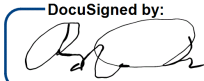


GENERAL NOTES:

- SOLAR PHOTOVOLTAIC SYSTEM TO BE INSTALLED ON RESIDENTIAL STRUCTURE.
- DESIGN COMPLYING WITH THE 2022 EDITION OF CALIFORNIA ELECTRICAL CODE, NEC, 2022 CALIFORNIA BUILDING CODE, 2022 CALIFORNIA RESIDENTIAL CODE, COUNTY OF SAN DIEGO CONSOLIDATED FIRE CODE, AND ALL LOCAL ORDINANCES AND POLICIES.
- THIS PROJECT HAS BEEN DESIGNED IN COMPLIANCE WITH THE CBC SECTION 1609 TO WITHSTAND A MINIMUM 110 MPH WIND LOAD.
- THIS HOUSE IS 2 STORIES TALL.
- THE TRUSS ARE 2" X 4" AND 24" ON CENTER.
- THIS SYSTEM WILL NOT BE INTERCONNECTED UNTIL APPROVAL FROM THE LOCAL JURISDICTION AND THE UTILITY IS OBTAINED.
- THIS SYSTEM IS AN UTILITY INTERACTIVE SYSTEM WITH STORAGE BATTERIES.
- THE SOLAR PHOTOVOLTAIC INSTALLATION SHALL NOT OBSTRUCT ANY PLUMBING, MECHANICAL OR BUILDING ROOF VENTS.
- IF THE EXISTING MAIN SERVICE PANEL DOES NOT HAVE VERIFIABLE GROUNDING ELECTRODE, IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL A SUPPLEMENTAL GROUNDING ELECTRODE.
- A LADDER SHALL BE IN PLACE FOR INSPECTION IN COMPLIANCE WITH CAL-OSHA REGULATIONS.
- PROPER ACCESS AND WORKING CLEARANCE WILL BE PROVIDED AS PER SECTION 110.26 CEC.
- WHERE A UFER CANNOT BE VERIFIED OR IS NOT PRESENT, A GROUNDING ELECTRODE SYSTEM SHALL BE INSTALLED AS PER CEC 250.53.
- ROOF MOUNTED CONDUIT AND RACEWAYS SHALL BE 7/8TH'S OFF THE ROOF DECK OF THE STIPULATIONS OF 310.15(B)(3)(C) SHALL APPLY.

Bruce Patterson

DocuSigned by:

B1887AC48F064A5...

5/10/2023

BRUCE PATTERSON
7823 CALLE CIMA,
RANCHO SANTA FE, CA 92067

VICINITY MAP:



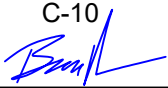
PROJECT SCOPE:

- SCOPE OF WORK:
- (25) HANWHA QCELLS Q.PEAK DUO BLK ML-G10.a+ 400 MODULES
 - (25) ENPHASE IQ8A MICROINVERTERS
 - (1) ENPHASE PV COMBINER
 - NEW 175A MAIN BREAKER DE-RATE
 - 10 KW DC SYSTEM SIZE

TABLE OF CONTENT:

SHEET #	DESCRIPTION
T-1	TITLE SHEET
PV-1	SITE MAP
PV-2	ARRAY LAYOUT
PV-3	ELECTRICAL LINE DIAGRAM
PV-4	SIGNAGE



LIC. -1018672
C-10


BRUCE PATTERSON
7823 CALLE CIMA,
RANCHO SANTA FE, CA 92067
LEGAL DESCRIPTION/APN: 265-451-35-00

10 kW DC
SYSTEM

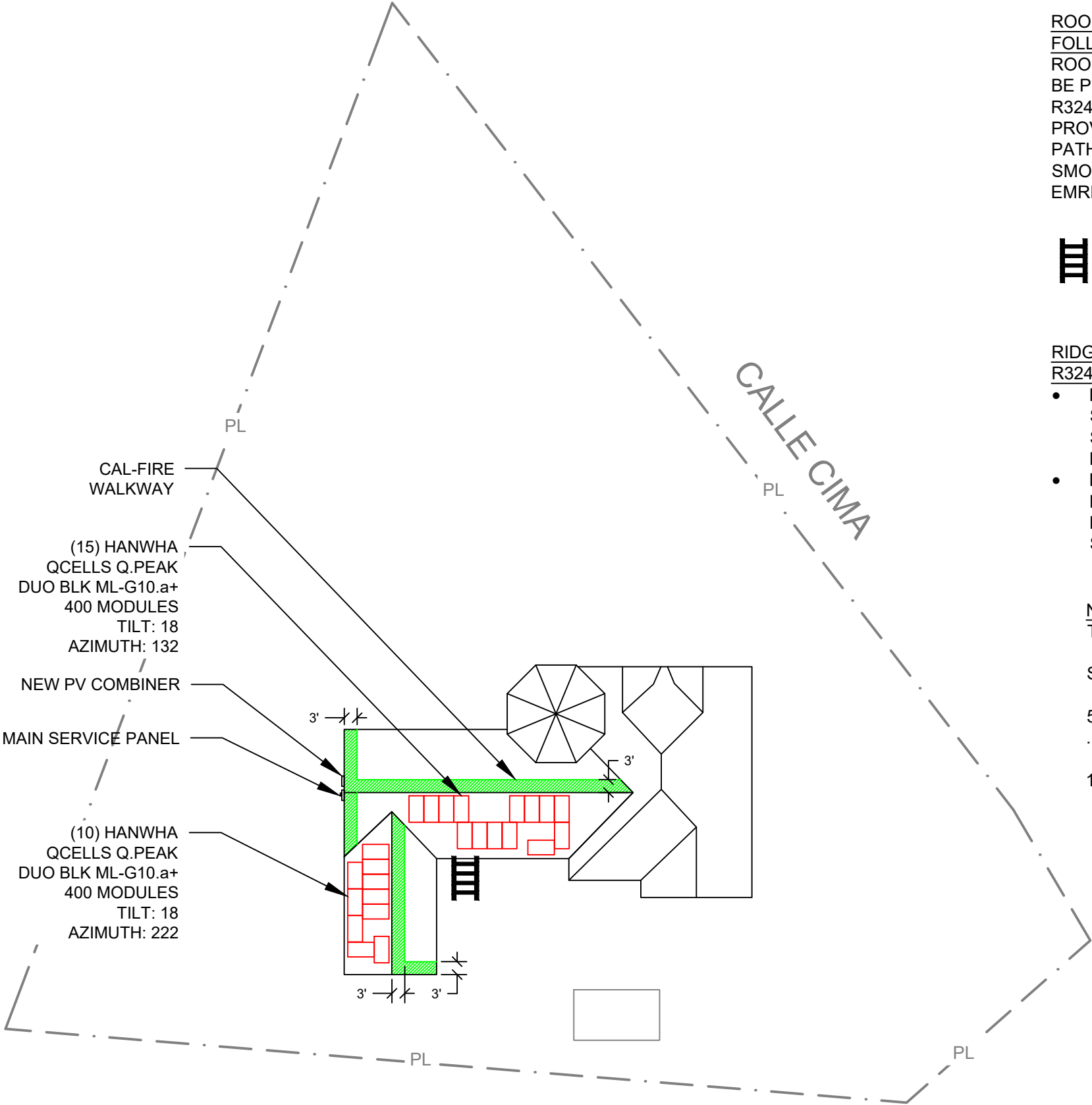
REVISION DATE

DATE: 05/08/2023

PROJECT NO.

DRAWN BY: A.B.

T-1



ROOF ACCESS POINTS SHALL BE PROVIDED PER THE FOLLOWING (CRC R324.6) ROOF ACCESS AND PATHWAYS: ROOF ACCESS, PATHWAYS AND SETBACKS REQUIREMENTS SHALL BE PROVIDED IN ACCORDANCE WITH SECTIONS R324.6.1 THROUGH R324.6.2.1 ACCESS AND MINIMUM SPACING SHALL BE REQUIRED TO PROVIDE EMERGENCY ACCESS TO THE ROOF, TO PROVIDE PATHWAYS TO SPECIFIC AREAS OF THE ROOF, PROVIDE FOR SMOKE VENTILATION OPPORTUNITY AREAS, AND TO PROVIDE EMREGENCY EGRESS FROM THE ROOF.

 ROOF ACCESS POINTS.

