32	13.38	13.44	13.50
Open circuit voltage (Voc / V)	55.21	55.41	55.61	55.81	56.01
Short circuit current (Isc / A)	13.78	13.87	13.95	14.03	14.11
Module efficiency	21.6%	21.8%	22.0%	22.2%	22.4%

NMOT: Irradiance 800W/m², Ambient Temperature 20° C, AM=1.5, Wind Speed 1m/s

Rated output (Pmpp / Wp)	455.0	458.7	462.5	466.2	470.0
Rated voltage (Vmpp / V)	42.95	43.10	43.26	43.41	43.57
Rated current (Impp / A)	10.59	10.64	10.69	10.74	10.79
Open circuit voltage (Voc / V)	52.44	52.63	52.82	53.01	53.20
Short circuit current (Isc / A)	11.13	11.19	11.26	11.32	11.39

Electrical Specifications (Integrated power)

Pmpp gain	Pmpp / Wp	Vmpp / V	Impp / A	Voc / V	Isc / A
5%	646	45.96	14.05	55.61	14.64
10%	677	45.96	14.72	55.61	15.34
15%	707	45.97	15.39	55.62	16.03
20%	738	45.97	16.05	55.62	16.73
25%	769	45.97	16.72	55.62	17.43

Electrical characteristics with different rear power gain (reference to 615W)

Temperature Ratings (STC)

Temperature coefficient (Pmpp)	-0.29%/°C	No. of diodes	3
Temperature coefficient (Isc)	+0.043%/°C	Junction box IP rating	IP 68
Temperature coefficient (Voc)	-0.25%/°C	Max. series fuse rating	30 A
Nominal module operating temperature (NMOT)	41±2°C	Max. system voltage (IEC/UL)	1500V _{oc}

Operating Parameters

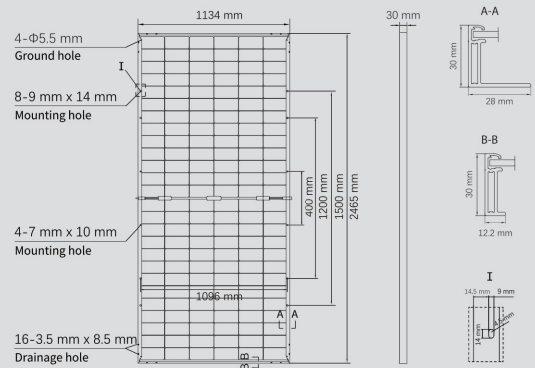
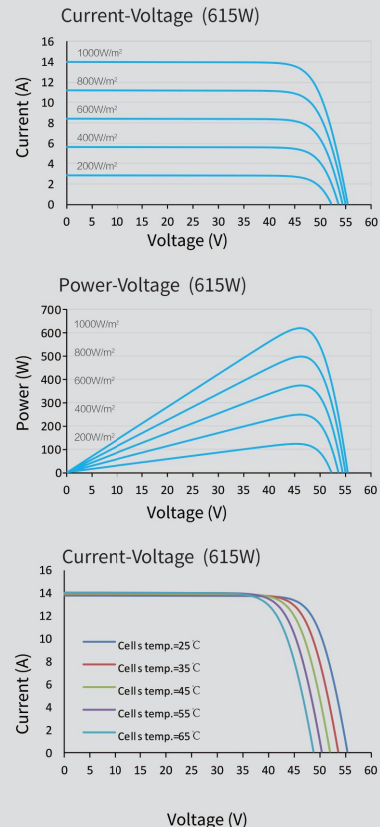
Mechanical Specifications

Outer dimensions (L x W x H)	2465 x 1134 x 30 mm
Cell type	n-type mono-crystalline
No. of cells	156 (6*26)
Frame technology	Aluminum, silver anodized
Front / Back glass	2.0+2.0 mm
Cable length (Including connector)	Portrait: (+)350 mm, (-)250 mm; Customized length
Cable diameter (IEC/UL)	4 mm ² / 12 AWG
① Maximum mechanical test load	5400 Pa (front) / 2400 Pa (back)
Connector type (IEC/UL)	HCB40 (Standard) / MC4-EVO2A (Optional)
Module weight	34.7 kg
Packing unit	36 pcs / box (Subject to sales contract)
Weight of packing unit (for 40'HQ container)	1312 kg
Modules per 40' HQ container	576 pcs

① Refer to Astronergy crystalline installation manual or contact technical department.
Maximum Mechanical Test Load=1.5×Maximum Mechanical Design Load.

