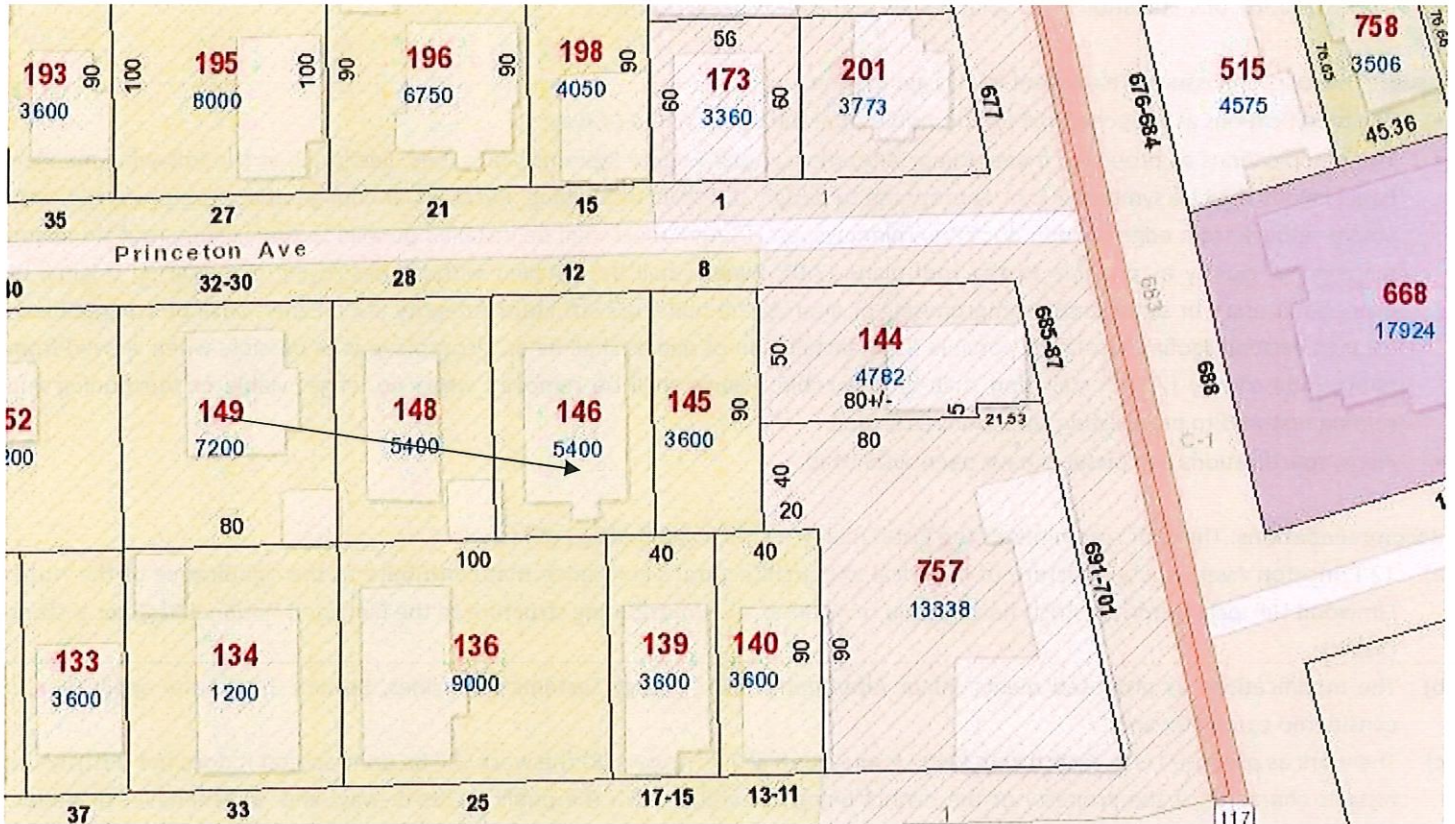


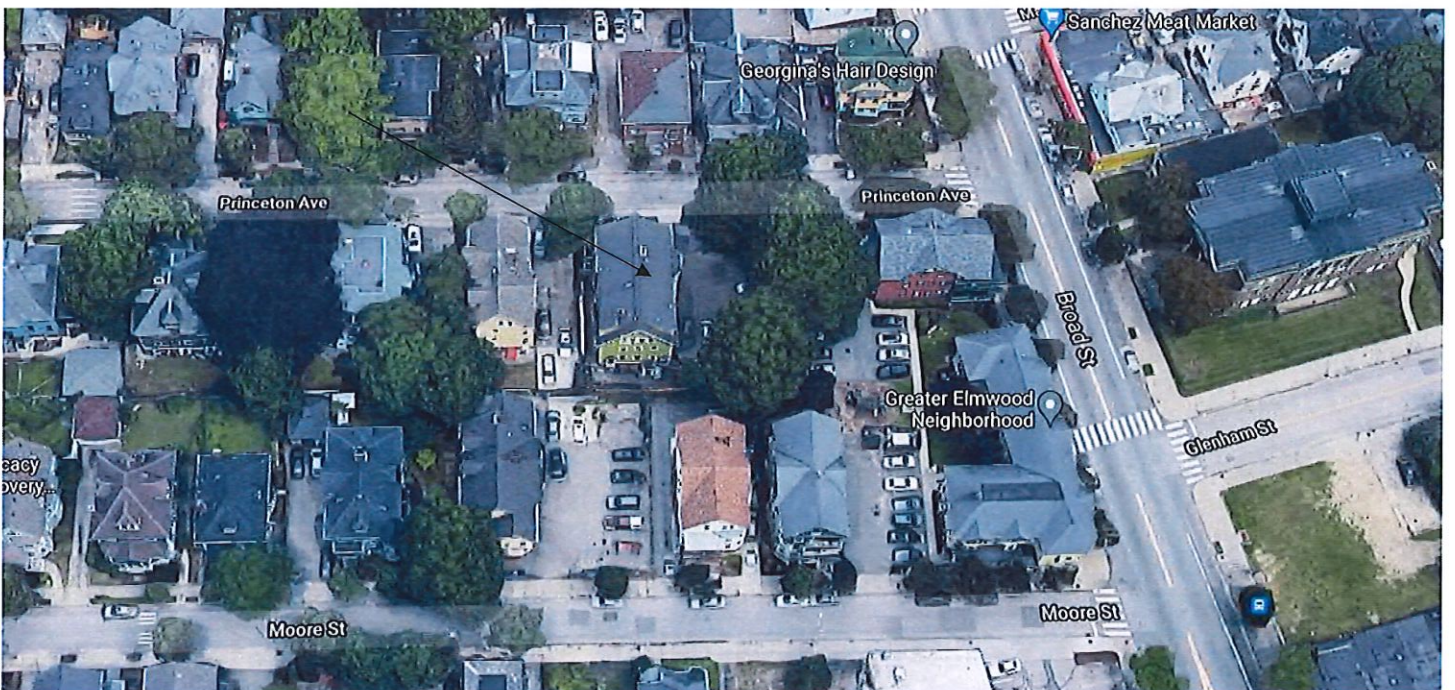
3. CASE 21.069, 12 PRINCETON AVENUE, Silverman Two-Family House, 1904-08 (NORTH ELMWOOD)

Pincus Silverman, a junk metals dealer, was one of the original occupants of this very large 2½-story dwelling, with its steep end-gable roof: The structure possesses thin gable bargeboards, supported on small brackets, and a handsomely detailed wraparound Tuscan-column porch. Large shed dormers have been added on both roof slopes.

CONTRIBUTING



Arrow indicates 12 Princeton Avenue.



Arrow indicates project location, looking north.

Applicant/Contractor: Sherry Clark dba Palmetto Solar, LLC, 2 Wunter Avenue, 2nd Fl., Taunton, MA 02780

Owner: Ronald Occeus, 12 Princeton Avenue, Providence, RI 02907

Proposal: The scope of work proposed consists of Minor Alterations and includes

- the installation of installation of 31 solar panels to the east-facing dormer.