RIDGE SETBACKS - <33% TOTAL ROOF AREA 2022 CA INTERVENING CODE R324.6.1 & R324.6.2 :

- R324.6.1 NOT LESS THAN TWO MINIMUM 36 IN. WIDE PATHWAYS ON SEPARATE ROOF PLANES, FROM THE LOWEST ROOF EDGE TO RIDGE, SHALL BE PROVIDED ON ALL BUILDING. AT LEAST ONE PATHWAY SHALL BE PROVIDED ON THE STREET OR DRIVEWAY SIDE OF THE ROOF.
- R324.4.6.2 SETBACK AT RIDGE. FOR PHOTOVOLTAIC ARRAYS OCCUPYING NOT MORE THAN 33 PERCENT OF THE PLAN VIEW TOTOAL ROOF AREA, NOT LESS THAN 18 INCHES CLEAR SETBACK IS REQUIRED ON BOTH SIDES OF A HORIZONTAL RIDGE.

NOTE:
TOTAL ROOF AREA - 4587 SQ FT.

SOLAR ARRAY AREA - 500 SQ FT.

$$500 / 4587 = .10$$
$$.10 \times 100 = 10\%$$
$$10\% < 33\%$$

LIC. -1018672
C-10


BRUCE PATTERSON
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RANCHO SANTA FE, CA 92067
LEGAL DESCRIPTION/APN: 265-451-35-00