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<https://www.astro-energy.com>

Curve



202302



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Mumbai, MH, 400614. IN

PROJECT TITLE:

50.2MW DC/37.25MW AC
PHOTOVOLTAIC
ON GRID SYSTEM

PROJECT NO.: ADELANTO

PROJECT ADDRESS:

17331 MUSKRAT AVE # 16, ADELANTO,
CA 92301, UNITED STATES

SHEET TITLE:

MODULE DATASHEET

DRAWN BY:OSP/OVR/OCK

DATE:
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SCALE:
AS SHOWN

DS-01



Datasheet

250/275kW, 1500Vdc String Inverters for North America



CPS SCH275KTL-DO/US-800

The 250/275kW high power CPS three phase string inverters are designed for ground mount applications. The units are high performance, advanced and reliable inverters designed specifically for the North American environment and grid. High efficiencies, wide operating voltages, broad temperature ranges and NEMA Type 4X enclosure enable this inverter platform to operate at high performance across many applications. The SCH275KTL inverters include a selectable Active Power of either 250kW or 275kW (factory default) with 12 MPPTs and are available with either 36 fused PV string inputs or 24 unfused PV string inputs. The CPS FlexOM solution enables communication, controls and remote product upgrades.

Key Features

- NFPA 70, NEC 2017 compliant
- Touch safe DC Fuse holders adds convenience and safety
- CPS FlexOM Gateway enables remote FW upgrades
- Integrated DC disconnect switch
- Protection Functions for enhanced reliability and safety
- Selectable Max AC Active Power of 250kW or 275kW
- 12 MPPTs with 36 fused inputs or 24 unfused inputs
- Copper and Aluminum compatible AC connections
- NEMA Type 4X outdoor rated, tough tested enclosure
- Full power capacity up to 42°C
- Standard 5 year warranty with extensions to 20 years
- Supported comm protocols (Modbus RTU, TCP/IP, PLC, CAN)