Issues: The following issues are relevant to this application:

- The modifications as proposed will not be visible from the public rights-of-way;
- The modifications as proposed meets Minor Alterations: Solar Energy Systems Guidelines, Section 2, in the following manner: Panel layout shall be sympathetic or appropriate to design and scale of building. Rectangular configurations are preferred, with ample setback from edge of roof, dormers, chimneys, etc. (2.A); Panels shall be installed parallel to the existing roof slope and matched as closely as possible to the roof plane (2.B); Panels shall be installed without destroying or replacing original or historic materials or significantly compromising or altering the building's structural integrity (2.C); Panels shall be compatible in color to existing roofing insofar as possible (2.D); Installation of panels shall be as inconspicuous as possible when viewed from public right-of-way (2.E); Installation shall be reversible. Panels shall be removed when no longer viable or functioning and roofing restored to pre-existing conditions (2.F); and,
- Plans, specifications and pictures have been submitted.

Recommendations: The staff recommends the PHDC make the following findings of fact:

- a) 12 Princeton Avenue is a structure of historical and architectural significance that contribute to the significance of the North Elmwood Hill local historic district, having been recognized as a contributing structure to the Elmwood National Register Historic District;
- b) The modifications as proposed meets Minor Alterations: Solar Energy Systems Guidelines, Section 2, and the application is considered complete; and,
- c) The work as proposed is in accord with PHDC Standards 8 & 9 as follows: 8) the work will be done so that it does not destroy the historic character of the property or the district being not visible from the public rights-of-way; and, 9) Whenever possible... alterations to structures shall be done in such a manner that if removed in the future, the essential form and integrity of the structure and the site will be unimpaired.

Staff recommends a motion be made stating that: The application is considered complete. 12 Princeton Avenue is a structure of historical and architectural significance that contribute to the significance of the North Elmwood Hill local historic district, having been recognized as a contributing structure to the Elmwood National Register Historic District. The Commission grants Final Approval of the proposal as submitted as the proposed alteration is appropriate having determined that the proposed alteration does not destroy the historic character of the property or the district and are historically and architecturally compatible with the property and district as the proposed alteration meets Minor Alterations: Solar Energy Systems Guidelines, Section 2, is not visible from the public rights-of-way, is reversible and will not have an adverse effect on the property or district, and the recommendations in the staff report, with staff to review any additional required details.



12 Princeton Ave looking NW

SCOPE OF WORK:

TO INSTALL A ROOF MOUNTED SOLAR PHOTOVOLTAIC SYSTEM AT THE OWNER RESIDENCE LOCATED AT 12 PRINCETON AVENUE PROVIDENCE, RI 02907. THE POWER GENERATED BY THE PV SYSTEM WILL BE INTERCONNECTED WITH THE UTILITY GRID THROUGH THE EXISTING ELECTRICAL SERVICE EQUIPMENT. THE PV SYSTEM DOES NOT INCLUDE STORAGE BATTERIES

EQUIPMENT SUMMARY

31 QCELLS Q.PEAK DUO BLK-G6+ 340 MODULES
01 SOLAREEDGE SE7600H-US INVERTER
31 SOLAREEDGE POWER OPTIMIZER P370

GENERAL NOTES:

- THESE CONSTRUCTION DOCUMENTS HAVE BEEN BASED ON FIELD INSPECTIONS AND OTHER INFORMATION AVAILABLE AT THE TIME. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS IN CONSTRUCTION DETAILS.
- ARCHITECT HAS NOT BEEN RETAINED TO SUPERVISE ANY CONSTRUCTION OR INSTALLATION OF ANY EQUIPMENT AT SITE.
- CONTRACTOR SHALL FURNISH ALL LABOR, MATERIAL, EQUIPMENT, TOOLS, OBTAINS ALL PERMITS, LICENSES AND PAY ALL REQUIRED FEES AND COMPLETE INSTALLATION.
- CONTRACTOR HAS THE FULL RESPONSIBILITY TO CHECK AND VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK. ANY WORK STARTED BEFORE CONSULTATION AND ACCEPTANCE BY THE ENGINEER SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE SUBJECT TO CORRECTION BY THEM WITHOUT ADDITIONAL COMPENSATION.
- DAMAGE CAUSED TO THE EXISTING STRUCTURE, PIPES, DUCTS, WINDOWS, WALL, FLOORS, ETC. SHALL BE REPAIRED TO THE ORIGINAL CONDITION OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST.
- THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THE PROPER INSTALLATION AND COMPLETION OF THE WORK WITH APPROVED MATERIALS.
- NO CHANGES ARE TO BE MADE WITHOUT THE CONSULTATION AND APPROVAL OF THE ARCHITECT.
- CONTRACTOR SHALL OBTAIN BULDING PERMIT. NO WORK TO START UNLESS BUILDING PERMIT IS PROPERLY DISPLAYED.
- ALL WORKMANSHIP AND MATERIALS SHALL BE OF FIRST QUALITY AND IN COMPLIANCE WITH THE REQUIREMENTS OF THE RI BUILDING CODE, THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ALL PERTINENT AGENCIES.
- IT IS ESSENTIAL THAT ALL WORK PROCEED WITH THE MAXIMUM COOPERATION OF ALL PARTIES AND WITH MINIMUM INTERFERENCE TO THE OCCUPANTS WITHIN THE BUILDING. THE OWNER'S DIRECTIONS IN THIS REGARD SHALL BE FULLY COMPLIED WITH.
- ALL EXPOSED PLUMBING, HVAC, ELECTRICAL DUCTWORK, PIPING AND CONDUITS ARE TO BE PAINTED BY GENERAL CONTRACTOR.
- THE CONTRACTOR SHALL PERFORM THE WORK IN STRICT CONFORMANCE WITH THE LOCAL LAWS, REGULATIONS AND THE NATIONAL ELECTRIC CODE.
- THE CONTRACTOR SHALL OBTAIN ALL PERMITS, APPROVALS, AFFIDAVITS, CERTIFICATIONS, ETC. AND PAY ALL FEES AS REQUIRED BY THE LOCAL AUTHORITIES.
- CONTRACTORS SHALL OBTAIN FIRE CERTIF. UPON COMPLETION OF WORK.

ELECTRICAL NOTES:

- THE EQUIPMENT AND ALL ASSOCIATED WIRING AND INTERCONNECTION SHALL BE INSTALLED ONLY BY QUALIFIED PEOPLE. A QUALIFIED PERSON IS ONE WHO HAS SKILLS AND KNOWLEDGE RELATED TO THE CONSTRUCTION AND OPERATION OF THE ELECTRICAL EQUIPMENT AND INSTALLATIONS AND HAS RECIEVED SAFETY TRAINING TO RECOGNIZE AND AVOID THE HAZARDS INVOLVED. (NEC 690.4(E) AND 705.6)
- LOCAL UTILITY PROVIDER SHALL BE NOTIFIED PRIOR TO USE AND ACTIVATION OF ANY SOLAR PHOTOVOLTAIC INSTALLATION. FOR A LINE SIDE TAP CONNECTION, UTILITY NEEDS TO BE NOTIFIED WELL IN ADVANCE TO COORDINATE BUILDING ELECTRICAL SHUT OFF.
- NEW CONDUIT ROUTING SHOWN IS ESSENTIALLY SCHEMATIC. SUBCONTRACTOR SHALL LAY OUT RUNS TO SUIT FIELD CONDITIONS AND THE COORDINATION REQUIREMENTS OF OTHER TRADES.
- ARRAY WIRING SHOULD NOT BE READILY ACCESSIBLE EXCEPT TO QUALIFIED PERSONNEL.
- ALL EXTERIOR CONDUIT, FITTINGS, AND BOXES SHALL BE WATERTIGHT AND APPROVED FOR USE IN WET LOCATIONS. (NEC 314.15A).
- WIRING METHODS FOR PV SYSTEM CONDUCTORS AREN'T PERMITTED WITHIN 10 IN. OF THE ROOF DECKING OR SHEATHING EXCEPT WHERE LOCATED DIRECTLY BELOW THE ROOF SURFACE THAT'S COVERED BY PV MODULES AND ASSOCIATED EQUIPMENT WIRING
- BACK-FED BREAKER MUST BE AT THE OPPOSITE END OF BUS BAR FROM THE MAIN BREAKER OR MAIN LUG SUPPLYING CURRENT FROM THE UTILITIES.
- ALL CONDUCTORS AND WIRE TIES EXPOSED TO SUNLIGHT ARE LISTED AS UV RESISTANT.
- CONTRACTOR SHALL FOLLOW ALL ELECTRICAL EQUIPMENT LABELING REQUIREMENTS IN NEC 690 AND IFC 2015
- MEASURE THE LINE-TO-LINE AND LINE-TO-NEUTRAL VOLTAGE OF ALL SERVICE ENTRANCE CONDUCTORS PROIR TO INSTALLING ANY SOLAR EQUIPMENT. THE VOLTAGES FOR THE 240VAC RATED.

