

SCOPE OF WORK

TO INSTALL A SOLAR PHOTOVOLTAIC (PV) SYSTEM AT THE MCALISTER RESIDENCE, LOCATED AT 416 WIRE ROAD, BUNNLEVEL, NORTH CAROLINA. THE POWER GENERATED BY THE PV SYSTEM WILL BE INTERCONNECTED WITH THE UTILITY GRID THROUGH THE NEW ELECTRICAL SERVICE EQUIPMENT. THE PV SYSTEM DOES INCLUDE STORAGE BATTERIES.

EXISTING SYSTEM RATING

11.118 KW DC STC
10.880 KW AC

EXISTING EQUIPMENT SUMMARY

- (34) SUNPOWER SPR-X20-327-C-AC (327W) PV MODULES
- (34) SUNPOWER SPR-X20-327-C-AC [240V] PV INVERTERS

NEW EQUIPMENT SUMMARY

- (01) TESLA ENERGY GATEWAY
- (02) TESLA POWERWALL 2.0 BATTERY
- (01) PW AC DISCONNECT
- (01) PW COMBINER PANEL

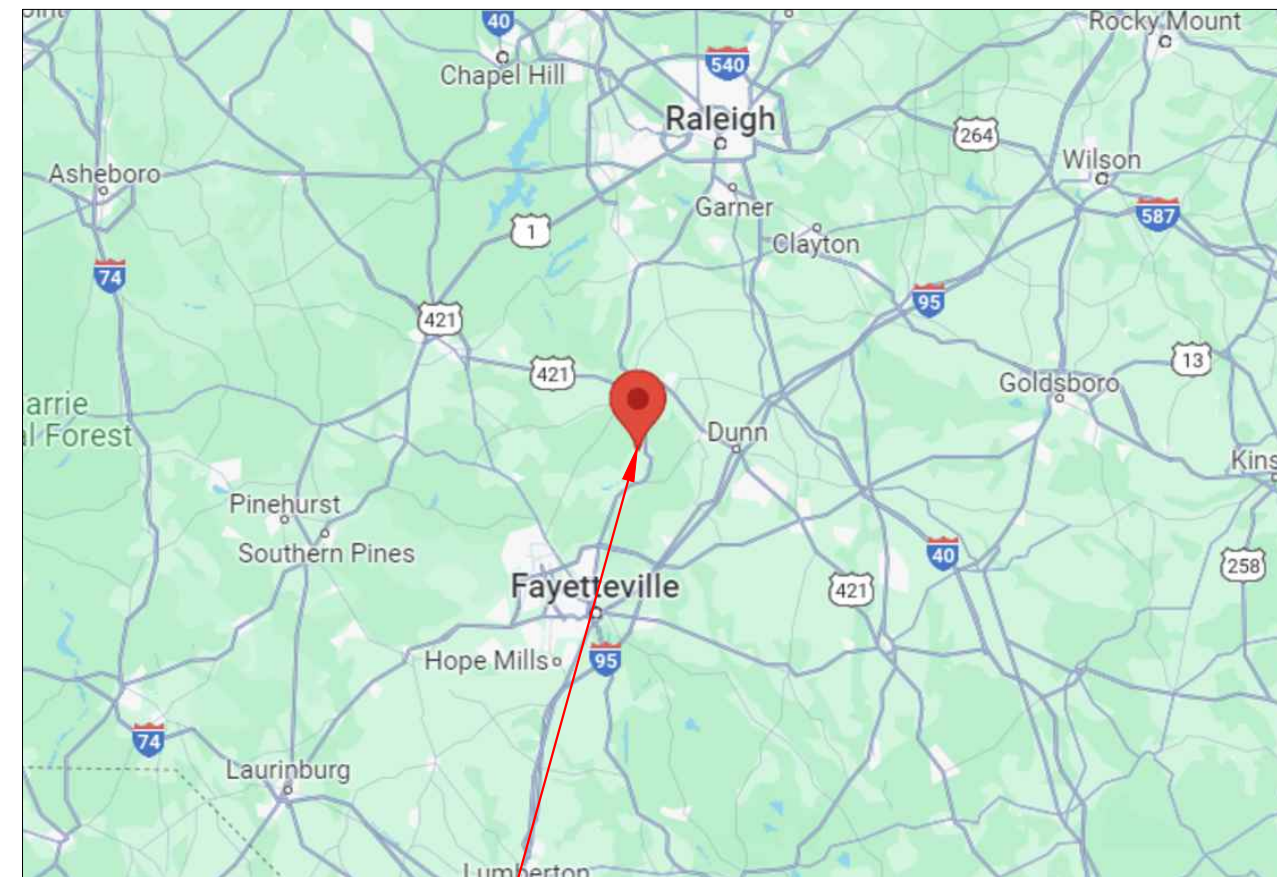
PHASE 2, ADDITION OF (2) POWERWALL & TEG-2 TO AN EXISTING SYSTEM.

SHEET INDEX

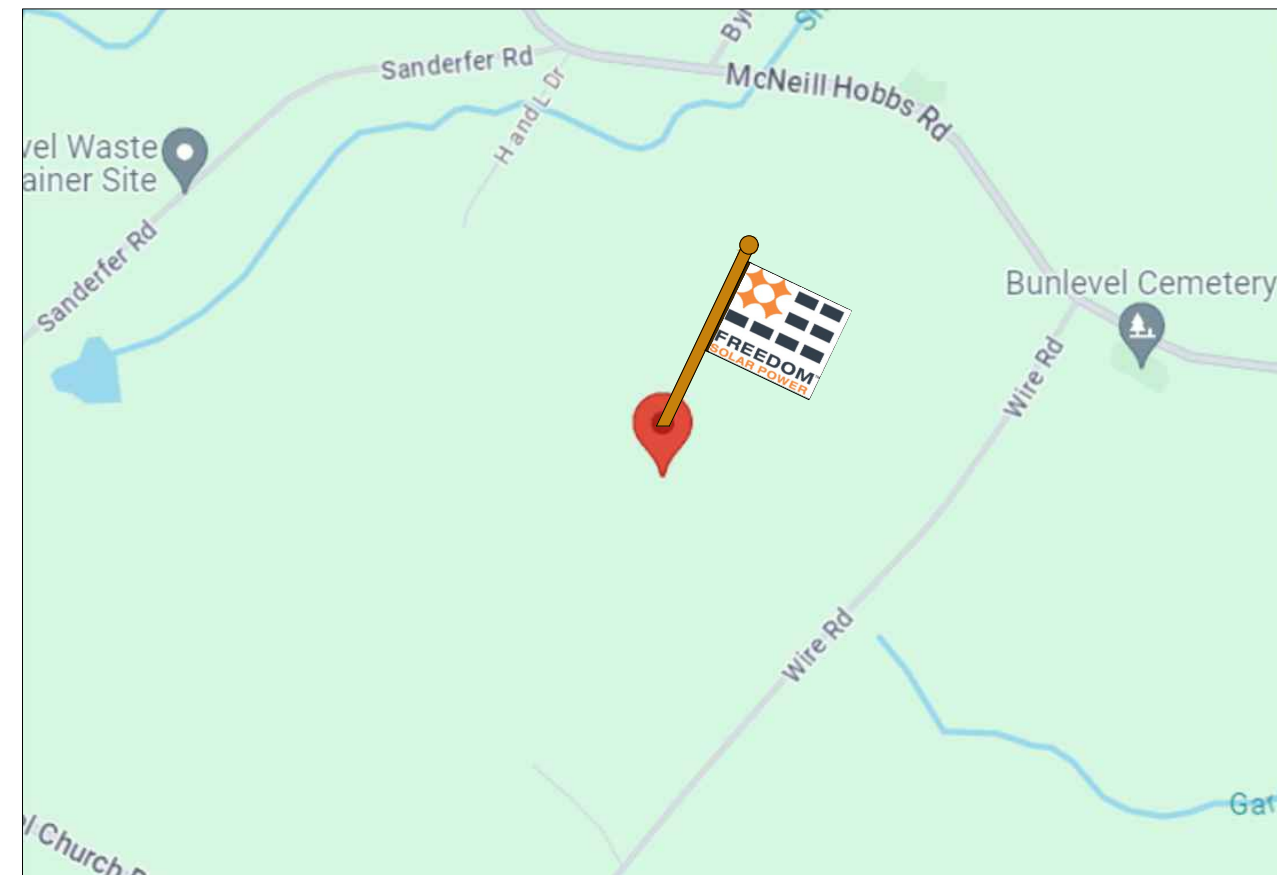
- PV-0 COVER
- PV-1 SITE MAP AND PV LAYOUT
- PV-2 1-LINE DIAGRAM
- PV-3 EQ WALL
- PV-4 SYSTEM LABELING DETAIL
- PV-5 SITE DIRECTORY PLACARD
- PV-6 SAFETY PLAN

