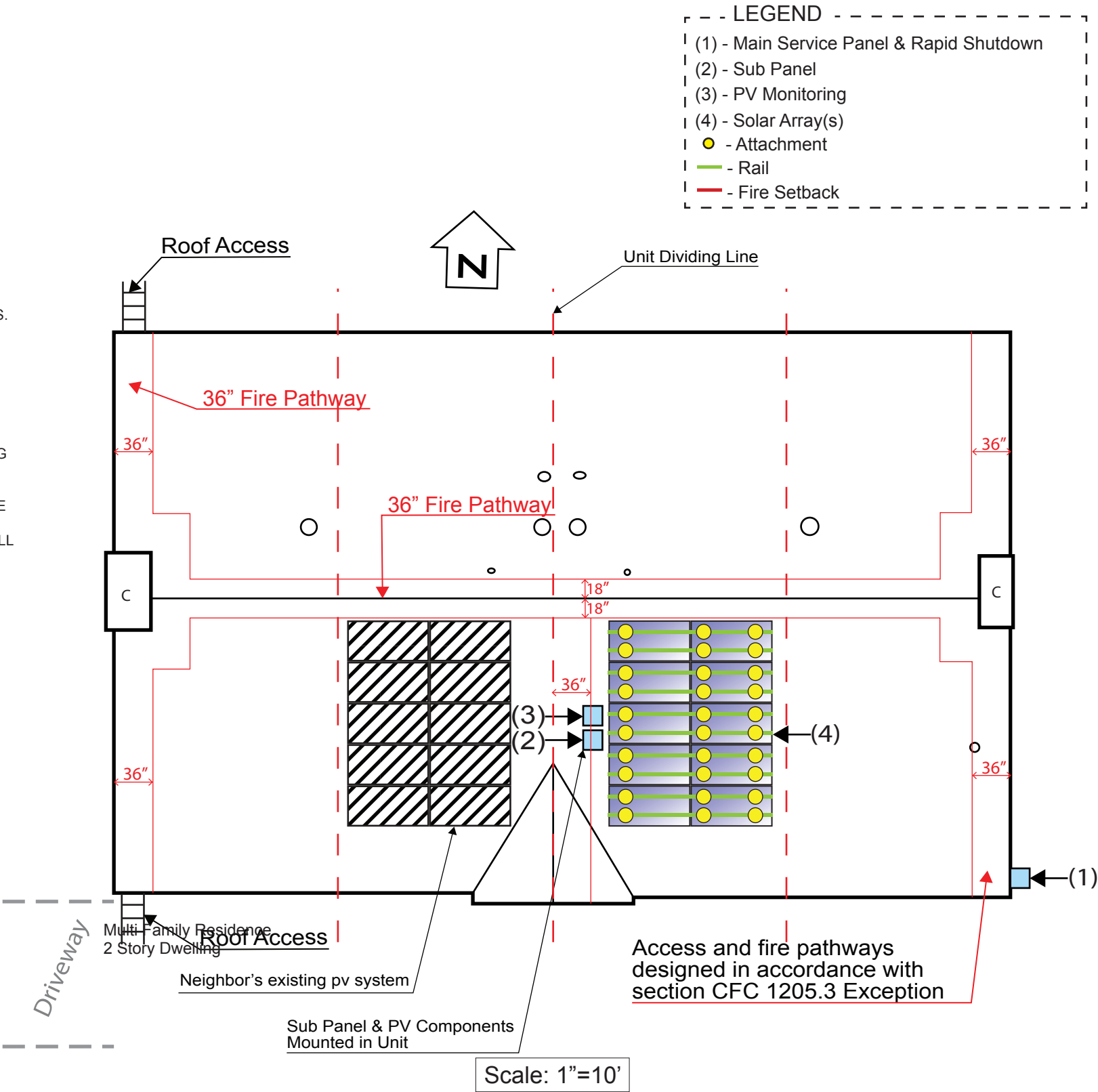