GOVERNING CODES

2015 INTERNATIONAL RESIDENTIAL CODE
 2015 INTERNATIONAL FIRE CODE
 2017 NATIONAL ELECTRICAL CODE
 2015 INTERNATIONAL BUILDING CODE
 2019 RHODE ISLAND STATE BUILDING CODE

WIRING AND CONDUIT NOTES:

- ALL CONDUIT SIZES AND TYPES, SHALL BE LISTED FOR ITS PURPOSE AND APPROVED FOR THE SITE APPLICATIONS
- ALL PV CABLES AND HOMERUN WIRES BE #10AWG *USE-2, PV WIRE, OR PROPRIETARY SOLAR CABLING SPECIFIED BY MFR, OR EQUIVALENT; ROUTED TO SOURCE CIRCUIT COMBINER BOXES AS REQUIRED
- ALL CONDUCTORS AND OCPD SIZES AND TYPES SPECIFIED ACCORDING TO [NEC 690.8 (A)(1) & (B)(1)], [NEC 240] [NEC 690.7] FOR MULTIPLE CONDUCTORS
- ALL PV DC CONDUCTORS IN CONDUIT EXPOSED TO SUNLIGHT SHALL BE DERATED ACCORDING TO [NEC TABLE 310.15 (B)(2)(C)] BLACK ONLY**
- EXPOSED ROOF PV DC CONDUCTORS SHALL BE USE-2, 90°C RATED, WET AND UV RESISTANT, AND UL LISTED RATED FOR 600V, UV RATED SPIRAL WRAP SHALL BE USED TO PROTECT WIRE FROM SHARP EDGES
- PHASE AND NEUTRAL CONDUCTORS SHALL BE DUAL RATED THHN/THWN-2 INSULATED, 90°C RATED, WET AND UV RESISTANT, RATED FOR 600V PER NEC 2008 OR 1000V PER NEC 2011
- 4-WIRE DELTA CONNECTED SYSTEMS HAVE THE PHASE WITH THE HIGHER VOLTAGE TO GROUND MARKED ORANGE OR IDENTIFIED BY OTHER EFFECTIVE MEANS
- ALL SOURCE CIRCUITS SHALL HAVE INDIVIDUAL SOURCE CIRCUIT PROTECTION
- VOLTAGE DROP LIMITED TO 2% FOR DC CIRCUITS AND 1% FOR AC CIRCUITS
- NEGATIVE GROUNDED SYSTEMS DC CONDUCTORS SHALL BE COLOR CODED AS FOLLOWS: DC POSITIVE - RED (OR MARKED RED), DC NEGATIVE - GREY (OR MARKED GREY)
- POSITIVE GROUNDED SYSTEMS DC CONDUCTORS COLOR CODED: DC POSITIVE - GREY (OR MARKED GREY), DC NEGATIVE - BLACK (OR MARKED BLACK)
- AC CONDUCTORS >4AWG COLOR CODED OR MARKED: PHASE A OR L1- BLACK, PHASE B OR L2- RED, PHASE C OR L3- BLUE, NEUTRAL- WHITE/GRAY

SYSTEM RATING

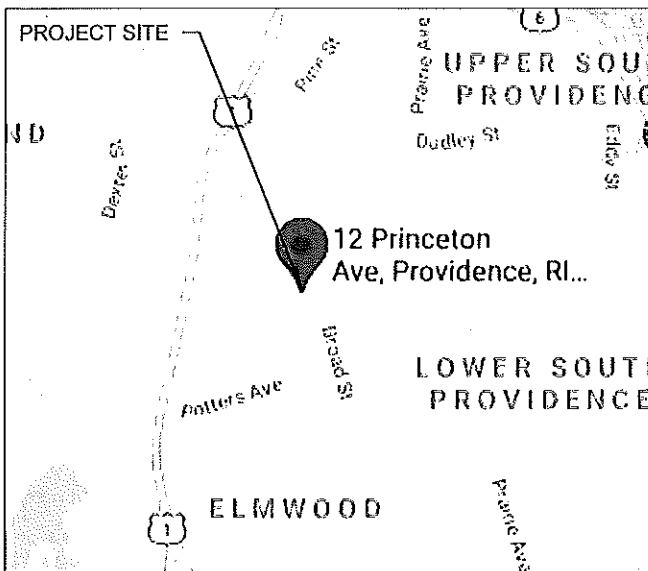
10.54 KWDC
 7.6 KWAC

SHEET INDEX

PV-0	COVER PAGE
PV-1	SITE PLAN
PV-2	ROOF PLAN & MODULES
PV-2A	STRING LAYOUT & BOM
PV-3	ATTACHMENT DETAIL
PV-3A	ATTACHMENT DETAIL
PV-4	ELECTRICAL LINE DIAGRAM & CALCS.
PV-4A	SPECIFICATIONS & NOTES
PV-5	SIGNAGE
PV-6+	EQUIPMENT SPECIFICATIONS

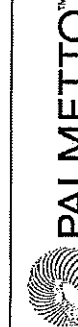


1 PV-0 HOUSE PHOTO SCALE: NTS



2 PV-0 VICINITY MAP SCALE: NTS

Exhibit 3



PALMETTO SOLAR
 1505 KING ST.
 CHARLESTON, SC 29405
 (855) 339-1831
 NABCEP: PV-102415-012815
 ELECTRICAL LIC#: 41375

REVISIONS

DESCRIPTION	DATE	REV

FOR EXISTING STRUCTURAL ONLY

PAUL K. ZACHER

Signature With Seal
 No. 0011441
 12 PRINCETON AVENUE
 PROVIDENCE, RI 02907
 EXP. 06/30/2023