GOVERNING CODES

2017 NATIONAL ELECTRICAL CODE
2018 NORTH CAROLINA RESIDENTIAL CODE
2018 NORTH CAROLINA STATE BUILDING CODE
UNDERWRITERS LABORATORIES (UL) STANDARDS
OSHA 29 CFR 1910.269



PROJECT LOCATION



VICINITY MAP

CONTRACTOR

**FREEDOM™
SOLAR POWER**

FREEDOM SOLAR LLC
4801 FREIDRICH LN, STE 100
AUSTIN, TX 78744
512-759-8313
TECL # 28621

REVISIONS		
DESCRIPTION	DATE	REV
DESIGN PACKET	02/08/2024	

PE STAMP

PROJECT NAME

RICHARD V MCALISTER
416 WIRE ROAD
BUNNLEVEL, NORTH CAROLINA,
28323
(910) 850-8783

SHEET NAME

COVER

SHEET SIZE

ANSI B
11" x 17"

SHEET NUMBER

PV-0

LEAD ID: 113690

EXISTING CONSTRUCTION SUMMARY

- (34) (SUNPOWER SPR-X20-327-C-AC (327W))SOLAR MODULES, 11.118 kW DC STC
MODULE DIMENSIONS = 41.2" X 61.3" X 1.2"
- (34) SUNPOWER SPR-X20-327-C-AC [240V] PV INVERTERS
COMBINED INVERTER OUTPUT = 10.880 kW AC.
- (01) SUNPOWER MONITORING

NEW CONSTRUCTION SUMMARY

- (01) TESLA ENERGY GATEWAY
- (02) TESLA POWERWALL 2.0 BATTERY
- (01) PW AC DISCONNECT
- (01) PW COMBINER PANEL

EXISTING SITE DETAILS

ARRAY #1 - TILT = 25°, AZIMUTH = 180°



CONTRACTOR

FREEDOM SOLAR POWER
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 28323
 (910) 850-8783

SHEET NAME

SITE MAP & PV LAYOUT

SHEET SIZE

**ANSI B
 11" x 17"**

SHEET NUMBER

PV-1

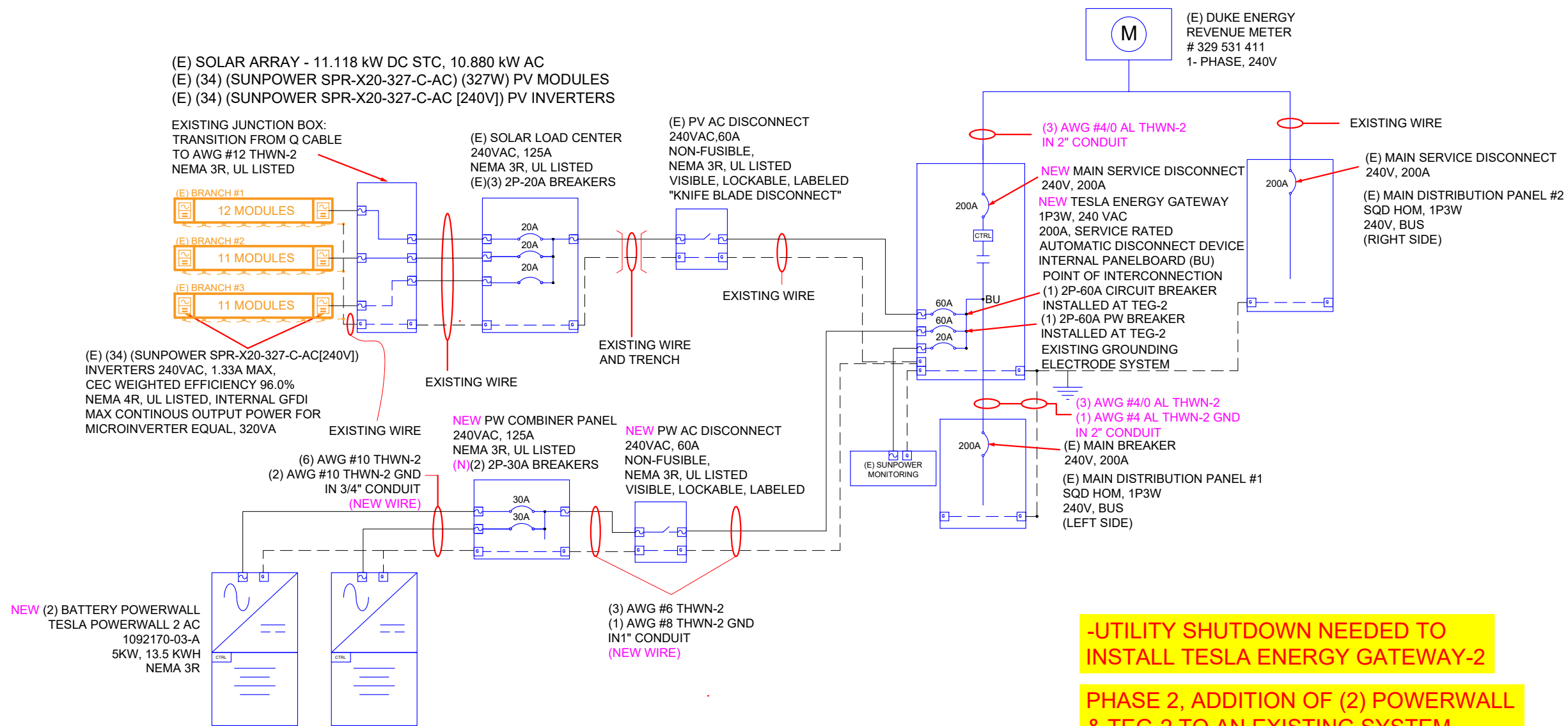
-UTILITY SHUTDOWN NEEDED TO INSTALL TESLA ENERGY GATEWAY-2

PHASE 2, ADDITION OF (2) POWERWALL & TEG-2 TO AN EXISTING SYSTEM.