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Technical Data

Model Name	CPS SCH275KTL-DO/US-800-36	CPS SCH275KTL-DO/US-800-24
DC Input		
Max. DC Input Voltage	1500V	
Operating DC Input Voltage Range	500-1450Vdc	
Start-up DC Input Voltage / Power	550Vdc / 500W	
MPPT Voltage Range @ PF>0.99 ¹	900-1300Vdc	
Number of MPP Trackers	12	12
Max. PV Input Current	26A per MPPT	30A per MPPT
Max. PV Short-Circuit Current	600A, 50A per MPPT	600A, 50A per MPPT
Number of DC Inputs	36 Fused Inputs, 3 per MPPT	24 Non-Fused Inputs
DC Disconnection Type	Load-rated DC switches	
DC Surge Protection	Type II	
AC Output		
Max AC Output Power (Selectable) @ PF>0.99	250kW / 275kW	
Max. AC Apparent Power	275kVA	
Rated Output Voltage	800Vac	
Output Voltage Range ²	704-880Vac	
Grid Connection Type	3-Phase / PE	
Max. AC Output Current @800Vac	198.5A	
Rated Output Frequency	60Hz	
Output Frequency Range ²	57 - 63Hz	
Power Factor	>0.99 (±0.8 adjustable)	
Current THD @ Rated Load	<3%	
Max. Fault Current Contribution (1 Cycle RMS)	215.2A	
Max. OCPD Rating	300A	
AC Surge Protection	Type II	
System and Performance		
Max. Efficiency	99.0%	
CEC Efficiency	98.5%	
Stand-by / Night Consumption	5W	
Environment		
Enclosure Protection Degree	NEMA Type 4X	
Cooling Method	Variable speed cooling fans	
Operating Temperature Range ³	-22°F to +140°F / -30°C to +60°C (derating from +107°F / +42°C)	
Operating Humidity	0 to 100%	
Operating Altitude	8202ft / 2500m (no derating)	
Audible Noise	<80dBA @ 1m and 25°C	
Display and Communication		
User Interface and Display	LED indicators, WiFi + APP	
Inverter Monitoring	Modbus RS485 / Ethernet TCP/IP / PLC / CAN	
Site Level Monitoring	CPS FlexOM (1 per 32 inverters)	
Modbus Data Mapping	SunSpec / CPS	
Remote Diagnostics / FW Upgrade Functions	Standard / (with FlexOM Gateway)	
Mechanical		
Dimensions (HxWxD)	27.2 x 41.3 x 15.7in (690 x 1050 x 400mm)	
Weight	Approx. 262lbs / 119kg	
Mounting / Installation Angle	Vertical installation	
AC Termination	Stud Type Terminal (Wire range: 3/0AWG – 600kcmil AL/CU, Lugs not supplied)	
DC Termination	36 Fused Input: Screw Clamp Fuse Holder (Wire range: #14 - #6 AWG CU) 24 Non-Fused Input: Screw Clamp Terminal (Wire range: #14 - #8 and #6 - #4 AWG CU)	
Fused String Inputs (3 per MPPT) ⁴	20A fuses provided (Fuse values up to 30A acceptable)	
Safety		
Certifications and Standards	UL1741-SA Ed. 2, CSA-22.2 NO.107.1-16, IEEE1547-2018, FCC PART15	
Selectable Grid Standard	IEEE 1547a-2014, CA Rule 21, ISO-NE	
Smart-Grid Features	Volt-RideThru, Freq-RideThru, Ramp-Rate, Specified-PF, Volt-Var, Freq-Watt, Volt-Watt	
Protection Functions		
Reactive Power at Night	Yes	
IV Curve Tracing	Yes	
Insulation Resistance Monitoring	Yes	
Onboard Fault Oscillography	Yes	
PV String Current Monitoring	Yes	
Residual Current Monitoring	Yes	
Input Reverse Polarity Protection	Yes	
Output Overcurrent Protection	Yes	
Output Short-Circuit Protection	Yes	
Output Overvoltage Protection	Yes	
Warranty		
Standard	5 Years	
Extended Terms	10, 15 and 20 years	

1) See user manual for further information regarding MPPT Voltage Range when operating at non-unity PF
2) The "Output Voltage Range" and "Output Frequency Range" may differ according to the specific grid standard.
3) See user manual for further requirements regarding non-operating conditions.
4) Fused string inputs only applicable to the SCH275KTL 36 input model.



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PROJECT TITLE:

**50.2MW DC/37.25MW AC
PHOTOVOLTAIC
ON GRID SYSTEM**

PROJECT NO.: **ADELANTO**

PROJECT ADDRESS:

**17331 MUSKRAT AVE # 16, ADELANTO,
CA 92301, UNITED STATES**

SHEET TITLE:

INVERTER DATASHEET

DRAWN BY:OSP/OVR/OCK

DATE:
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AS SHOWN

DS-02



Datasheet

CPS ESS-125kW/268kW Energy Storage for North America



Commercial Energy Storage System

Chint Power Systems (CPS) commercial energy storage system (ESS) introduces its next generation turn-key solution. This system begins with a building block of 125kW/268kWh and can be easily expanded. CPS power conversion technology, partnered with EMS software, all in a UL9540a certified (pending) product.

The 125kW/268kWh package is ideally suited for commercial energy storage applications including:

- Solar + Storage
- Zero Export Control
- Demand Charge Management
- Back-up Power
- Demand Management
- Micro-grid Applications

Key Features

- Robust 10 Year Warranty with CPS
- Assembled in the USA
- Project Cash Flow Analysis
- Active Control & Management
- Pre-integrated & Tested
- Partnered EMS Solutions from Pason Power and ELM Fieldsight
- High efficiency (98% max) PCS
- Outdoor Rated
- Complete Climate Control
- ½ Day Installation
- Commissioning & Startup Services
- 2 and 4hr Duration Solutions