**REGISTERED
 PROFESSIONAL ENGINEER
 (STRUCTURAL)**

184.007562
 DATE: 05/28/2021

PROJECT NAME & ADDRESS

**RONALD OCCEUS
 RESIDENCE**
 12 PRINCETON AVENUE
 PROVIDENCE, RI 02907
 PH NO. (401) 339-6890

SHEET NAME

COVER PAGE

SHEET SIZE

**ANSI B
 11" X 17"**

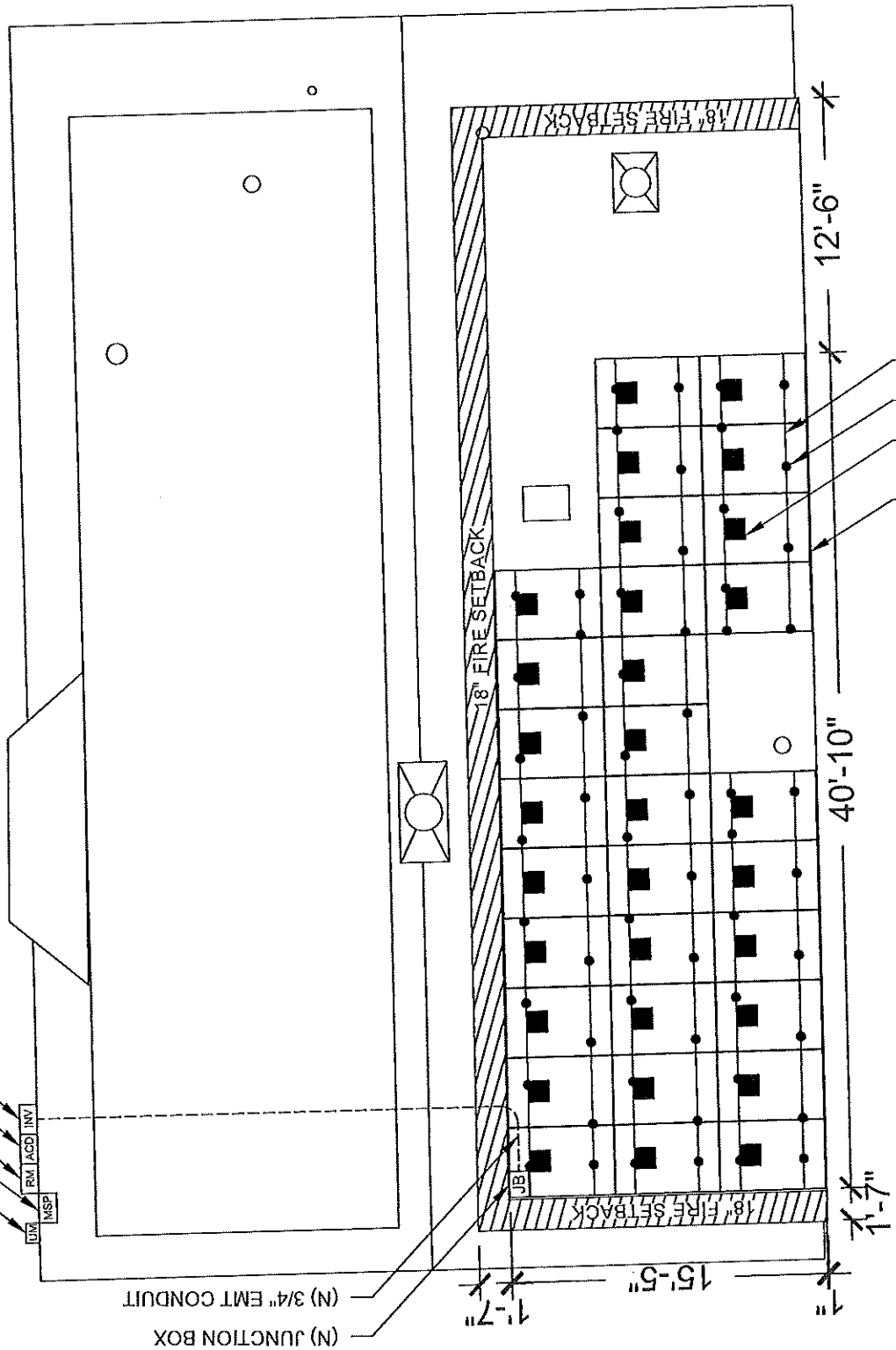
SHEET NUMBER

PV-0



ROOF PLAN & MODULES

(E) BACK OF RESIDENCE



- (31) CELLS Q.PEAK DUO BLK-G6+ 340 MODULES
- (31) SOLAREdge POWER OPTIMIZER P370
- (60) QUICKMOUNT L MOUNT @ 48"O.C
- (N) GRAIL LIGHT

ARRAY #1
TILT - 26°
AZIM. - 268°

DESIGN SPECIFICATION	
RISK CATEGORY:	II
CONSTRUCTION:	SFD
ZONING:	RESIDENTIAL
SNOW LOAD (ASCE 7-10):	30 PSF
EXPOSURE CATEGORY:	B
WIND SPEED (ASCE 7-10):	134 MPH
PANEL HEIGHT OFF ROOF:	4"

MODULE TYPE, DIMENSIONS & WEIGHT	
NUMBER OF MODULES:	31 MODULES
MODULE TYPE:	QCELLS Q.PEAK DUO BLK-G6+ 340
MODULE WEIGHT:	43.9 LBS
MODULE DIMENSIONS:	68.5" X 40.6" = 19.31 SF
UNIT WEIGHT OF AREA:	2.27 PSF

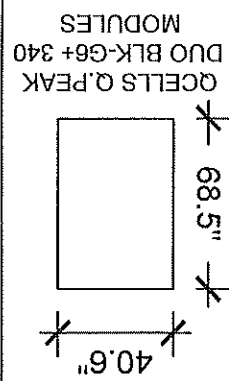
PRINCETON AVENUE
(E) FRONT OF RESIDENCE

ROOF DESCRIPTION			
ROOF #	ROOF TILT	ROOF AZIMUTH	ROOF MATERIAL
#1	26°	268°	COMP. SHINGLE

ARRAY AREA & ROOF AREA CALCS			
ROOF #	# OF MODULES	ARRAY AREA (Sq. Ft.)	ROOF AREA COVERED BY ARRAY (%)
#1	31	540.71	934.34
			58

- LEGEND**
- JB - JUNCTION BOX
 - INV - INVERTER
 - RM - REGROWTH METER
 - ACD - AC DISCONNECT
 - MSP - MAIN SERVICE PANEL
 - UM - UTILITY METER
 - UM - REGROWTH METER
 - UM - UTILITY METER
 - - VENT, ATIC FAN (ROOF OBSTRUCTION)
 - - ROOF ATTACHMENT
 - - CONDUIT

- (E) UTILITY METER
- (E) MAIN SERVICE PANEL
- (N) REGROWTH METER
- (N) FUSED AC DISCONNECT
- (N) SOLAREdge SE7600H-US INVERTER



PV-2
SHEET NUMBER

ANSI B
SHEET SIZE

ROOF PLAN & MODULES
SHEET NAME

RONALD OCCEUS RESIDENCE

12 PRINCETON AVENUE
PROVIDENCE, RI 02907

PH NO. (401) 339-6890

PROJECT NAME & ADDRESS

184.007562
DATE: 05/28/2021

REGISTERED PROFESSIONAL ENGINEER (STRUCTURAL)
PAUL K. ZACHER
EXP. 06/30/2023
12 PRINCETON AVENUE
PROVIDENCE, RI 02907
No. 001144