FALL PROTECTION REQUIRED

CONSTRUCTION NOTES

- 1.) ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 2.) ALL OUTDOOR EQUIPMENT SHALL BE RAIN-TIGHT WITH MINIMUM NEMA 3R RATING.
- 3.) ALL LOCATIONS ARE APPROXIMATE AND REQUIRE FIELD VERIFICATION.



**-UTILITY SHUTDOWN NEEDED TO
 INSTALL TESLA ENERGY GATEWAY-2**

**PHASE 2, ADDITION OF (2) POWERWALL
 & TEG-2 TO AN EXISTING SYSTEM.**

ELECTRICAL NOTES

- 1.) ALL EQUIPMENT TO BE LISTED BY UL OR OTHER NRTL, AND LABELED FOR ITS APPLICATION.
- 2.) ALL CONDUCTORS SHALL BE COPPER. ALUMINUM CONDUCTORS MAY BE USED IF CORRECTLY UPSIZED FOR AMPACITY RATING PER NEC 310.12 OR 310.16. ALL CONDUCTORS SHALL BE RATED FOR 600V AND 90°C WET ENVIRONMENT UNLESS OTHERWISE NOTED.
- 3.) WORKING CLEARANCES AROUND ALL NEW AND EXISTING ELECTRICAL EQUIPMENT SHALL COMPLY WITH NEC 110.26.
- 4.) DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS. CONTRACTOR SHALL FURNISH ALL NECESSARY OUTLETS, SUPPORTS, FITTINGS AND ACCESSORIES TO FULFILL APPLICABLE CODES AND STANDARDS.
- 5.) WHERE SIZES OF JUNCTION BOXES, RACEWAYS, AND CONDUITS ARE NOT SPECIFIED, THE CONTRACTOR SHALL SIZE THEM ACCORDINGLY. SPECIFIED CONDUIT AND WIRE SIZES ARE MINIMUM REQUIREMENTS AND LARGER SIZES SHALL BE PERMITTED.
- 6.) ALL WIRE TERMINATIONS SHALL BE APPROPRIATELY LABELED AND READILY VISIBLE.
- 7.) MAXIMUM MOUNTING HEIGHT FROM GRADE TO CENTER OF METER SOCKET SHALL BE 72" FOR RESIDENTIAL SINGLE PHASE METER SOCKETS 0-320 AMPS. MINIMUM MOUNTING HEIGHT IS 30" FROM FOR AUSTIN ENERGY, AND 48" FOR ALL OTHER JURISDICTIONS
- 8.) MINIMUM HORIZONTAL CLEARANCE FROM GAS REGULATOR TO ANY ELECTRICAL ENCLOSURE IS 36", EXCEPT AUSTIN ENERGY WHICH REQUIRES 48" CLEARANCE FROM GAS TO METER SOCKET
- 9.) PV DISCONNECT SHALL BE VISIBLE, LOCKABLE AND LABELED AND THE DOOR CANNOT BE OPENED WHEN HANDLE IS IN ON POSITION
- 10.) BY DEFAULT THE MONITORING DEVICE IS SHOWN CONNECTED TO A 20-AMP BREAKER IN THE SOLAR LOAD CENTER. ALTERNATIVELY, THE MONITORING DEVICE MAY BE CONNECTED TO A 20-AMP BREAKER AT THE MAIN DISTRIBUTION PANEL.
- 11.) ALL EQUIPMENT TERMINATIONS SHALL BE RATED FOR 75 DEGREES OR GREATER
- 12.) ALL CT WIRES SHALL BE CONSIDERED CLASS 1 PER NEC ARTICLE 725, AND BE MARKED AS RATED FOR 600V. PER 725.48(A) CLASS 1 CIRCUITS SHALL BE PERMITTED TO OCCUPY THE SAME RACEWAY AS OTHER CIRCUITS PROVIDED ALL CONDUCTORS ARE INSULATED FOR THE MAXIMUM VOLTAGE OF ANY CONDUCTOR IN THE RACEWAY.
- 13.) AWG #10 COPPER CONDUCTORS ARE SPECIFIED AS THE DEFAULT WIRE REQUIRED FROM THE PV ARRAY TO THE SOLAR LOAD CENTER, HOWEVER, AWG #12 COPPER CONDUCTORS MAY BE UTILIZED IF BOTH OF THE FOLLOWING CONDITIONS ARE MET: THE LENGTH OF THE CONDUCTOR IS LESS THAN 75 FT AND THERE ARE LESS THAN 8 CURRENT-CARRYING CONDUCTORS WITHIN THE RACEWAY.

NEW CALCULATION FOR OVERCURRENT POWERWALL DEVICES
TESLA POWERWALL OUTPUT CURRENT CALCULATION
24.0A PER TESLA POWERWALL 2.0 BATTERY INVERTER
COMBINED CURRENT = (1)(24.0) = 24.0A
MINIMUM OCPD = (24.0A)(1.25) = 30.0A
USE (2) 2P-30A BREAKER IN PW COMBINER PANEL FOR POWERWALL OCPD