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Technical Data

Model Name	CPS ESS-125kW/268kWh
Electrical Specifications	
Rated AC Output Power	125kVA
Maximum AC Output Power	137.5kVA
Rated Grid Voltage	480Vac
Grid Voltage Range	422-528Vac
Rated Grid Frequency	60Hz
Grid Frequency Range	57-63Hz
Continuous AC Power - Charge	83.3kW/104kVA
Continuous AC Power - Discharge	125kW
Maximum Continuous AC Current	165A
Grid Connection Type	3 Phase/PE/N (neutral optional)
Total Harmonic Distortion	<3%
Power Factor	>.99 (+/-0.8 adjustable)
Maximum Efficiency (Inverter)	98.0%
CEC Efficiency (Inverter)	97.5%
AC Connection	3 Phase, 3 Wire
Environment & Certifications	
Enclosure	NEMA 3S/IP54
Inverter	UL 1741-SA
Batteries	UL 1973
System	UL 9540a (pending)
Equipment Specifications	
Lifting Provisions	Fork Lift Slots
Corrosion Resistance	1000 Salt Hour Spray
Handles	Stainless Steel Lockable
Temperature Range	-25°C to 50°C (derating from 45°C)
Operating Humidity	0-95%, non-condensing
Operating Altitude	<13123.4Ft/4000m (derating from 6561.7Ft/2000m)
Operation Parameters	
Demand Charge Management	✓
Self-Consumption/Non-Export	✓
Load Shifting	✓
Back-Up Mode (micro grid)	✓
Key System Components	
Bi-directional Storage Inverter	✓
High Voltage LFP Battery	✓
DC Disconnect (load rated)	✓
AC Disconnect (load rated)	✓
Climate Control System	✓
Integrated EMS	✓
Battery Information	
Battery Capacity	268kWh
Rated Voltage	960V
Maximum Charge/Discharge	½C
Operating Voltage Range	840-1000V
Overcurrent Protection	Yes
Battery Chemistry	LFP



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DS-03



The Bloom Energy Server 5

Using solid oxide fuel cell technology, Bloom Energy Servers convert natural gas, biogas, or hydrogen into electricity at high efficiency and without combustion, significantly reducing environmental impacts.

Bloom Energy's solid oxide fuel cell (SOFC) platform provides an electrochemical pathway to convert fuel directly to electricity without combustion. Our systems can run on natural gas, biogas, and hydrogen, and our modular platform approach provides a pathway to upgrade existing systems to align with the sustainability goals of our customers over time.

Bloom is working with two leading non-profit organizations, MiQ and Equitable Origin, to help set a responsible standard for sourcing natural gas. Responsibly sourced gas is natural gas whose production has been evaluated across a range of stringent social, environmental, and governance criteria, including climate, community, and labor issues, to ensure that the highest standards and best practices were used to minimize greenhouse gases across its entire value chain.



Clean

Our systems produce near zero criteria pollutants (NO_x, SO_x, and particulate matter) and far fewer carbon emissions than legacy technologies.



Reliable

Bloom Energy Servers are designed around a modular architecture of simple repeating elements. This enables us to generate power 24 x 7 x 365 and can be configured to eliminate the need for traditional backup power equipment.



Resilient

Our system operates at very high availability due to their fault-tolerant design and use of the robust natural gas pipeline system. Bloom Energy Servers have survived extreme weather events and other incidences and have continued providing power to our customers.



Simple Installation and Maintenance

Our Energy Servers are 'plug and play' and have been designed in compliance with a variety of safety standards. Bloom Energy manages all aspects of installation, operation and maintenance of the systems.

Specifications

Outputs

Nameplate power output (net AC) — 300 kW
Load output (net AC) — 300 kW
Electrical connection — 480V, 3-phase, 60 Hz

Inputs

Fuels — Natural gas, directed biogas
Input fuel pressure — 10–18 psig (15 psig nominal)
Water — None during normal operation

Efficiency

Cumulative electrical efficiency (LHV net AC)¹ — 65–53%
Heat rate (HHV) — 5,811–7,127 Btu/kWh

Emissions²

NO_x — 0.0017 lbs/MWh
SO_x — Negligible
CO — 0.012 lbs/MWh
VOCs — 0.01 lbs/MWh
CO₂ @ stated efficiency — 679–833 lbs/MWh on natural gas; carbon neutral on directed biogas