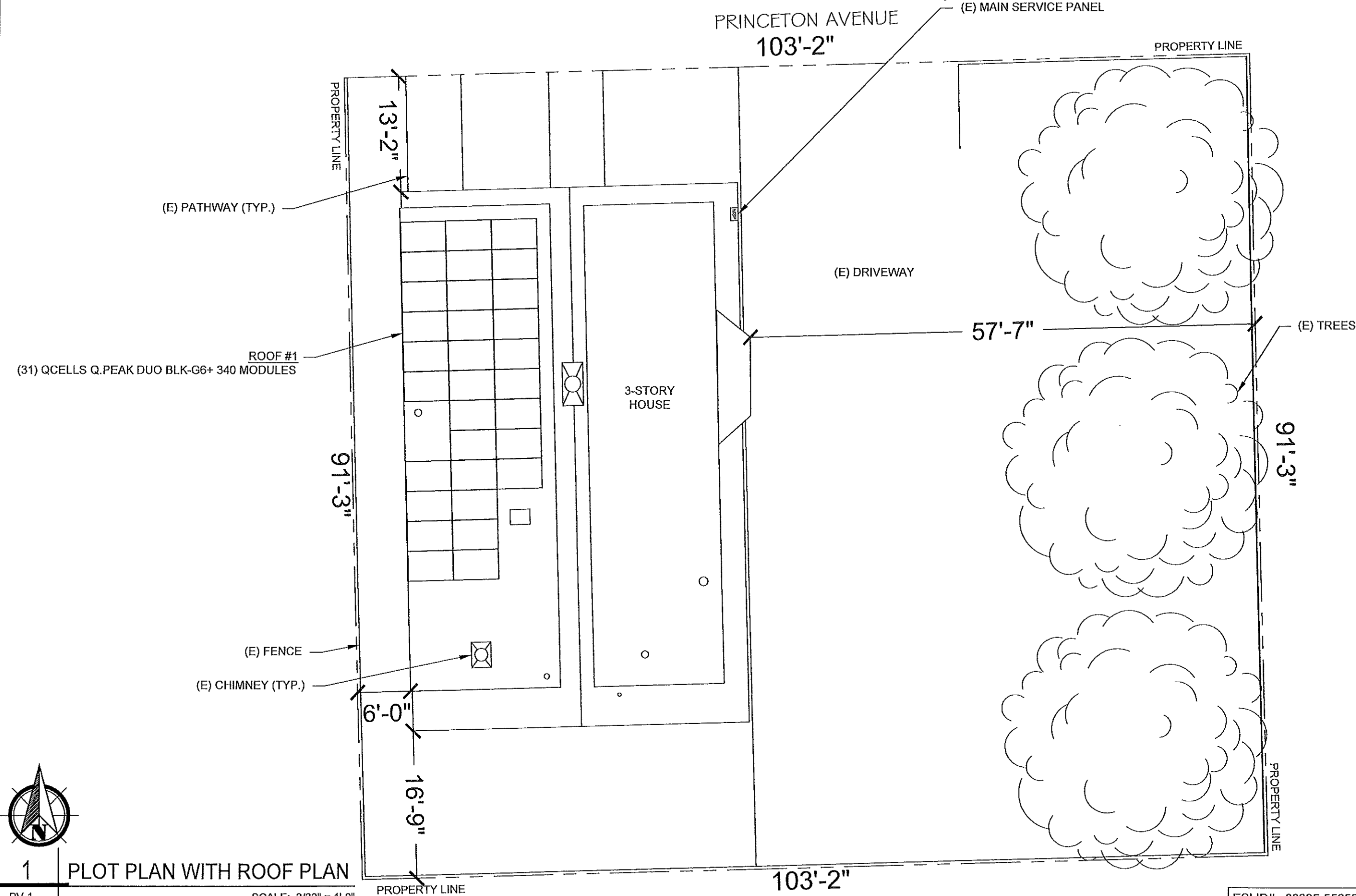
REVISIONS	DESCRIPTION	DATE	REV

PALMETTO SOLAR

1505 KING ST.
CHARLESTON, SC 29405
(853) 339-1831
NABCEP: PV-102475-012615
ELECTRICAL LIC#: 41375

SITE NOTES

- A LADDER SHALL BE IN PLACE FOR INSPECTION IN COMPLIANCE WITH OSHA REGULATIONS.
- THE PV MODULES ARE CONSIDERED NON-COMBUSTIBLE AND THIS SYSTEM IS AN UTILITY INTERACTIVE SYSTEM WITH NO STORAGE BATTERIES.
- THE SOLAR PV INSTALLATION SHALL NOT OBSTRUCT ANY PLUMBING, MECHANICAL, OR BUILDING ROOF VENTS.
- PROPER ACCESS AND WORKING CLEARANCE AROUND EXISTING AND PROPOSED ELECTRICAL EQUIPMENT WILL BE PROVIDED AS PER SECTION [NEC 110.26]



1 PLOT PLAN WITH ROOF PLAN

PV-1 SCALE: 3/32" = 1'-0"

ESI ID# : 88385-55050

Exhibit 3

PALMETTO
 PALMETTO SOLAR
 1505 KING ST.
 CHARLESTON, SC 29405
 (855) 339-1831
 NABCEP: PV-102415-012615
 ELECTRICAL LIC# 41375

REVISIONS		
DESCRIPTION	DATE	REV
FOR EXISTING STRUCTURAL ONLY		

PAUL K. ZACHER
 Signature With Seal
 No. 0011441
 12 PRINCETON AVENUE
 PROVIDENCE, RI 02907
 EXP. 06/30/2023
 REGISTERED
 PROFESSIONAL ENGINEER
 (STRUCTURAL)

184.007562
 DATE: 05/28/2021

PROJECT NAME & ADDRESS

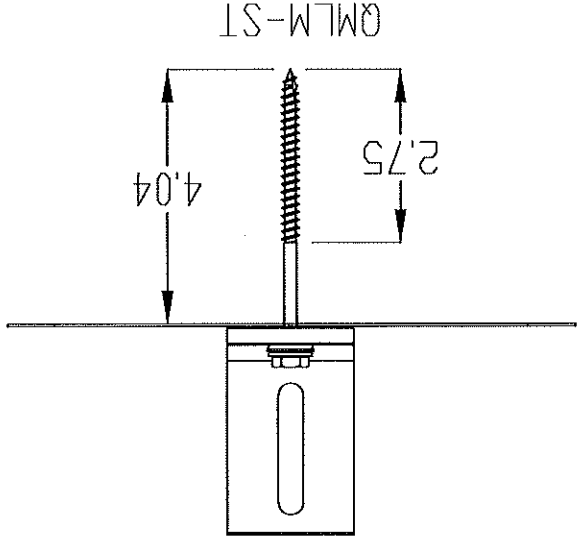
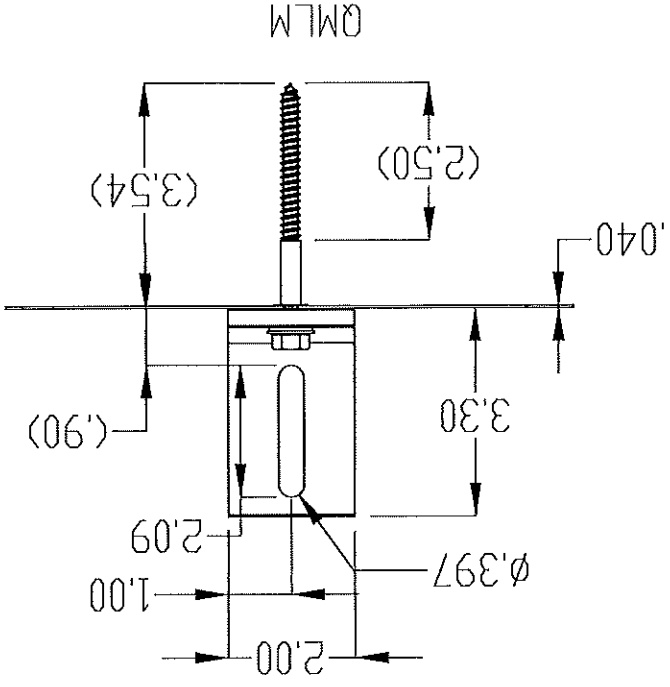
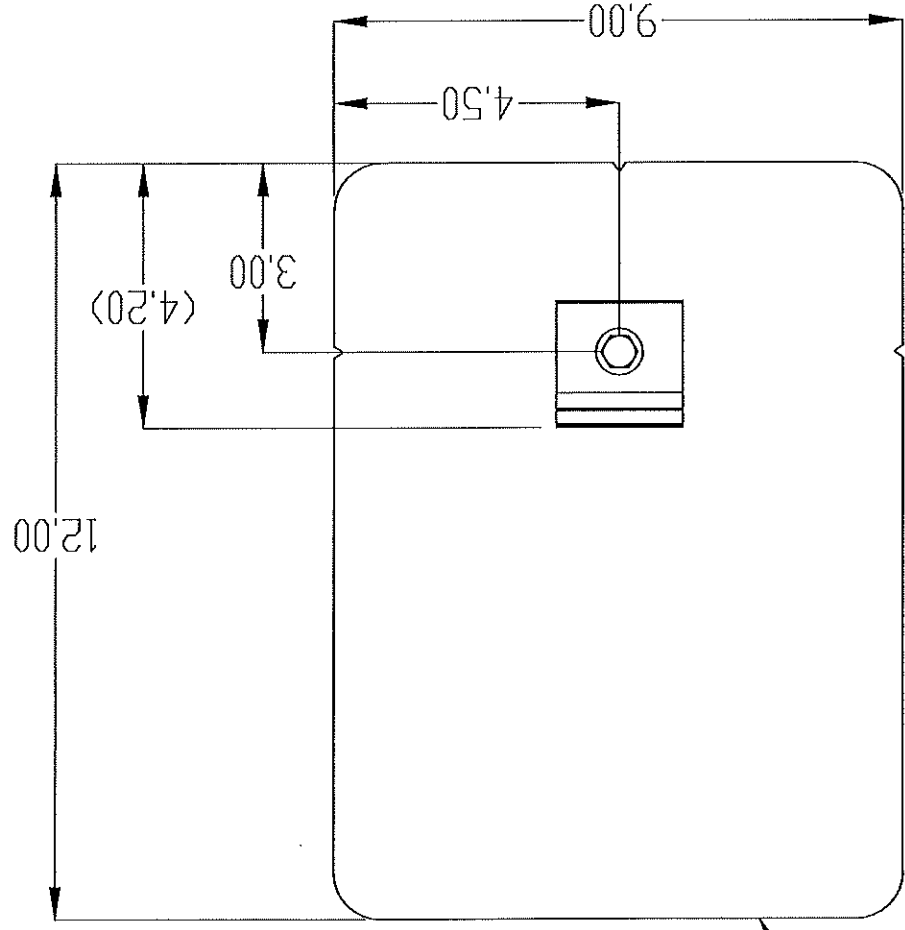
RONALD OCCUEUS
 RESIDENCE
 12 PRINCETON AVENUE
 PROVIDENCE, RI 02907
 PH NO. (401) 339-6890