CONTRACTOR

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SOLAR POWER**

FREEDOM SOLAR LLC
 4801 FREIDRICH LN, STE 100
 AUSTIN, TX 78744
 512-759-8313
 TECL # 28621

REVISIONS

DESCRIPTION	DATE	REV
DESIGN PACKET	02/08/2024	

PE STAMP

PROJECT NAME

RICHARD V MCALISTER
 416 WIRE ROAD
 BUNNLEVEL, NORTH CAROLINA,
 28323
 (910) 850-8783

SHEET NAME

1-LINE
 DIAGRAM

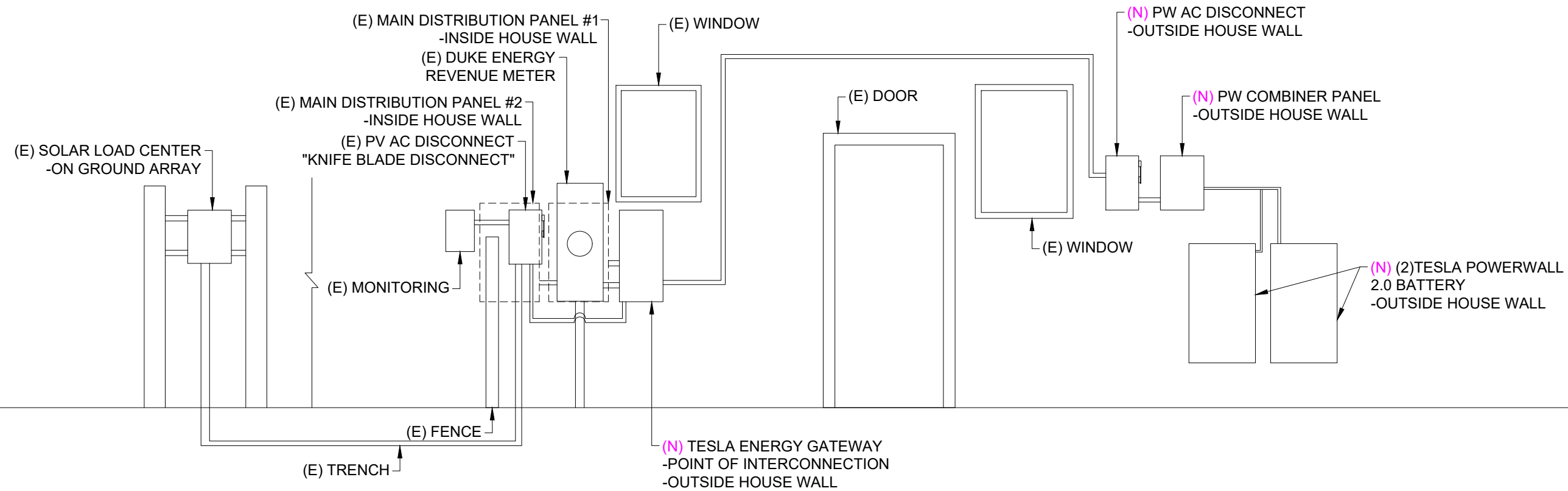
SHEET SIZE

ANSI B
 11" x 17"

SHEET NUMBER

PV-2

**PHASE 2, ADDITION OF (2) POWERWALL
& TEG-2 TO AN EXISTING SYSTEM.**



EQUIPMENT ELEVATION
NTS 1

CONTRACTOR

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BUNNLEVEL, NORTH CAROLINA,
28323
(910) 850-8783

SHEET NAME

EQ.WALL

SHEET SIZE

**ANSI B
11" x 17"**

SHEET NUMBER

PV-3

NOTE: NOT ALL LABELS MAY BE APPLICABLE

SIGNAGE REQUIREMENTS

- > RED BACKGROUND
- > WHITE LETTERING
- > MIN. 3/8" LETTER HEIGHT
- > ALL CAPITAL LETTERS
- > ARIAL OR SIMILAR FONT
- > REFLECTIVE, WEATHER RESISTANT MATERIAL, UL 969

CONTRACTOR



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416 WIRE ROAD
BUNNLEVEL, NORTH CAROLINA,
28323
(910) 850-8783

SHEET NAME

SYSTEM LABELING DETAIL

SHEET SIZE

ANSI B
11" x 17"

SHEET NUMBER

PV-4

PV SYSTEM DISCONNECT

REQ'D BY: NEC 690.13(B) A
APPLY TO:
PV DISCONNECT

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

REQ'D BY: NEC 690.13(B) B
APPLY TO:
PV DISCONNECT

**WARNING: PHOTOVOLTAIC
POWER SOURCE**

REQ'D BY: NEC 690.31(G)(3) C
APPLY TO:
RACEWAYS, CABLE TRAYS,
OTHER WIRING METHODS, AND
ENCLOSURES THAN CONTAIN
PV SYSTEM DC CONDUCTORS

WARNING
POWER SOURCE OUTPUT
CONNECTION. DO NOT
RELOCATE THIS
OVERCURRENT DEVICE

REQ'D BY: NEC 705.12(B)(2)(3)(b) D
APPLY TO:
DISTRIBUTION EQUIPMENT
ADJACENT TO BACK-FED BREAKER

2" ADDRESS NUMBERS

REQ' BY: AHJ E
APPLY TO:
REVENUE METER SOCKET
(IF APPLICABLE)

REVENUE METER

REQ'D BY: AHJ F
APPLY TO:
REVENUE METER SOCKET
(IF APPLICABLE)

MONITORING

REQ'D BY: FREEDOM SOLAR G
APPLY TO:
MONITORING DEVICE ENCLOSURE

**RAPID SHUTDOWN SWITCH
FOR SOLAR PV SYSTEM**

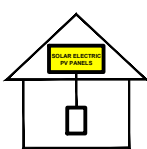
REQ'D BY: NEC 690.56(C)(2) H
APPLY TO:
PV DISCONNECT

**PHOTOVOLTAIC SYSTEM
AC DISCONNECT**
OPERATING CURRENT: 45.2A
OPERATING VOLTAGE: 240 VAC

REQ'D BY: 690.56(1)(a) I
APPLY TO:
PV DISCONNECT

**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.



REQ'D BY: FREEDOM SOLAR J
APPLY TO:
MAIN DISTRIBUTION PANEL

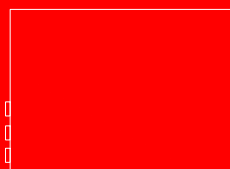
CAUTION

POWER TO THIS BUILDING IS ALSO SUPPLIED FROM THE FOLLOWING SOURCES WITH DISCONNECTS AS SHOWN:

UTILITY SUPPLY & CUSTOMER SERVICE PANEL

PV AC DISCONNECT

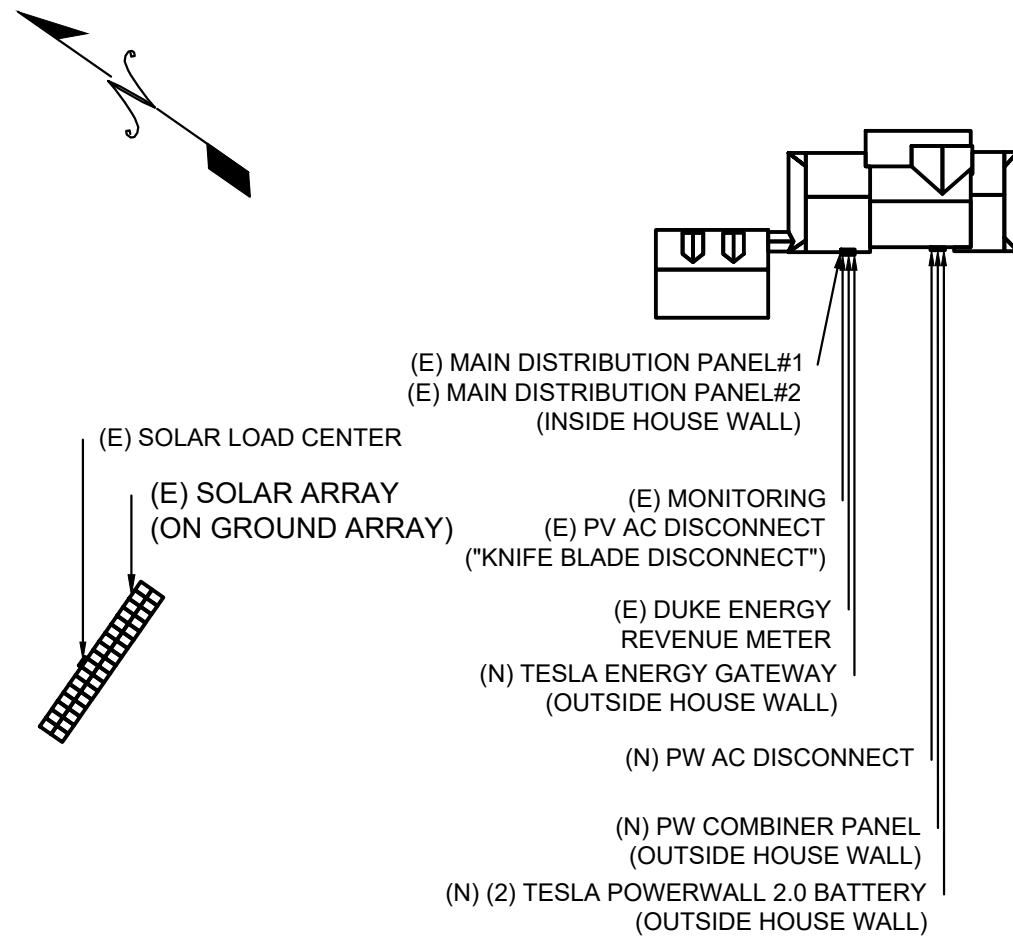
RAPID SHUTDOWN SWITCH



FRONT

REQ'D BY: 705.10 K
APPLY TO:
MAIN DISTRIBUTION PANEL
(*ONLY REQUIRED IF PV SYSTEM DISCONNECT IS NOT GROUPED WITH MAIN SERVICE DISCONNECT)
SEE SHEET PV-6 FOR SITE SPECIFIC LABELS

CAUTION: MULTIPLE SOURCES OF POWER LOCATION OF EACH POWER SOURCE DISCONNECTING MEANS SHOWN BELOW



QUESTIONS, CALL:
800-504-2337
www.freedomsolarpower.com

FREEDOM
SOLAR POWER
416 WIRE ROAD
PROJECT ID: 113690

CONTRACTOR

FREEDOM
SOLAR POWER

FREEDOM SOLAR LLC
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REVISIONS		
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DESIGN PACKET	02/08/2024	

PE STAMP

PROJECT NAME

RICHARD V MCALISTER
416 WIRE ROAD
BUNNLEVEL, NORTH CAROLINA,
28323
(910) 850-8783

SHEET NAME

SITE
DIRECTORY
PLACARD

SHEET SIZE

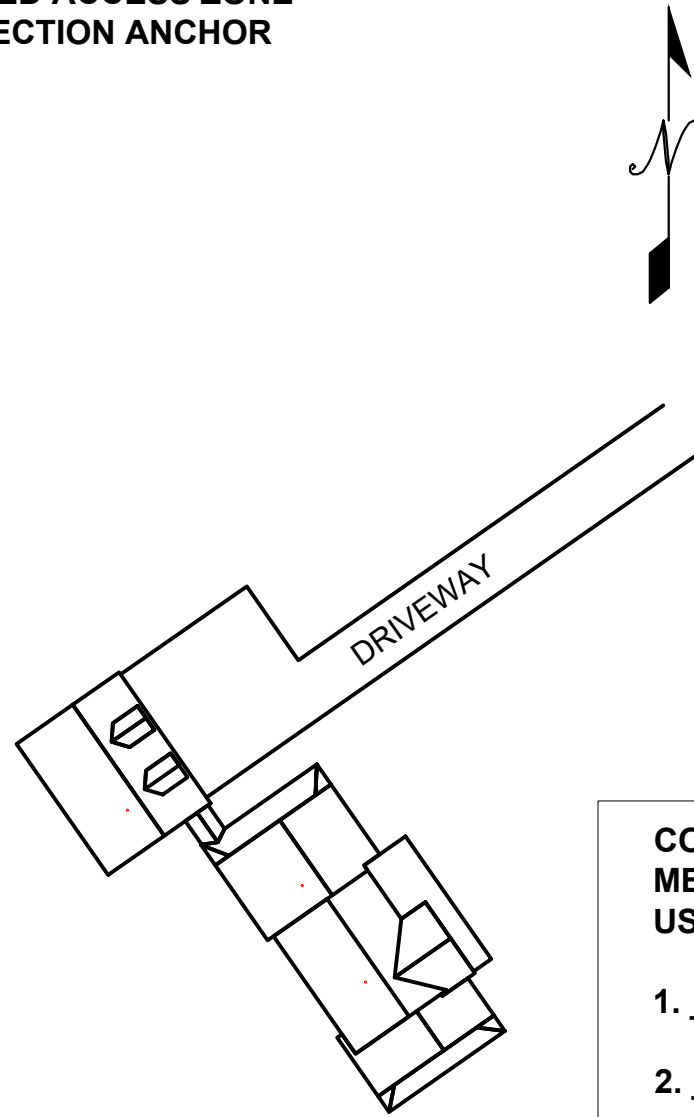
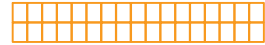
ANSI B
11" x 17"

SHEET NUMBER

PV-5

USE THE SAFETY SYMBOL KEY TO DRAW IN THE CONTROLLED ACCESS ZONE (CAZ), LADDER PLACEMENT, METER LOCATION, FALL PROTECTION ANCHOR POINT, AND ANY OTHER HAZARD.

HARD HAT IS REQUIRED AT ALL TIMES IN CAZ



SAFETY SYMBOL KEY

- CAZ
- L LADDER
- M METER
- ==== POWER LINES
- R RESTRAINT ANCHOR
- A ARREST ANCHOR

CONDUCT SAFETY MEETING WITH ALL CREW MEMBERS ON SITE AT THE BEGINNING OF EACH JOB. USE SIGN IN SHEET BELOW.

1. _____
2. _____
3. _____
4. _____
5. _____

GUEST SIGN IN

1. _____
2. _____
3. _____

COMPETENT PERSON: _____ JOB START DATE: _____

CONTRACTOR

**FREEDOM[™]
SOLAR POWER**

FREEDOM SOLAR LLC
4801 FREIDRICH LN, STE 100
AUSTIN, TX 78744
512-759-8313
TECL # 28621

REVISIONS		
DESCRIPTION	DATE	REV
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PE STAMP

PROJECT NAME

RICHARD V MCALISTER
416 WIRE ROAD
BUNNLEVEL, NORTH CAROLINA,
28323
(910) 850-8783

SHEET NAME

SAFETY PLAN

SHEET SIZE

**ANSI B
11" x 17"**

SHEET NUMBER

PV-6

Eaton general duty cartridge fuse safety switch

DG222NRB

UPC:782113144221

Dimensions:

- **Height:** 14.37 IN
- **Length:** 7.35 IN
- **Width:** 8.4 IN

Weight:10 LB

Notes:Maximum hp ratings apply only when dual element fuses are used. 3-Phase hp rating shown is a grounded B phase rating, UL listed.