10 kW/DC
SYSTEM

REVISION	DATE

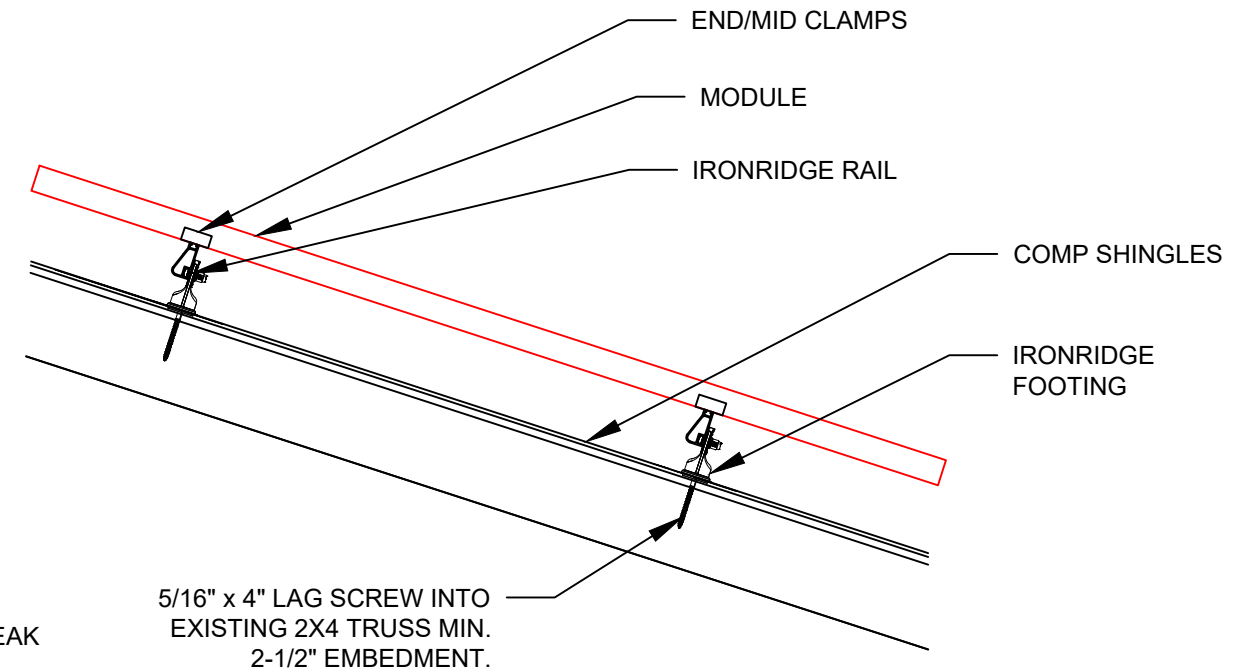
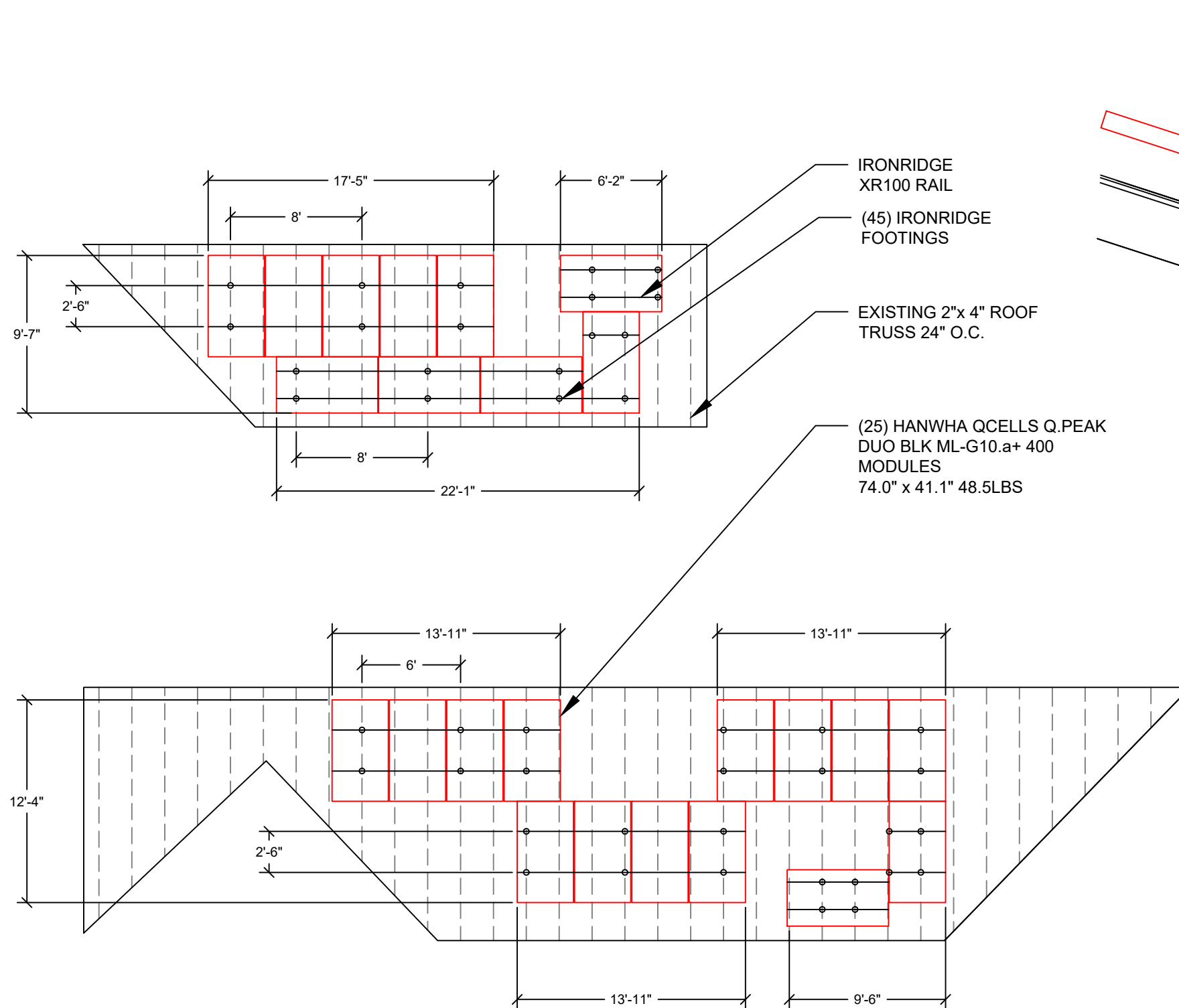
DATE: 05/08/2023

PROJECT NO.

DRAWN BY: A.B.