SHEET NAME
 SITE PLAN

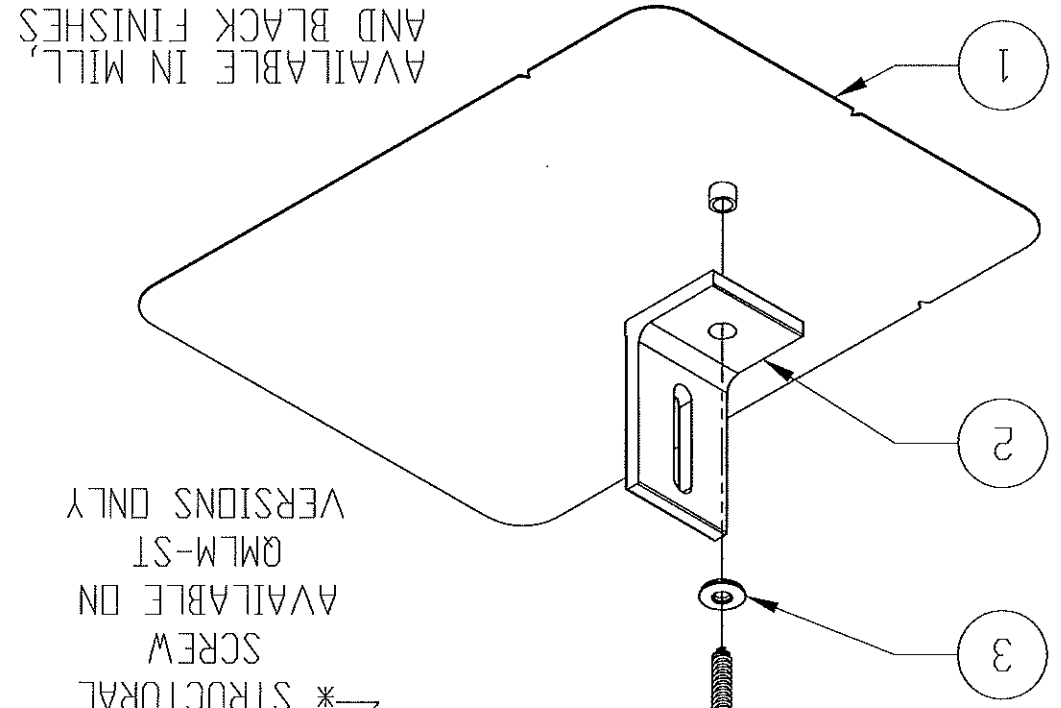
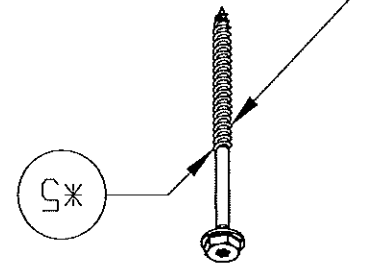
SHEET SIZE
 ANSI B
 11" X 17"

SHEET NUMBER
 PV-1

THIS EDGE TOWARDS ROOF RIDGE



ITEM NO.	DESCRIPTION	QTY.
1	FLASHING, ROUNDED CORNERS, 9" X 12" X .040", .438" HOLE, 5052, MILL	1
2	L-FOOT, 2" X 3.30" FOR .438" O.D. FASTENER, 2-1/16" SLOT, 6061-T6/6005A-T61, MILL	1
3	WASHER, SEALING, 5/16" ID X 3/4" OD, EPDM BONDED SS	1
4	LAG SCREW, HEX HEAD, 5/16" X 4", 18-8 SS	1
*5	STRUCTURAL SCREW, QMPV, T-30 HEX WASHER HEAD, 5/16" X 4-1/2", 18-8SS	1



Quick Mount PV

TITLE: QMLM & QMLM-ST: L-MOUNT, 2-1/16" SLOT

UNLESS OTHERWISE SPECIFIED:
 DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL ± 1/8
 TWO PLACE DECIMAL ± .19
 THREE PLACE DECIMAL ± .094

SCALE: 1/4
 WEIGHT: 10723
 SHEET 1 OF 1

DATE: 7/16/2018
 DRAWN BY: RAD
 REV 9

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DO NOT SCALE DRAWING

SHEET NAME: ATTACHMENT DETAILS
 SHEET SIZE: ANSI B 11" X 17"
 SHEET NUMBER: PV-3

PROJECT NAME & ADDRESS: RONALD OCCEUS RESIDENCE
 12 PRINCETON AVENUE
 PROVIDENCE, RI 02907
 PH NO. (401) 339-6890

REGISTERED PROFESSIONAL ENGINEER (STRUCTURAL)
 PAUL K. ZACHER
 NO. 001144
 12 PRINCETON AVENUE
 PROVIDENCE, RI 02907
 EXP. 06/30/2023
 184,007562
 DATE: 05/28/2021

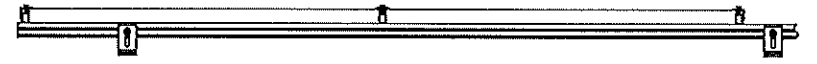
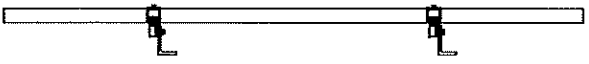
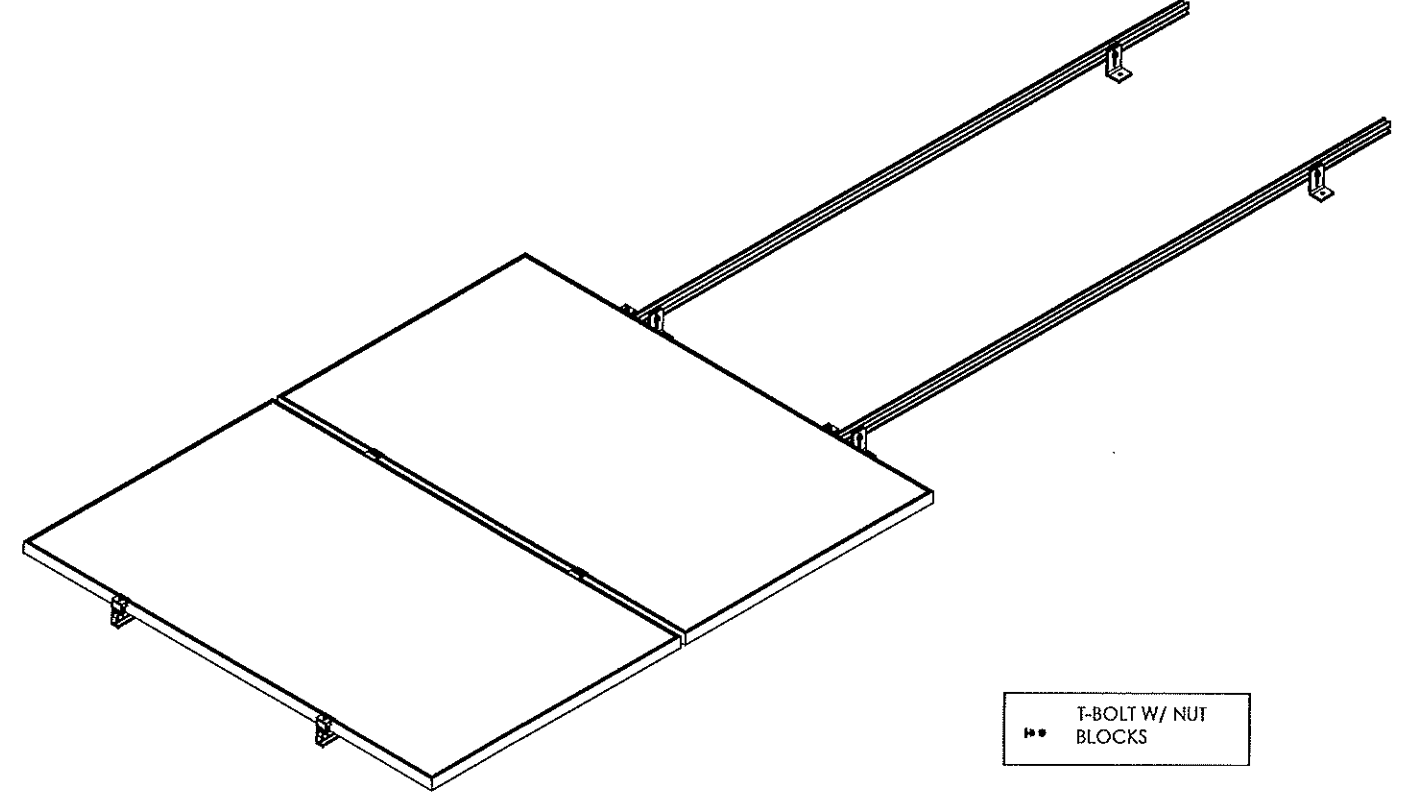
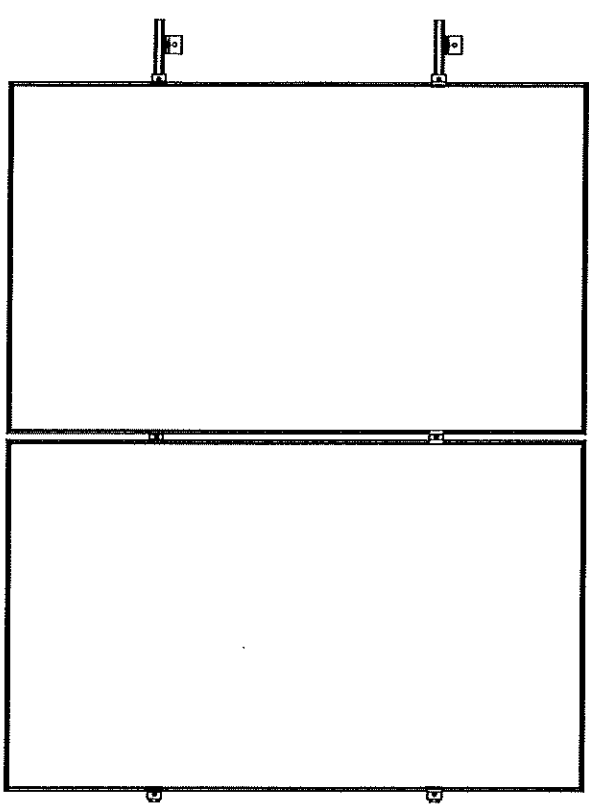
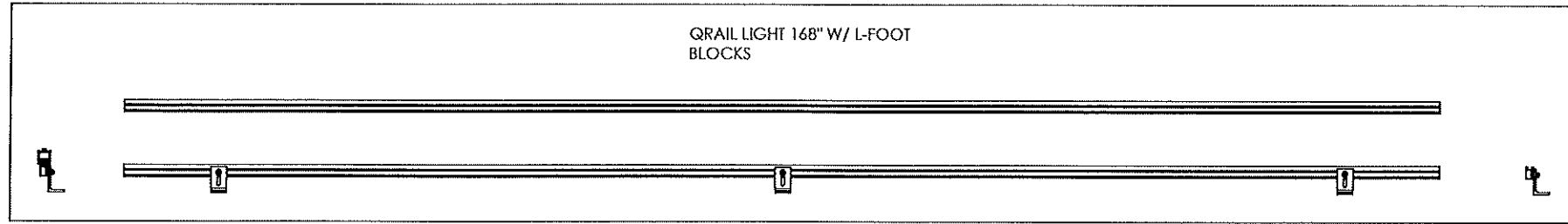
REVISIONS	DESCRIPTION	DATE	REV
FOR EXISTING STRUCTURAL ONLY			