Warranties:

- Eaton Selling Policy 25-000, one (1) year from the date of installation of the Product or eighteen (18) months from the date of shipment of the Product, whichever occurs first.

Specifications:

- **Type:** General duty, cartridge fused
- **Amperage Rating:** 60A
- **Enclosure:** NEMA 3R
- **Enclosure Material:** Painted galvanized steel
- **Fuse Class Provision:** Class H fuses
- **Fuse Configuration:** Fusible with neutral
- **Number Of Poles:** Two-pole
- **Number Of Wires:** Three-wire
- **Product Category:** General duty safety switch
- **Voltage Rating:** 240V

Supporting documents:

- [Eatons Volume 2-Commercial Distribution](#)
- [Eaton Specification Sheet - DG222NRB](#)

Certifications:

- UL Listed

Product compliance: No Data



Eaton general duty non-fusible safety switch

DG222URB

UPC:782113144238

Dimensions:

- **Height:** 14.38 IN
- **Length:** 7.38 IN
- **Width:** 8.69 IN

Weight:9 LB

Notes:WARNING! Switch is not approved for service entrance unless a neutral kit is installed.

Warranties:

- Eaton Selling Policy 25-000, one (1) year from the date of installation of the Product or eighteen (18) months from the date of shipment of the Product, whichever occurs first.

Specifications:

- **Type:** Non-fusible, single-throw
- **Amperage Rating:** 60A
- **Enclosure:** NEMA 3R, Rainproof
- **Enclosure Material:** Painted galvanized steel
- **Fuse Configuration:** Non-fusible
- **Number Of Poles:** Two-pole
- **Number Of Wires:** Two-wire
- **Product Category:** General duty safety switch
- **Voltage Rating:** 240V

Supporting documents:

- [Eatons Volume 2-Commercial Distribution](#)
- [Eaton Specification Sheet - DG222URB](#)

Certifications:

- UL Listed

Product compliance: No Data



Eaton CH main lug loadcenter

CH8L125RP

UPC:782114190548

Dimensions:

- **Height:** 3.69 IN
- **Length:** 13 IN
- **Width:** 11 IN

Weight: 12 LB

Notes: Ground bar kits priced separately. Suitable for use as service equipment when not more than two service disconnecting mains are provided or when not used as a lighting and appliance panelboard.

Warranties:

- Limited lifetime

Specifications:

- **Special Features:** Cover included
- **Type:** Main lug only
- **Amperage Rating:** 125A
- **Box Size:** 7r
- **Bus Material:** Copper
- **Enclosure:** NEMA 3R
- **Enclosure Material:** Metallic
- **Feed Type:** Overhead
- **Main Circuit Breaker:** CH
- **Number Of Circuits:** 8
- **Number Of Wires:** Three-wire
- **Phase:** Single-phase
- **Voltage Rating:** 120/240V, 208Y/120, 240V
- **Wire Size:** #6-1/0 AWG

Supporting documents:

- [Type CH Circuit Breakers and Loadcenters](#)
- [Loadcenters and Circuit Breakers](#)
- [Eatons Volume 1-Residential and Light Commercial](#)



Eaton CH main lug loadcenter

CH12L125R

UPC:782113097381

Dimensions:

- **Height:** 5.19 IN
- **Length:** 16.75 IN
- **Width:** 14.31 IN

Weight: 15.8 LB

Notes: Suitable for use as service equipment when not more than six service disconnecting mains are provided or when not used as a lighting and appliance panelboard. Rainproof panels are furnished with hub closure plates. For rainproof hubs.

Warranties:

- Limited lifetime

Specifications:

- **Special Features:** Cover included
- **Type:** Main lug only
- **Amperage Rating:** 125A
- **Box Size:** B
- **Bus Material:** Copper
- **Enclosure:** NEMA 3R
- **Enclosure Material:** Metallic
- **Feed Type:** Overhead
- **Main Circuit Breaker:** CH
- **Number Of Circuits:** 12
- **Number Of Wires:** Three-wire
- **Phase:** Single-phase
- **Voltage Rating:** 120/240V
- **Wire Size:** #6-2/0 AWG

Supporting documents:

- [Dimensional Drawing - CH 3/4 LOADCENTER, MAIN LUG ONLY, OUTDOOR NEMA 3R, 120/240 VAC, 1 PH](#)



POWERWALL

Tesla Powerwall is a fully-integrated AC battery system for residential or light commercial use. Its rechargeable lithium-ion battery pack provides energy storage for solar self-consumption, time-based control, and backup.

Powerwall's electrical interface provides a simple connection to any home or building. Its revolutionary compact design achieves market-leading energy density and is easy to install, enabling owners to quickly realize the benefits of reliable, clean power.



PERFORMANCE SPECIFICATIONS

AC Voltage (Nominal)	120/240 V
Feed-In Type	Split Phase
Grid Frequency	60 Hz
Total Energy	14 kWh
Usable Energy	13.5 kWh
Real Power, max continuous	5 kW (charge and discharge)
Real Power, peak (10s, off-grid/backup)	7 kW (charge and discharge)
Apparent Power, max continuous	5.8 kVA (charge and discharge)
Apparent Power, peak (10s, off-grid/backup)	7.2 kVA (charge and discharge)
Maximum Supply Fault Current	10 kA
Maximum Output Fault Current	32 A
Overcurrent Protection Device	30 A
Imbalance for Split-Phase Loads	100%
Power Factor Output Range	+/- 1.0 adjustable
Power Factor Range (full-rated power)	+/- 0.85
Internal Battery DC Voltage	50 V
Round Trip Efficiency ^{1,3}	90%
Warranty	10 years

¹Values provided for 25°C (77°F), 3.3 kW charge/discharge power.

²In Backup mode, grid charge power is limited to 3.3 kW.

³AC to battery to AC, at beginning of life.

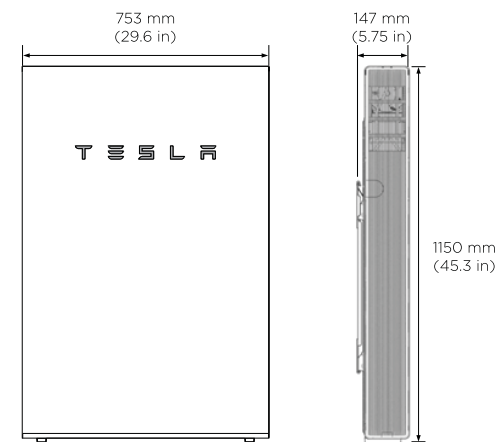
COMPLIANCE INFORMATION

Certifications	UL 1642, UL 1741, UL 1973, UL 9540, IEEE 1547, UN 38.3
Grid Connection	Worldwide Compatibility
Emissions	FCC Part 15 Class B, ICES 003
Environmental	RoHS Directive 2011/65/EU
Seismic	AC156, IEEE 693-2005 (high)

MECHANICAL SPECIFICATIONS

Dimensions ¹	1150 mm x 755 mm x 147 mm (45.3 in x 29.6 in x 5.75 in)
Weight ¹	114 kg (251.3 lbs)
Mounting options	Floor or wall mount

¹Dimensions and weight differ slightly if manufactured before March 2019. Contact Tesla for additional information.



ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-20°C to 50°C (-4°F to 122°F)
Recommended Temperature	0°C to 30°C (32°F to 86°F)
Operating Humidity (RH)	Up to 100%, condensing
Storage Conditions	-20°C to 30°C (-4°F to 86°F) Up to 95% RH, non-condensing State of Energy (SoE): 25% initial
Maximum Elevation	3000 m (9843 ft)
Environment	Indoor and outdoor rated
Enclosure Type	NEMA 3R
Ingress Rating	IP67 (Battery & Power Electronics) IP56 (Wiring Compartment)
Wet Location Rating	Yes
Noise Level @ 1m	< 40 dBA at 30°C (86°F)

POWERWALL

Backup Gateway 2

The Backup Gateway 2 for Tesla Powerwall provides energy management and monitoring for solar self-consumption, time-based control, and backup.

The Backup Gateway 2 controls connection to the grid, automatically detecting outages and providing a seamless transition to backup power. When equipped with a main circuit breaker, the Backup Gateway 2 can be installed at the service entrance. When the optional internal panelboard is installed, the Backup Gateway 2 can also function as a load center.

The Backup Gateway 2 communicates directly with Powerwall, allowing you to monitor energy use and manage backup energy reserves from any mobile device with the Tesla app.



PERFORMANCE SPECIFICATIONS

AC Voltage (Nominal)	120/240V
Feed-In Type	Split Phase
Grid Frequency	60 Hz
Current Rating	200 A
Maximum Input Short Circuit Current	10 kA ¹
Overcurrent Protection Device	100-200A; Service Entrance Rated ¹
Overvoltage Category	Category IV
AC Meter	Revenue accurate (+/- 0.2 %)
Primary Connectivity	Ethernet, Wi-Fi
Secondary Connectivity	Cellular (3G, LTE/4G) ²
User Interface	Tesla App
Operating Modes	Support for solar self-consumption, time-based control, and backup
Backup Transition	Automatic disconnect for seamless backup
Modularity	Supports up to 10 AC-coupled Powerwalls
Optional Internal Panelboard	200A 6-space / 12 circuit Eaton BR Circuit Breakers
Warranty	10 years

¹When protected by Class J fuses, Backup Gateway 2 is suitable for use in circuits capable of delivering not more than 22kA symmetrical amperes.

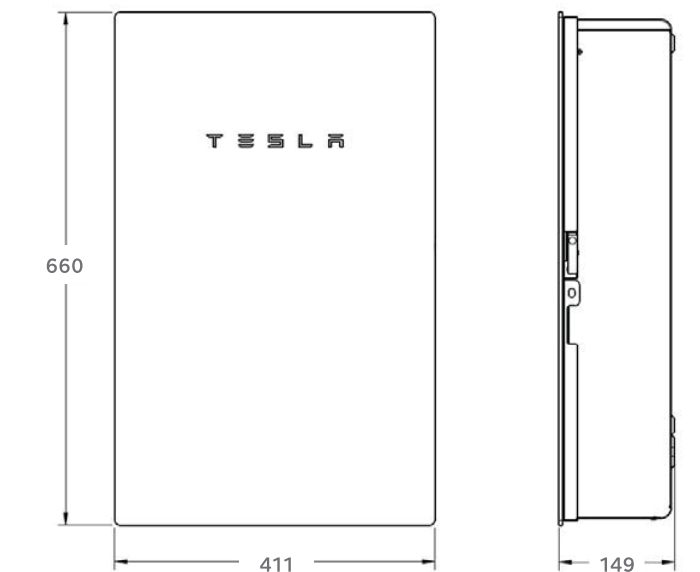
²The customer is expected to provide internet connectivity for Backup Gateway 2; cellular should not be used as the primary mode of connectivity. Cellular connectivity subject to network operator service coverage and signal strength.

COMPLIANCE INFORMATION

Certifications	UL 67, UL 869A, UL 916, UL 1741 PCS CSA 22.2 0.19, CSA 22.2 205
Emissions	FCC Part 15, ICES 003

MECHANICAL SPECIFICATIONS

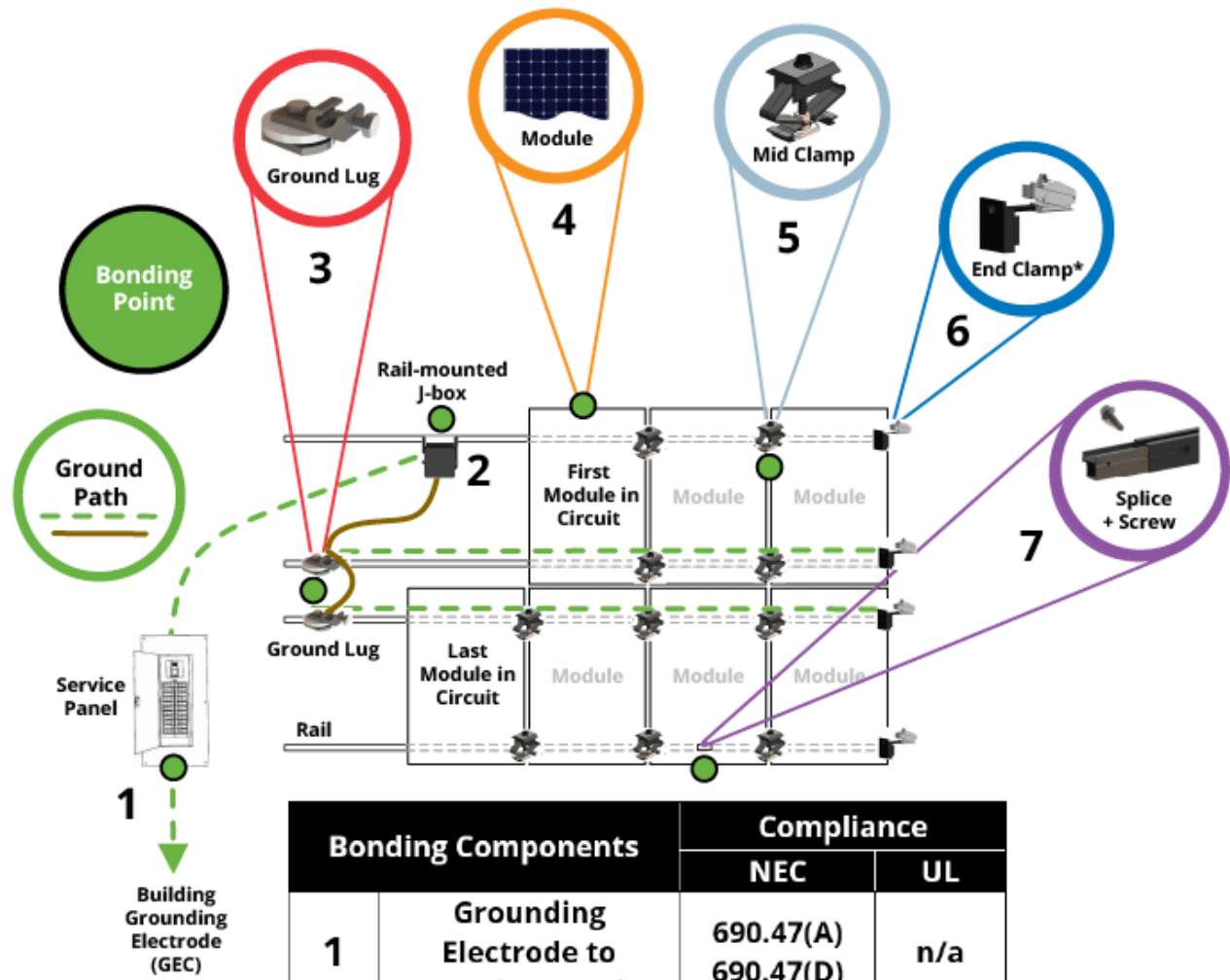
Dimensions	660 mm x 411 mm x 149 mm (26 in x 16 in x 6 in)
Weight	20.4 kg (45 lb)
Mounting options	Wall mount, Semi-flush mount