PV-1



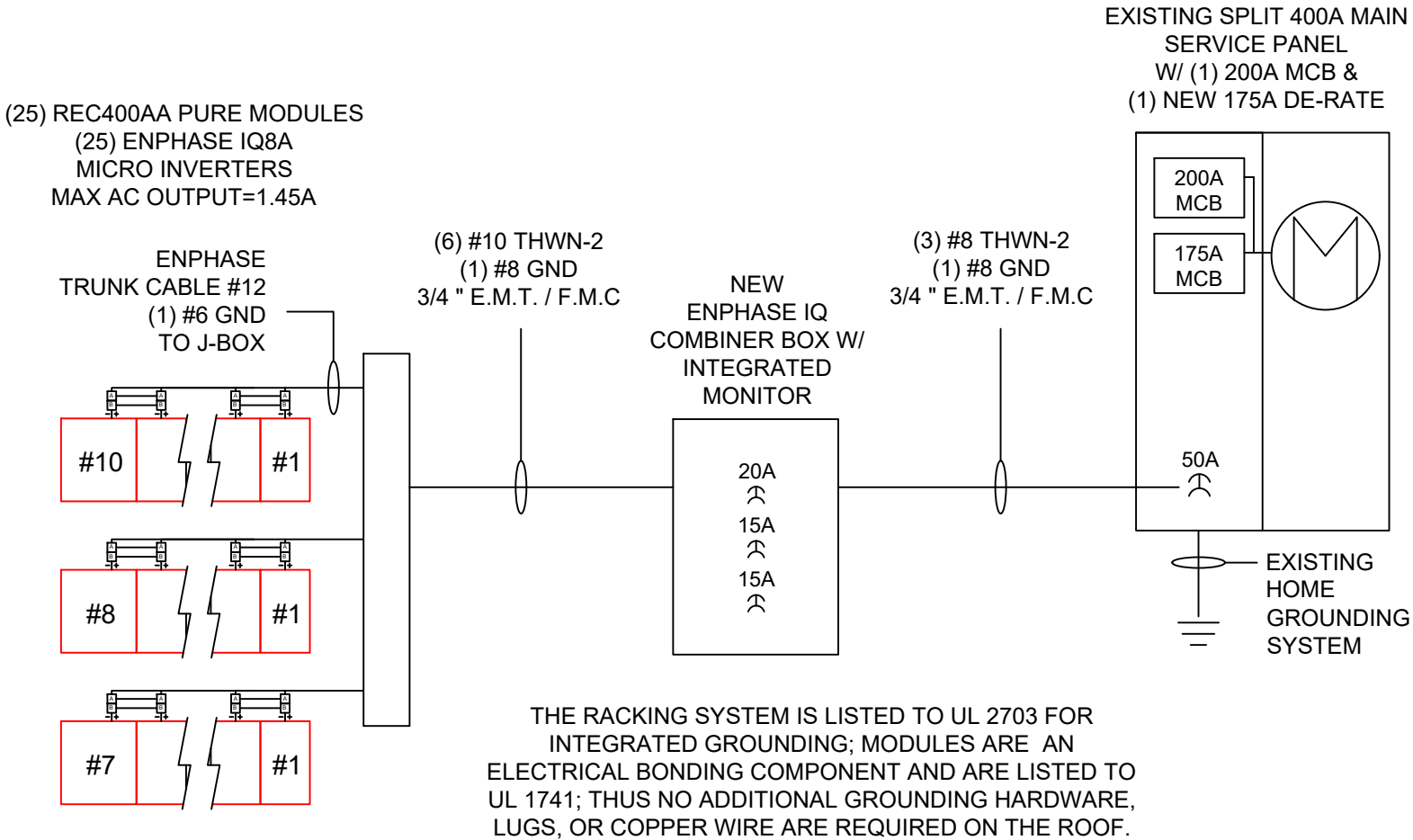


NOTES:

- PANEL ASSEMBLY WILL BE ATTACHED TO THE EXISTING ROOF BY THE CONSTRUCTION OF A STRUCTURAL FRAME TO CONSIST OF IRONRIDGE RAIL, AND FOOTINGS.
- LAG SCREWS SHALL BE AT LEAST 6" FROM ANY TRUSS JOINT.
- SOLAR PANELS ATTACHED TO RAIL WITH MODULE MOUNTING CLIP AND 1/4" NUTS & BOLTS
- ROOF PENETRATIONS WILL BE SECURE AND WEATHER TIGHT WITH RUBBERIZED ELASTOMAT SEALER AND FLASHING.
- ARRAY WEIGHT = 3.3 LBS/SQFT
- ROOF PENETRATIONS SECURE AND WEATHER TIGHT
- UL2703 & UL467

1 ENLARGED ROOF PLAN

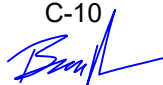
Scale: 3/16" = 1'



ELECTRICAL NOTES:

- ALL PLAQUES AND SIGNAGE REQUIRED BY THE 2022 EDITION OF CALIFORNIA ELECTRICAL CODE AND THE AHJ AREA ELECTRICAL NEWSLETTER, WILL BE INSTALLED AS REQUIRED.
- ALTERNATE POWER SOURCE PLACARD SHALL BE PLASTIC WITH ENGRAVED LETTERING IN A CONTRASTING COLOR TO THE PLAQUE. THIS PLAQUE WILL BE ATTACHED BY POP RIVETS OR SCREWS OR OTHER APPROVED METHOD. IF EXPOSED TO SUNLIGHT, IT SHALL BE UV RESISTANT.
- EXPOSED NON-CURRENT CARRYING METAL PARTS OF MODULE FRAMES, EQUIPMENT, AND CONDUCTOR ENCLOSURES SHALL BE GROUNDED IN ACCORDANCE WITH 250.134 OR 250.136 (4) REGARDLESS OF VOLTAGE.
- IF THE EXISTING GROUNDING ELECTRODE SYSTEM CAN NOT BE VERIFIED OR IS ONLY METALLIC WATER PIPING, IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL A SUPPLEMENTAL GROUNDING ELECTRODE.
- ACCESS TO DC WIRING WILL BE RESTRICTED TO QUALIFIED PERSONAL ONLY.
- NEW BACK FED PV BREAKER SHALL BE POSITIONED AT OPPOSITE END OF MAIN BREAKER.
- BATTERY CIRCUIT BREAKER SHALL COMPLY WITH CEC ART. 690.10, 705.15(E) AND 408.36 (D).
- PHOTOVOLTAIC DC CONDUCTORS ENTERING THE BUILDING SHALL BE INSTALLED IN A METALLIC RACEWAY AND SHALL BE IDENTIFIED EVERY 10 FEET WITH MINIMUM 3/8 INCH HIGH WHITE LETTERING ON RED BACKGROUND READING: "WARNING: PHOTOVOLTAIC POWER SOURCE".
- ALL MODULES WILL BE GROUNDED IN ACCORDANCE WITH CODE AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- ELECTRICAL EQUIPMENT THAT ARE IN OTHER THAN DWELLING UNITS SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF A POTENTIAL ARC FLASH. 110.16
- NEC 690.13(B) EACH PV SYSTEM DISCONNECTING MEANS SHALL PLAINLY INDICATE WHETHER IN THE OPEN (OFF) OR CLOSED (ON) POSITION AND BE PERMANENTLY MARKED "PV SYSTEM DISCONNECT" OR EQUIVALENT. ADDITIONAL MARKINGS SHALL BE PERMITTED BASED UPON THE SPECIFIC SYSTEM CONFIGURATION. FOR PV SYSTEM DISCONNECTING MEANS WHERE THE LINE AND LOAD TERMINALS MAY BE ENERGIZED IN THE OPEN POSITION, THE DEVICE SHALL BE MARKED WITH THE FOLLOWING WORDS OR EQUIVALENT: "TERMINALS ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION."
- THE RAPID SHUTDOWN INITIATION METHODS SHALL BE LABELED IN ACCORDANCE WITH 690.56(C).
- 690.12 RAPID SHUTDOWN OF PV SYSTEMS ON BUILDINGS. PV SYSTEM CIRCUITS INSTALLED ON OR IN BUILDINGS SHALL INCLUDE A RAPID SHUTDOWN FUNCTION THAT CONTROLS SPECIFIC CONDUCTORS IN ACCORDANCE WITH 690.12(1) THROUGH (5) AS FOLLOWS.
- 690.64 POINT OF CONNECTION. POINT OF CONNECTION SHALL BE IN ACCORDANCE WITH 705.12.