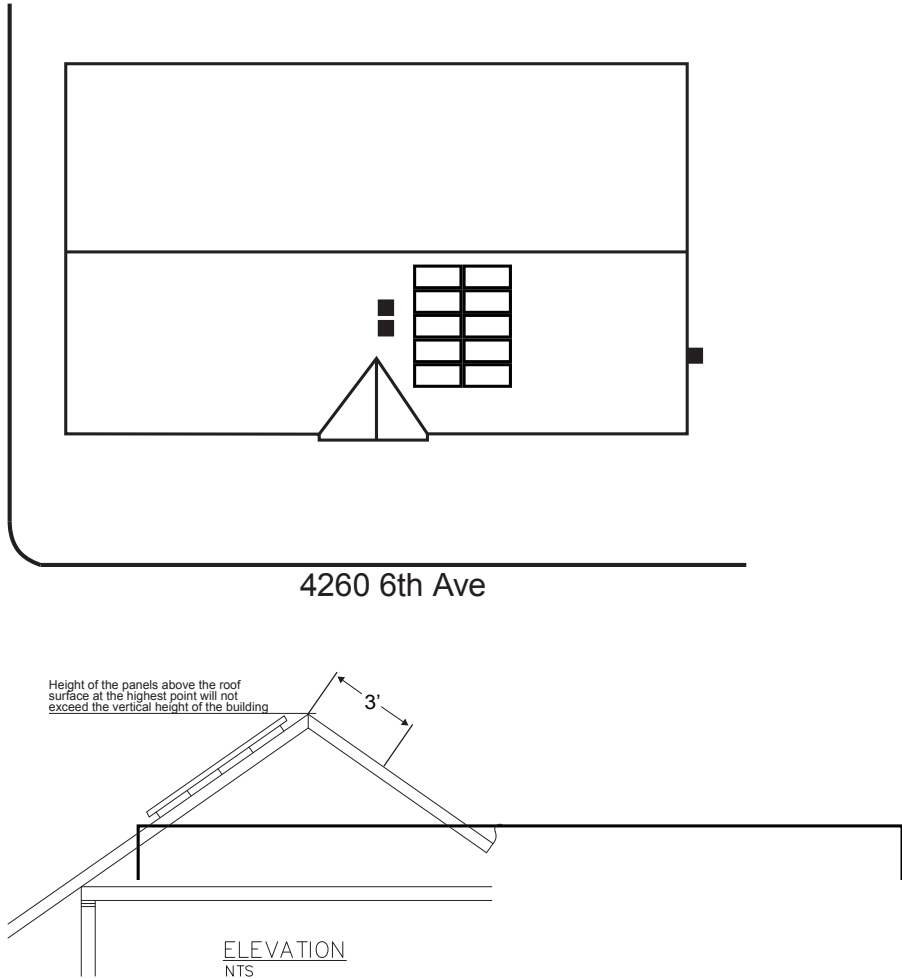