PALMETTO
 PALMETTO SOLAR
 1505 KING ST.
 CHARLESTON, SC 29405
 (853) 339-1331
 NABCEP: PV-102415-012915
 ELECTRICAL LIC#: 41315

Exhibit 3



PALMETTO SOLAR
 1505 KING ST.
 CHARLESTON, SC 29405
 (855) 339-1831
 NABCEP: PV-1024-15-012615
 ELECTRICAL LIC#: 41375



T-BOLT W/ NUT
BLOCKS

L-FOOT
BLOCKS

UNIVERSAL END CLAMP
BLOCKS

UNIVERSAL MID CLAMP
BLOCKS

QUICK MOUNT PV
 QRAIL LIGHT: LAYOUT BLOCKS
 QRAIL LIGHT: QMR-RL
 UNIVERSAL END CLAMP: QMR-UEC3045
 UNIVERSAL MID CLAMP V1.2: QMR-UMC3045BP1.2
 T-BOLT W/NUT: QMR-TB
 QMPV L-FOOT: QMC-LF
 40MM PV MODULES
 SCALE 1:1 5/18/2018 RAD REV 1

REVISIONS		
DESCRIPTION	DATE	REV
FOR EXISTING STRUCTURAL ONLY		

PAUL K. ZACHER
 Signature With Seal
 No. 0011441
 12 PRINCETON AVENUE
 PROVIDENCE, RI 02907
 EXP. 06/30/2023
 REGISTERED
 PROFESSIONAL ENGINEER
 (STRUCTURAL)

184.007562
 DATE: 05/28/2021

PROJECT NAME & ADDRESS

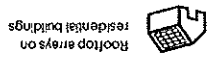
RONALD OCCUEUS
 RESIDENCE
 12 PRINCETON AVENUE
 PROVIDENCE, RI 02907
 PH NO. (401) 339-6890

SHEET NAME
 ATTACHMENT
 DETAILS

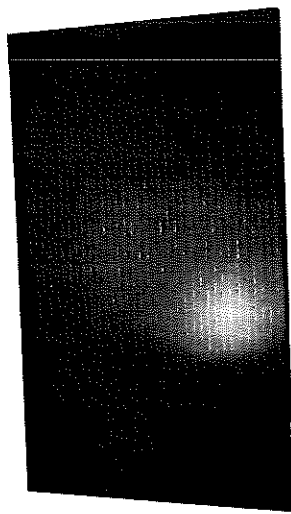
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SHEET NUMBER
 PV-3A

Engineered in Germany

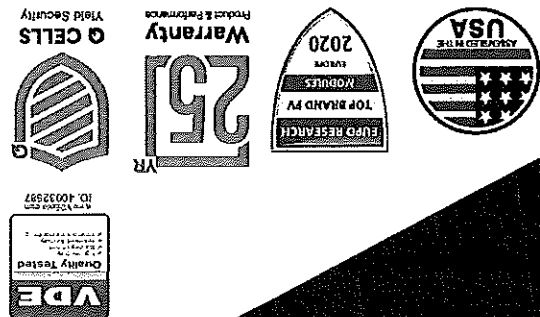


THE IDEAL SOLUTION FOR:



330-345
ENDURING HIGH PERFORMANCE

Q.PEAK DUO BLK-G6+



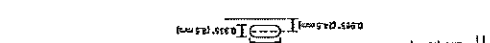
Q.ANTUM TECHNOLOGY: LOW LEVELIZED COST OF ELECTRICITY
Higher yield per surface area, lower BOS costs, higher power classes, and an efficiency rate of up to 19.5%.

- INNOVATIVE ALL-WEATHER TECHNOLOGY
Optimal yields, whatever the weather will
excellent low-light and temperature behavior.
- ENDURING HIGH PERFORMANCE
Long-term yield security with Anti LID and Anti PID Technology*,
Hot-Spot Protect and Traceable Quality Tra.Q™.
- EXTREME WEATHER RATING
High-tech aluminum alloy frame, certified for high snow
(5400 Pa) and wind loads (4000 Pa).
- A RELIABLE INVESTMENT
Inclusive 25-year product warranty and 25-year
linear performance warranty*.
- STATE OF THE ART MODULE TECHNOLOGY
Q.ANTUM DUO combines cutting edge cell separation
and innovative wiring with Q.ANTUM Technology.