HOME GROWN
ENERGY SOLUTIONS

LIC. -1018672
C-10


BRUCE PATTERSON
7823 CALLE CIMA,
RANCHO SANTA FE, CA 92067
LEGAL DESCRIPTION/APN: 265-451-35-00

10 kW/DC
SYSTEM

REVISION	DATE

DATE: 05/08/2023

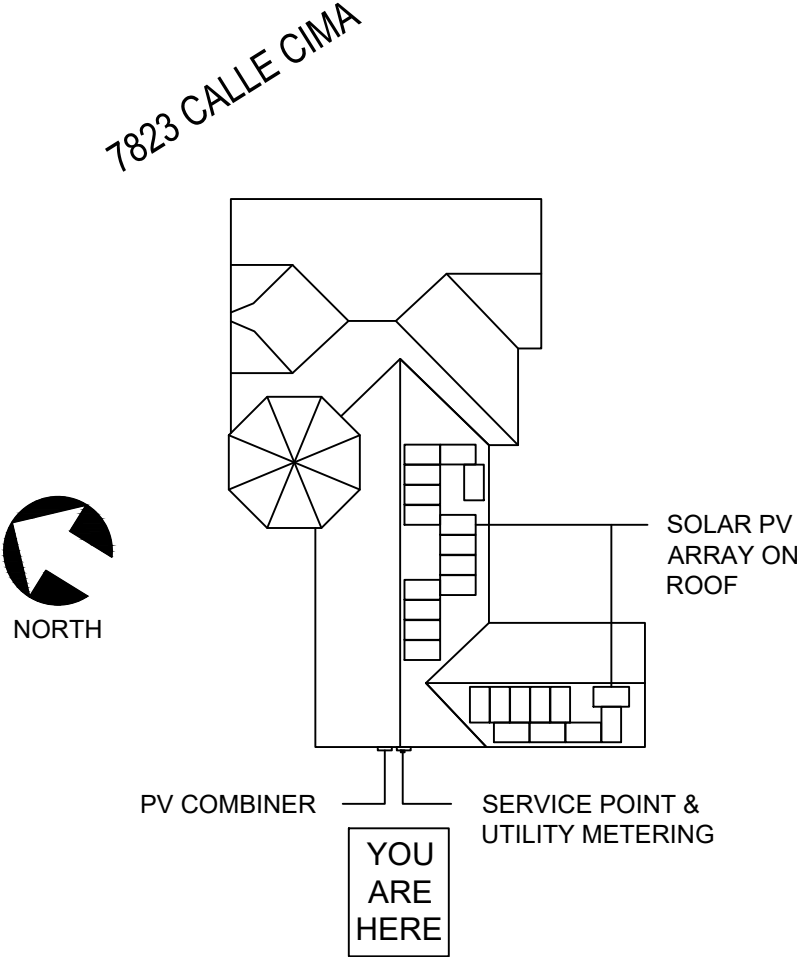
PROJECT NO.

DRAWN BY: A.B.

PV-3

ATTACH TO
MAIN ELECTRIC SERVICE
MIN. 3/8" LETTERING RED
BACKGROUND WITH WHITE
CHARACTERS
NEC 705.10 & 690.56(B)

 **CAUTION:**
MULTIPLE SOURCES OF POWER



RATED AC OUTPUT CURRENT: 45.31 AMPS
NOMINAL OPERATING AC VOLTAGE: 240 VOLTS

ATTACH TO
ANY INTERNAL AND
EXTERIOR CONDUIT WITH
SOLAR CIRCUIT
690.31(D)(2)

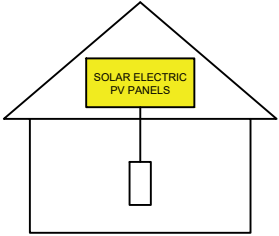
PHOTOVOLTAIC POWER
SOURCE

ATTACH TO
MAIN SERVICE PANEL

690.12
CEC 690.56(C)

PHOTOVOLTAIC SYSTEM EQUIPPED
WITH RAPID SHUTDOWN

TURN RAPID
SHUTDOWN SWITCH TO
THE "OFF" POSITION TO
SHUT DOWN PV
SYSTEM AND REDUCE
SHOCK HAZARD
IN ARRAY.



ATTACH TO
MAIN SERVICE PANEL

MAIN BREAKER
DE-RATED TO 175A
DO NOT INCREASE
BREAKER RATING

ATTACH TO
MAIN SERVICE PANEL
MIN. 1/4" LETTERING
RED BACKGROUND WITH
WHITE CHARACTERS 690.54

PV POWER SOURCE
OPERATING CURRENT: 45.31A
OPERATING VOLTAGE: 240V

ATTACH TO
MAIN SERVICE PANEL

690.13(B)

MAIN PHOTOVOLTAIC
SYSTEM DISCONNECT

ATTACH TO
PV COMBINER

690.13(B)

WARNING

ELECTRICAL SHOCK HAZARD
TERMINALS ON THE LINE AND
LOAD SIDES MAY BE ENERGIZED
IN THE OPEN POSITION

ATTACH TO
COMBINER BOX / SUB-PANEL

PHOTOVOLTAIC
SYSTEM
COMBINER PANEL
DO NOT ADD LOADS