ENVIRONMENTAL SPECIFICATIONS

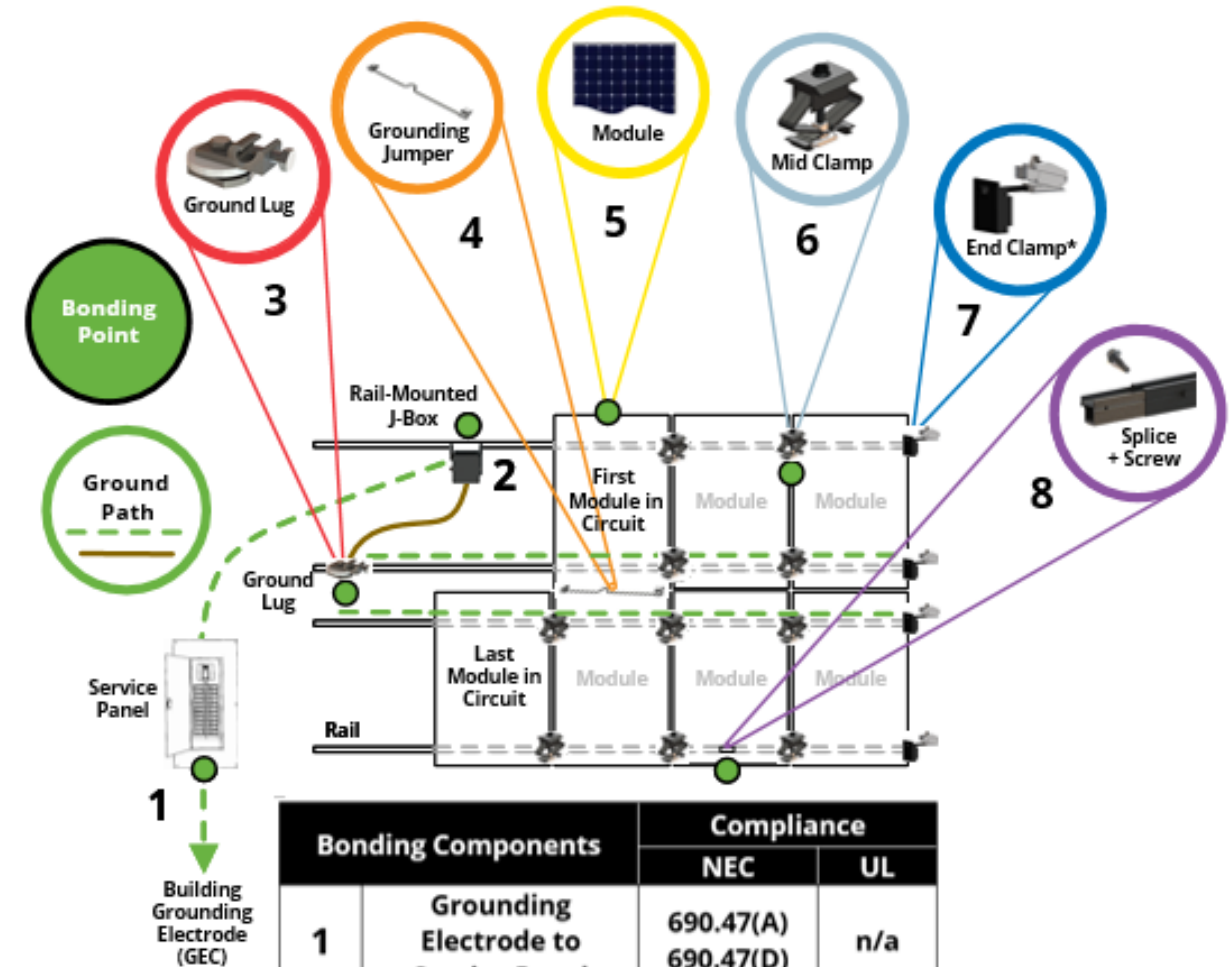
Operating Temperature	-20°C to 50°C (-4°F to 122°F)
Operating Humidity (RH)	Up to 100%, condensing
Maximum Elevation	3000 m (9843 ft)
Environment	Indoor and outdoor rated
Enclosure Type	NEMA 3R

SunPower Universal InvisiMount™ Ground Path and Compliance



Bonding Components	Compliance	
	NEC	UL
1 Grounding Electrode to Service Panel	690.47(A) 690.47(D)	n/a
2 Service Panel to Ground Wire	690.43(C)	1741
3 Ground Wire to Ground Lug to Rail	690.43(C)	2703
4 Module Frame	n/a	1703
5 Rail to Mid Clamp to Module Frame	690.43(A) 690.43(C) 690.43(D)	2703
6 End Clamp to Rail* *Note that end clamp does not bond module to rail; mid clamp bonds module to rail.	690.43(A) 690.43(C) 690.43(D)	2703
7 Rail to Splice	690.43(A) 690.43(C) 690.43(D)	2703

SunPower Universal InvisiMount™ with Grounding Jumper Ground Path and Compliance



Bonding Components	Compliance	
	NEC	UL
1 Grounding Electrode to Service Panel	690.47(A) 690.47(D)	n/a
2 Service Panel to Ground Wire	690.43(C)	1741
3 Ground Wire to Ground Lug to Rail	690.43(C)	2703
4 Module Frame to Module Frame	690.43(C)	2703
5 Module Frame	n/a	1703
6 Rail to Mid Clamp to Module Frame	690.43(A) 690.43(C) 690.43(D)	2703
7 End Clamp to Rail* *Note that end clamp does not bond module to rail; mid clamp bonds module to rail.	690.43(A) 690.43(C) 690.43(D)	2703
8 Rail to Splice	690.43(A) 690.43(C) 690.43(D)	2703