CONSTRUCTION SUMMARY

10 WAAREE ARKA WSMD-400 SOLAR MODULES
10 ENPHASE IQ7HS-66-M-US MICRO-INVERTERS
SUNPOWER RESIDENTIAL MONITORING SYSTEM PVS6
SUNPOWER INVISIMOUNT MOUNTING RAIL WITH INTEGRATED GROUNDING
PEGASUS COMPOSITION L-FOOT KIT MOUNTS & FLASHINGS
30 ATTACHMENT POINTS @ 72" O.C. MAX
ROOF TYPE: COMPOSITE SHINGLE
ROOF STRUCTURE: 2"X4"@24" O.C. RAFTERS, 1/2" PLYWOOD DECKING
ROOF PITCH: 4/12

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.
- 4.) THE SOLAR INSTALLATION SHALL NOT OBSTRUCT ANY PLUMBING OR MECHANICAL VENTS.
- 5.) A LADDER WILL BE IN PLACE FOR INSPECTIONS IN COMPLIANCE WITH CAL OSHA REGULATIONS.
- 6.) MODULE MOUNTING STRUCTURE WILL BE TIED DIRECTLY INTO STRUCTURAL ELEMENTS OF SINGLE FAMILY DWELLING ROOF TRUSSES OR BEAMS ACCORDING TO MOUNTING STRUCTURE DIRECTIONS.
- 7.) ROOF COVERINGS PENETRATIONS SHALL BE DESIGNED, INSTALLED AND MAINTAINED IN ACCORDANCE WITH CALIFORNIA BUILDING CODE AND THE APPROVED MANUFACTURER'S INSTRUCTIONS SUCH THAT THE ROOF COVERING SHALL SERVE TO PROTECT THE BUILDING OR STRUCTURE. (CRC R903).
- 8.) CONDUIT, WIRING SYSTEMS AND RACEWAYS FOR PHOTOVOLTAIC CIRCUITS SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE RIDGE OR HIP OR VALLEY AND FROM THE HIP OR VALLEY AS DIRECTLY AS POSSIBLE TO AN OUTSIDE WALL TO REDUCE TRIP HAZARDS AND MAXIMIZE VENTILATION OPPORTUNITIES.
- 9.) WHERE ALTERATIONS, REPAIRS OR ADDITIONS REQUIRING A PERMIT OCCUR, THE INDIVIDUAL DWELLING UNIT SHALL BE VERIFIED TO HAVE OR BE EQUIPPED TO HAVE SMOKE ALARMS LOCATED AS REQUIRED FOR NEW DWELLINGS, I.E: I) IN EACH SLEEPING ROOM. II) OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS. III) ON EACH ADDITIONAL STORY OF THE DWELLING - PER CRC R314.2.2



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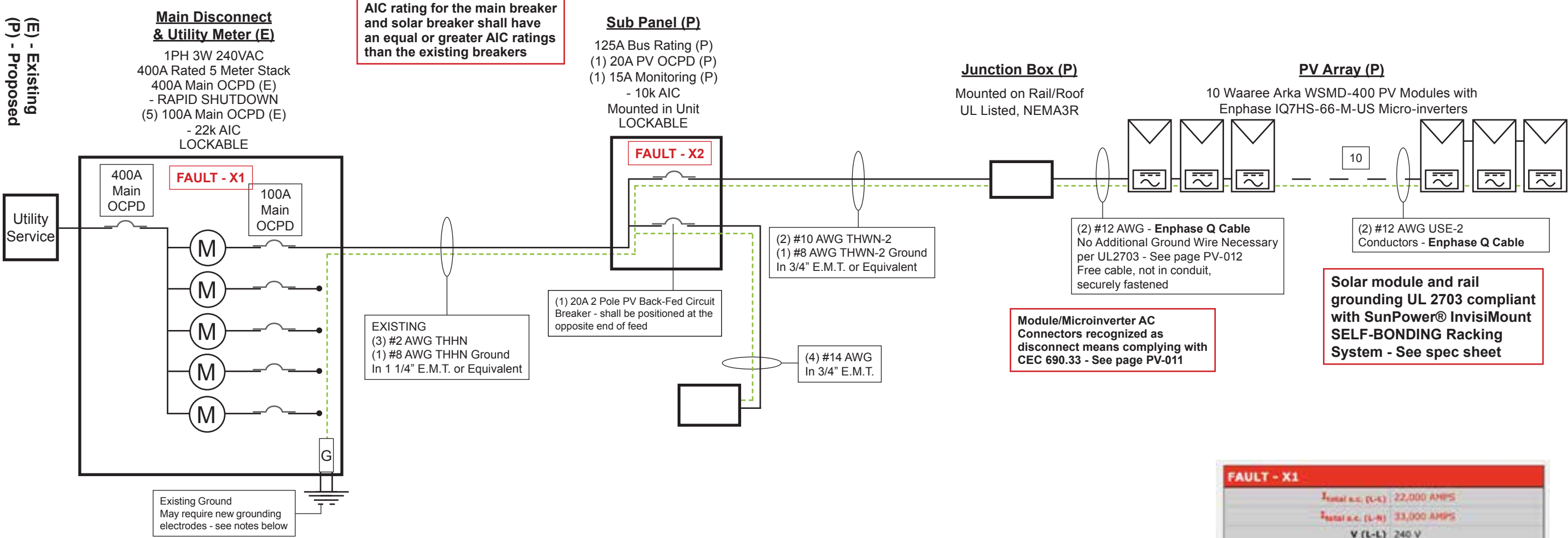
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PV-01

SINGLE LINE DIAGRAM:



System Configuration	
Number of Strings	1
Modules per String	10
Number of Micro-Inverters	10
Module Model	Waaree Arka WSMD-400
Inverter Model	Enphase IQ7HS-66-M-US Micro-inverters
Service Bus Ampere Rating	400A
Main Breaker Ampere Rating	400A
Max PV AC Output Current	16A
PV OCPD Size - PV AC Current @125%	(1) 20A
DC Watts STC	4.0kW
Operating AC Voltage	240V

Solar Module Ratings: Waaree Arka WSMD-400	
Pmax -	400W
Vmp -	38.0V
Imp -	10.54A
Voc -	45.2V
Isc -	11.32A

Inverter Ratings: Enphase IQ7HS-66-M-US	
Max Input Voltage:	59V DC
Output Voltage:	240 VAC
Max Output Power:	384W
Max Output Current =	1.6A
UL1741/IEEE 1547, NEMA 6	

FAULT - X1	
I _{total a.c. (L-L)} 22,000 AMPS	
I _{total a.c. (L-N)} 33,000 AMPS	
V (L-L) 240 V	
CREATE LABEL	DELETE
CONDUCTOR RUN - C1	
LENGTH 60 FT	
SIZE 2	
QTY 1	
(per phase)	
TYPE Three Single Conductors	
CONDUIT Steel	
WIRE Cu, 600 V	
FAULT - X2	
I _{total a.c. (L-L)} 9,316 AMPS	
I _{a.c. (L-N)} 3,907 AMPS	
V (L-L) 240 V	
CREATE LABEL	DELETE

ELECTRICAL NOTES:

- All conductors shall be copper. All components are UL listed and CEC certified, where warranted.
- Modules and racking grounding method- All modules will be grounded in accordance with code and the manufacturer's installation instructions - UL 2703 compliant SunPower® InvisiMount SELF-BONDING Mounting System using Grounding Mid and End Clamps, Rail splices and ILSCO GBL-4DBT UL listed lay-in lug - See attached cut sheet.
- If the existing main service panel does not have verifiable grounding electrode, a grounding electrode rod shall be installed, where #8 THWN-2 Ground serves as both equipment ground and grounding electrode conductor. Supplemental grounding electrode required where existing grounding electrode has resistance of more than 25 ohms, or if resistance testing results are not provided (CEC 690.47(A)). If required, multiple grounding electrodes must be at least 6' apart. (CEC 250.53 (A)(3)).
- The GEC / EGC shall be continuous, or when spliced, the splice shall be made by irreversible crimp or exothermic weld.
- Exposed non-current carrying metal parts of module frames, equipment, and conductor enclosures shall be grounded in accordance with 250.13 or 250.136 (a) regardless of voltage.
- Utility will be notified prior to use and activation of any solar installation. System will be commissioned by owner per utility interconnection agreement.
- AC and DC Conductor sizing and terminations at J-boxes were calculated in accordance with 2022 CEC. All wires to be provided with strain relief at all entry to junction boxes as required by the box listing.

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PV-02

SYSTEM LABELING DETAIL:

All Plaques and signage required by the 2022 edition of California Electrical Code will be installed as required.

ANSI Z535.4-2011 Product Safety Signs and Labels, provides guidelines for suitable font sizes, words, colors, symbols, and location requirements for labels. The label shall be of sufficient durability to withstand the environment involved. Adhesive fastened signs may be acceptable if properly adhered. Vinyl signs shall be weather resistant.

Alternate Power Source Placard shall be metallic or plastic with engraved or machine printed letters in a contrasting color to the plaque, include the location of meter, disconnects, inverter, the array and a footprint of the entire building and site. This plaque will be attached by pop rivets, screws or other approved fasteners. Minimum 3/8” letter height; all upper case letters Arial or similar font; red background with white lettering. If exposed to sunlight, it shall be UV resistant.

The marking is required on interior and exterior electrical conduit (DC), enclosures, raceways, cable assemblies, junction boxes, combiner boxes and disconnects, every 10 feet, within 1 foot of turns or bends, within foot above and/or below penetrations of roofs/ceiling assemblies, walls or barriers.