¹ 65% LHV efficiency verified by ASME PTC 50 Fuel Cell Power Systems Performance Test
² NO_x and CO measured per CARB Method 100. VOCs measured as hexane by SCAQMD Method 25.3

Physical Attributes and Environment

Weight — 15.8 tons
Dimensions (variable layouts) — 17'11" x 8'8" x 6'9" or 32'3" x 4'4" x 7'2"
Temperature range — -20° to 45° C
Humidity — 0%–100%
Seismic vibration — IBC site class D
Location — Outdoor
Noise — <70 dBA @ 6 feet

Codes and Standards

Complies with Rule 21 interconnection and IEEE1547 standards.
Exempt from CA Air District permitting; meets stringent CARB 2007 emissions standards.
An Energy Server is a Stationary Fuel Cell Power System. It is Listed by Underwriters Laboratories, Inc. (UL) as a 'Stationary Fuel Cell Power System' to ANSI/CSA FC1-2014 under UL Category IRGZ and UL File Number MH45102.

Additional Notes

Access to a secure website to monitor system performance & environmental benefits. Remotely managed and monitored by Bloom Energy. Capable of emergency stop based on input from the site.



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bloomenergy.com

Flexible. Future Proof.

Accelerate your path to a net-zero future.



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TRACKER S-SERIES



FLEXRACK SERIES

FlexTrack - S Series

Tough, Reliable Tracker & Team of Experts at Your Service

Single row, central slew drive balanced system

Engineered for long term durability and reliability

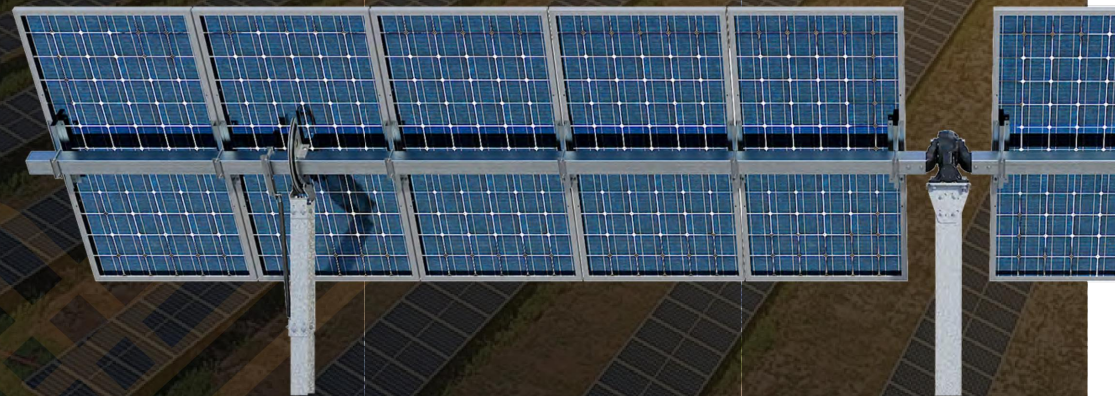
Low cost to maintain

Flexible to accommodate and optimize all your project design and generation needs

Superior land density with no gaps at the bearings

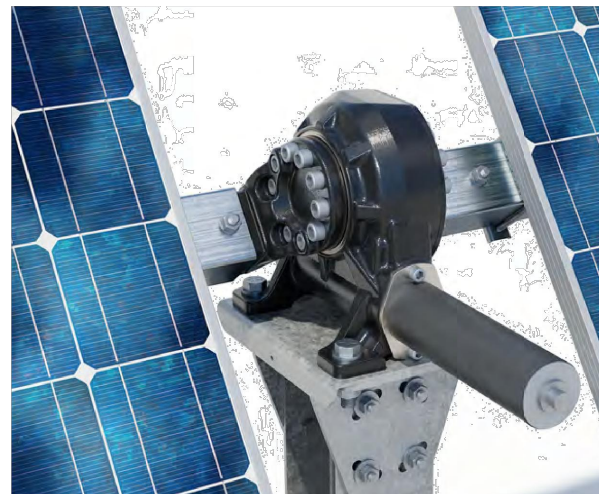
Available in Self-Powered and Grid-Powered options

Designed with intuitive constructability which translates to superior installation times and lower project costs



Get in contact with the Solar FlexRack team today!