WARNING

POWER SOURCE
OUTPUT CONNECTION

DO NOT RELOCATE
THIS OVERCURRENT DEVICE

Main Service Panel

WARNING

DUAL POWER SUPPLY

SECOND SOURCE IS
PHOTOVOLTAIC SYSTEM

Main Service Panel

MAIN PHOTOVOLTAIC
SYSTEM DISCONNECT

Main Service Panel

WARNING

ELECTRIC SHOCK HAZARD

TERMINALS ON BOTH THE LINE AND
LOAD SIDES MAY BE ENERGIZED
IN THE OPEN POSITION

J-Box, Combiner Box, Enclosure
AC Disconnect, Load Center, Inverter

PHOTOVOLTAIC SYSTEM
COMBINER PANEL
DO NOT ADD LOAD BREAKERS

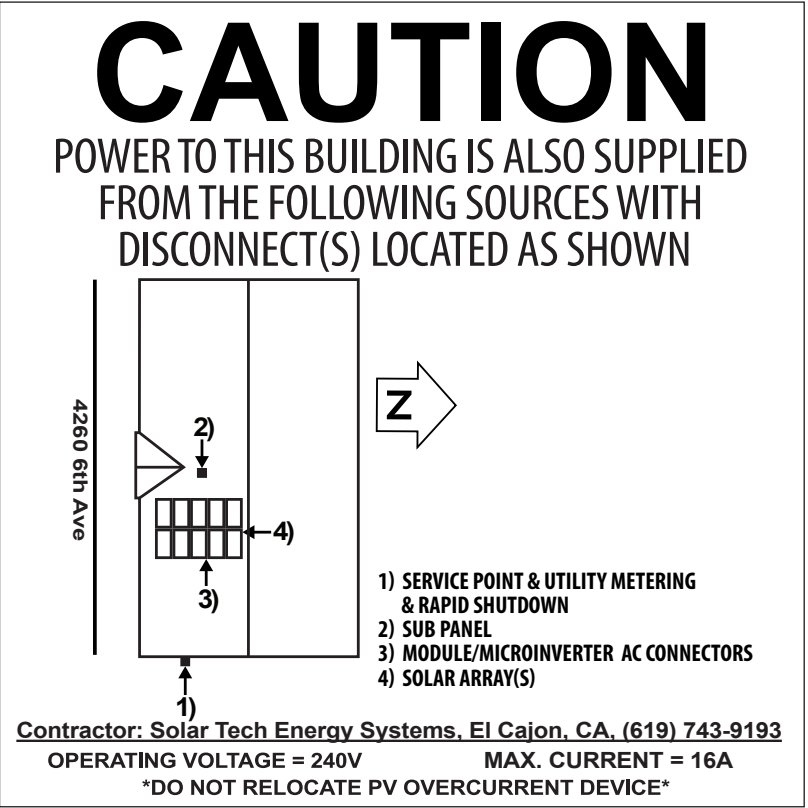
Dedicated PV Load Center

PHOTOVOLTAIC AC DISCONNECT
RATED AC OUTPUT CURRENT: 16A
NOMINAL OPERATING AC VOLTAGE: 240V

AC Disconnect

PHOTOVOLTAIC POWER SOURCE

Markings on System Output Conductors Raceways

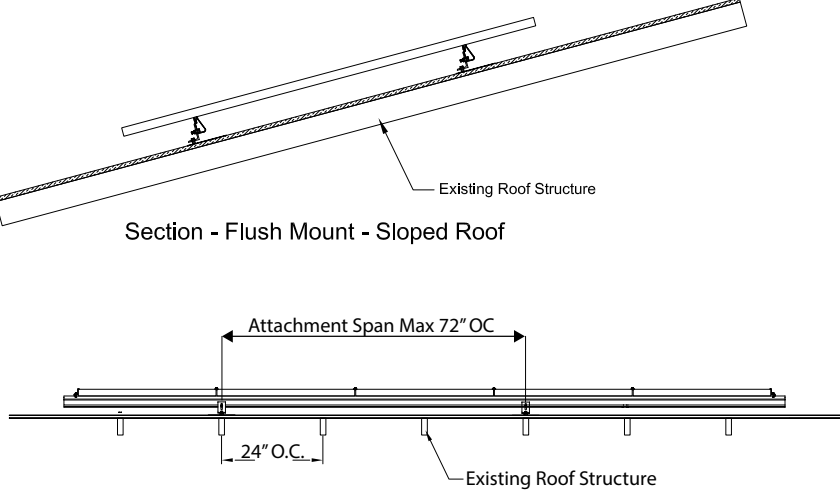
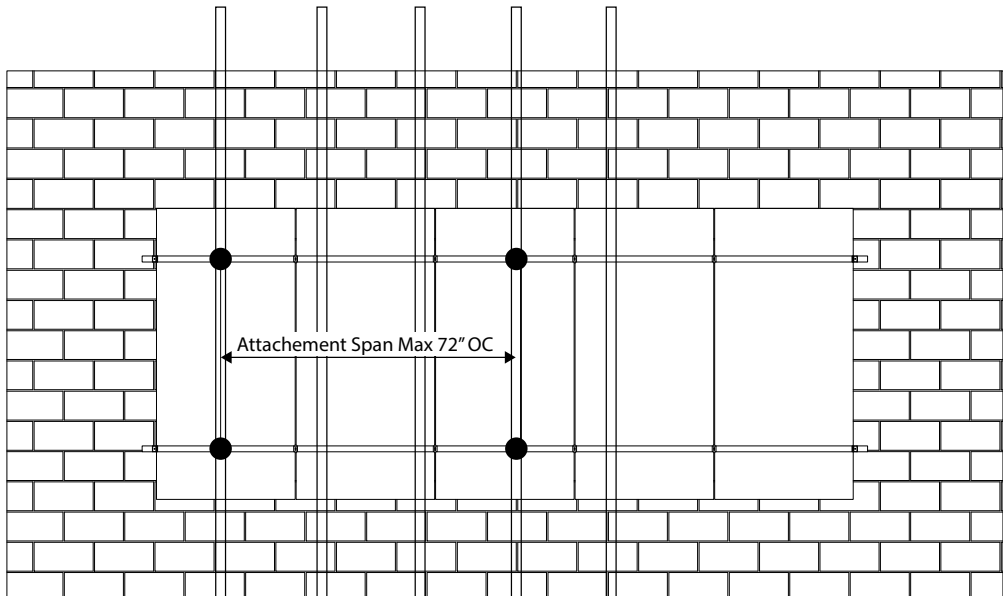


MOUNTING DETAIL:

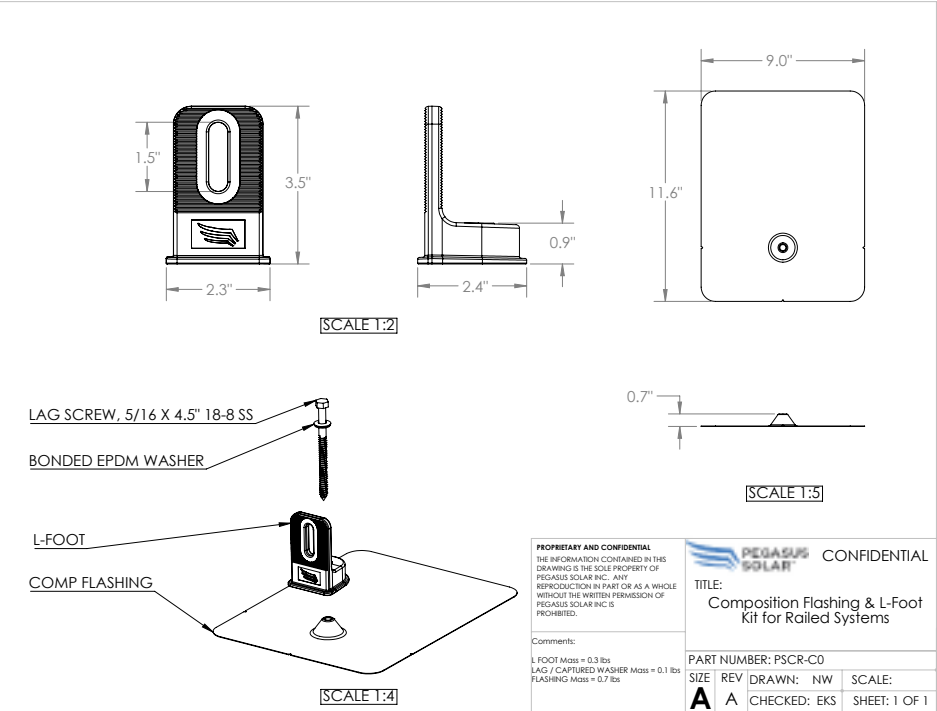
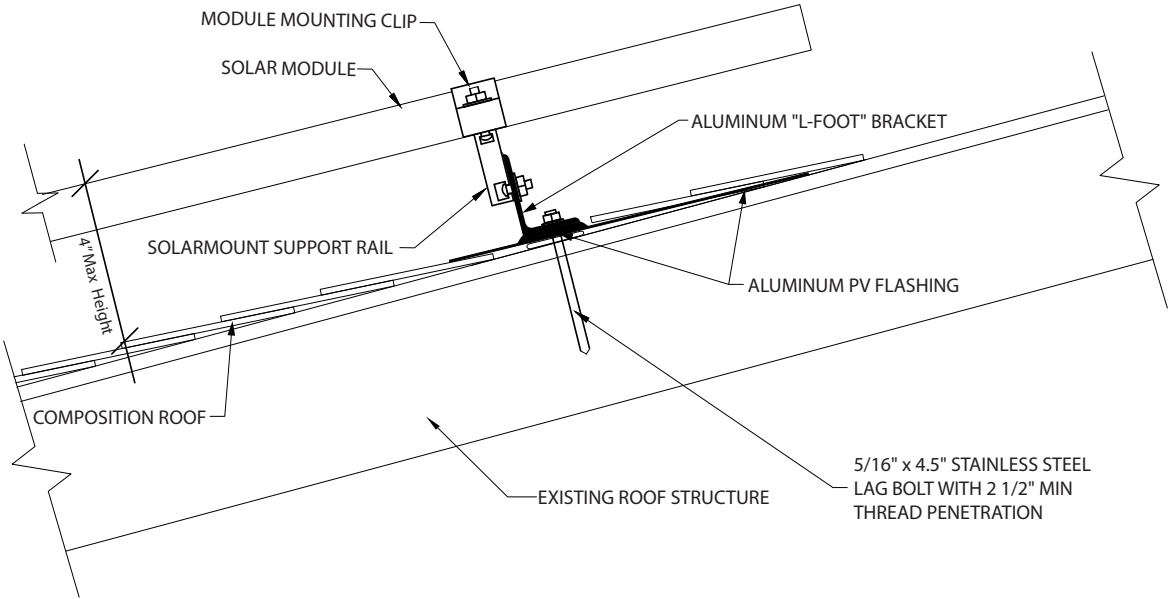
Roof Load Calculation for Flush Mounted Panels

Module Weight (lbs)	48.5
# of Modules	10
Total Module Weight (lbs)	485.0
Rack Weight (lbs)	88.2
Total System Weight (lbs)	573.2
# of Standoffs	30
Max Spans between Standoffs (in)	72
Loading per Standoff (lbs)	19.10
Total Area (sq. ft.)	215.2
Loading (PSF)	2.66

Flush Mount Detail



1. SunPower InvisiMount Mounting Rail with Integrated Grounding
2. Pegasus Composition L-Foot Kit Mounts & Flashings
3. Racking loading calculations were performed for ASCE 7-16 wind speeds @ 100 mph for B wind exposure category.
4. Roof attachment hardware to be mounted to existing structure - **2"X4"@24" O.C. RAFTERS** at **72" O.C. RAIL SPANS** or less.
5. Lag bolts are 5/16" X 4.5" stainless steel with 2.5" minimum embedment into the roof rafters.
6. Roof sheathed with 1/2" plywood and upper surface is faced with felt paper. Finished roof surface is **COMPOSITE SHINGLE**.
7. Lag screws shall be at least 6 inches from any truss joints.
8. Mounts or/and mounting hardware will be sealed with Tremco Vulkem 116 Polyurethane Sealant or equivalent.



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PV-04