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CONTROL SYSTEM

Data Feed	Ethernet to Network Control Unit
Power Consumption	Grid-Powered: 31kWh per tracker per year
Tracker Controller	1 Controller to DC motor per tracker
Size	230 x 100 x 150 mm
Battery (self-powered)	LiFePO4 (Lithium Iron Phosphate) Rechargeable 3Ah
Battery Charging (self-powered)	Optimum charging through CC/CV algorithm for LiFePO4 Chemistries which contributes to extended battery life
SoC Monitoring (self-powered)	SoC achieved through OCV and Coulomb counting algorithms
Operating Temperatures	Self-Powered: Charging: 0°C to 60°C / Discharge: -10°C to 60°C
Interface	HMI (Includes enclosure mounted keypad LED visual interface)
Communication	Zigbee Wireless
PV Module (self-powered)	Crystalline Silicon 30W

SERVICES

Geotechnical Services	Configuration of Tracker Controls
Structural Analysis	Project Management
Layout and Design Services	PE Stamp
Foundation Design Services	On-site Training
Post Driving	Commissioning of Tracker System
Pull Testing	
Tracking System Installation	

UL COMPLIANCE

All Solar FlexRack systems have gone through UL testing. Each component-connection point within the system conforms to NEC codes for electrically bonded and conductive systems. Testing is performed by Solar PTL in accordance with UL 3703. Certification covers both United States and Canada.

NEARLY 50 YEARS & OVER 3 GIGAWATTS



Solar FlexRack, a division of Northern States Metals, is an integrated solar company that offers custom-designed, fixed tilt ground mount and single-axis solar tracking systems in the commercial and utility-scale solar mounting industries. Solar FlexRack also offers full services, including engineering, geotechnical, pullout testing, field, and layout design services to address the actual site conditions of a project site. Solar FlexRack has completed over 3 GW of solar racking installations in over 40 U.S. states and across the globe.

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TRACKING

Tracking Method	Single-axis horizontal, distributed drive
Backtracking	Smart backtracking - customized to terrain for maximum production
Tracking Range	Up to 110° (± 55°)
Ground Coverage Ratio (GCR)	Configurable
Tracking Accuracy	2°
Stow Angle	Configurable

ARRAY CONFIGURATION

Panels per Tracker	Up to 90 (72 Cell Modules)
Trackers per Controller	1
String Voltage	Up to 1,500 volts
Posts per Tracker	Approximately 15 for 90 modules
Panel Configurations*	1 in portrait (crystalline) 2 in landscape (crystalline) 4 in landscape (thin film)
Drive Type	Slew 24 Volts DC

OPERATIONS AND MAINTENANCE

Scheduled Maintenance	None
Warranty	10 Years: Structural 5 Years: Drives and Electrical
Certifications	UL 3703
Dynamic Load Management	Limited progressive dampening technology
Snow Management	Programmable snow shedding

INSTALLATION TOLERANCES

North-south Slope Tolerance	Up to 10%
North-south Post Spacing	± 1.5 inches (.038 meter)
East-west Post Alignment	+/- 0.75 inches
Post Height	± 1 inch (0.025 meter)
Post Plumb	± 1°

CONSTRUCTION

Structural Materials	Hot dip galvanized steel
Bearings	UV-rated engineering plastic, no lubrication needed
Mechanical Connections	Bolted - no welding, drilling or cutting required

ENVIRONMENTAL

Operating Temperature	-30° C to +60° C (Grid) -10° C to +60° C (Self-Powered)
Wind (IBC-2012/ASCE 7-10)	Up to 130 mph 35 mph stow position
Snow Load	10 psf (standard) / Higher snow load available upon request

TESTING

Rain, wind, sleet, snow, heat - every day and everywhere, our products are battling the elements. We perform ongoing extensive testing in these key areas: wind tunnel, structural load, electrical bonding, and life cycle. Solar FlexRack trackers also undergo wind tunnel testing performed by RWDI and CPP, per American Society of Civil Engineers Standard ASCE 7.

*Adaptable to all module sizes



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ATTACHMENT DATASHEET

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