* See data sheet on rear for further information
* APT test conditions according to IEC/TS 62804-T-2315, method B (-1500V, 16h)

MECHANICAL SPECIFICATION

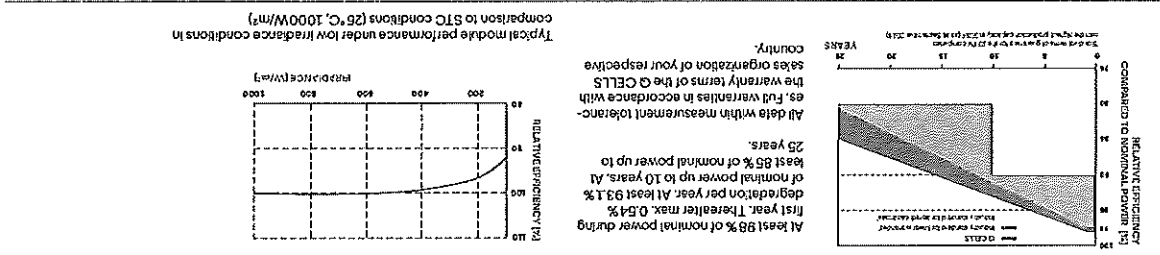
Format	68.5 x 40.6 x 1.26 in (including frame)
Weight	43.9 lbs (19.9 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodized aluminum
Cell	6 x 20 monocrystalline Q.ANTUM solar half cells
Junction Box	209-398 x 1.26-2.36 x 0.59-0.71 in (53-101 x 32-60 x 15-18 mm), Protection class IP67, with bypass diodes
Cable	4mm² Solar cable; (+) ≥ 45.3 in (1150 mm), (-) ≥ 45.3 in (1150 mm)
Connector	Stäubli MC4; IP68



ELECTRICAL CHARACTERISTICS

POWER CLASS	330	335	340	345
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC (POWER TOLERANCE ±5W/-0W)	330	335	340	345
Power at MPP	330 [W]	335 [W]	340 [W]	345 [W]
Short Circuit Current	10.41 [A]	10.47 [A]	10.52 [A]	10.58 [A]
Open Circuit Voltage	40.15 [V]	40.41 [V]	40.66 [V]	40.92 [V]
Current at MPP	9.91 [A]	9.97 [A]	10.02 [A]	10.07 [A]
Voltage at MPP	33.29 [V]	33.62 [V]	33.94 [V]	34.25 [V]
Efficiency*	≥ 18.4 %	≥ 18.7 %	≥ 19.0 %	≥ 19.3 %
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT†	250.7 [W]	250.7 [W]	254.6 [W]	258.2 [W]
Power at MPP	250.7 [W]	250.7 [W]	254.6 [W]	258.2 [W]
Short Circuit Current	8.39 [A]	8.43 [A]	8.48 [A]	8.52 [A]
Open Circuit Voltage	37.86 [V]	38.10 [V]	38.34 [V]	38.59 [V]
Current at MPP	7.80 [A]	7.84 [A]	7.89 [A]	7.93 [A]
Voltage at MPP	31.66 [V]	31.97 [V]	32.27 [V]	32.57 [V]

Measurement tolerances P_{mp} ± 3%; I_{sc}; V_{oc} ± 5% at STC; 1000W/m², 25±2°C, AM 1.5 according to IEC 60904-3 • 800W/m², NMOT, spectrum AM 1.5



TEMPERATURE COEFFICIENTS

Temperature Coefficient of I _{sc}	a [%/K]	+0.04
Temperature Coefficient of V _{oc}	b [%/K]	-0.27
Temperature Coefficient of P _{mp}	γ [%/K]	-0.36

Normal Module Operating Temperature NMOT [°F] 109±5.4 (43±3°C)

PROPERTIES FOR SYSTEM DESIGN

Class II	Maximum System Voltage V _{sys} [V]	1000 (IEC)/1000 (UL)
20	Maximum Series Fuse Rating [A DC]	20
75 (3600Pa)/55 (2667Pa)	Max. Design Load, Push/Pull† [lbs/ft²]	75 (3600Pa)/55 (2667Pa)
113 (5400Pa)/84 (4000Pa)	Max. Test Load, Push/Pull† [lbs/ft²]	113 (5400Pa)/84 (4000Pa)

QUALIFICATIONS AND CERTIFICATES

UL E1730, CE-compliant, IEC 617302016, U.S. Patent No. 5,993,215 (for cell)

UL E1730, CE-compliant, IEC 617302016, U.S. Patent No. 5,993,215 (for cell)

PACKAGING INFORMATION

Horizontal	70.1 in	42.5 in	47.6 in	1485 lbs	28	32
Vertical	71.6 in	45.3 in	48.0 in	1514 lbs	28	32

RONALD OCCEUS
RESIDENCE
12 PRINCETON AVENUE
PROVIDENCE, RI 02907
PH NO. (401) 339-6890

PROJECT NAME & ADDRESS
DATE: 05/26/2021
Signature with Seal

REVISIONS

REV	DATE	DESCRIPTION

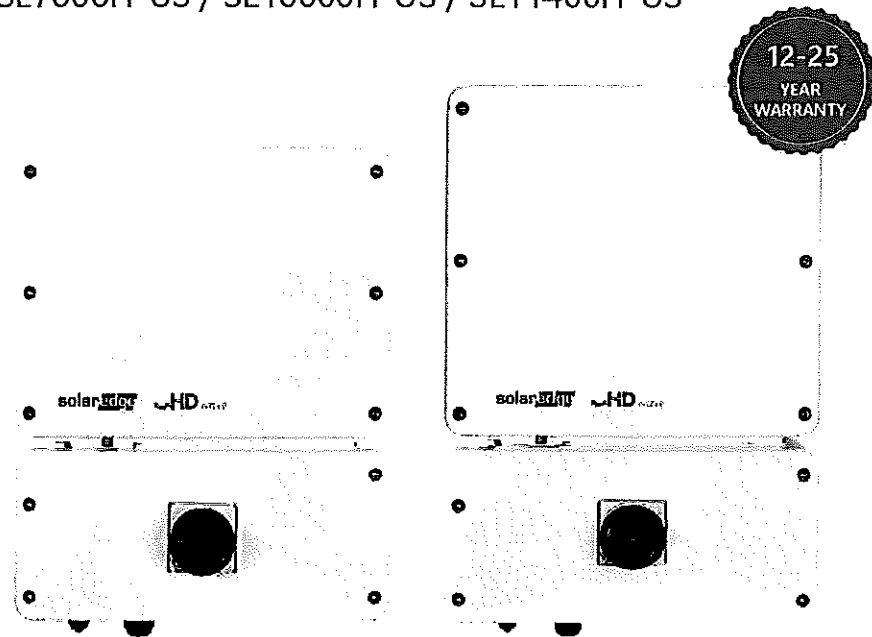
PALMETTO SOLAR
1505 KING ST.
CHARLESTON, SC 29405
(855) 339-1881
NABCEP: PV-102415-012615
ELECTRICAL LIC#: 413175

Exhibit 3

Single Phase Inverter with HD-Wave Technology

for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US / SE7600H-US / SE10000H-US / SE11400H-US



Optimized installation with HD-Wave technology

- Specifically designed to work with power optimizers
- Record-breaking efficiency
- Quick and easy inverter commissioning directly from a smartphone using the SolarEdge SetApp
- Fixed voltage inverter for longer strings
- Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12
- UL1741 SA certified, for CPUC Rule 21 grid compliance
- Extremely small
- Built-in module-level monitoring
- Outdoor and indoor installation
- Optional: Revenue grade data, ANSI C12.20 Class 0,5 (0.5% accuracy)

solaredge.com



INVERTERS

/ Single Phase Inverter with HD-Wave Technology for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US / SE7600H-US / SE10000H-US / SE11400H-US

Model Number	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
APPLICABLE TO INVERTERS WITH PART NUMBER	SEXXXXH-XXXXXX4							
OUTPUT								
Rated AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
Maximum AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
AC Output Voltage Min.-Nom.-Max (211 - 240 - 264)	✓	✓	✓	✓	✓	✓	✓	Vac
AC Output Voltage Min.-Nom.-Max (183 - 208 - 229)	-	✓	-	✓	-	-	✓	Vac
AC Frequency (Nominal)	59.3 - 60 - 60.5*							Hz
Maximum Continuous Output Current @240V	12.5	16	21	25	32	42	47.5	A
Maximum Continuous Output Current @208V	-	16	-	24	-	-	49.5	A
Power Factor	1, adjustable -0.85 to 0.85							
GFDI Threshold	1							A
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes							
INPUT								
Maximum DC Power @240V	4650	5900	7750	9300	11800	15500	17650	W
Maximum DC Power @208V	-	5100	-	7750	-	-	15500	W
Transformer-less, Ungrounded	Yes							
Maximum Input Voltage	480							Vdc
Nominal DC Input Voltage	380			400				Vdc
Maximum Input Current @240V ²	8.5	10.5	13.5	16.5	20	27	30.5	Adc
Maximum Input Current @208V ²	-	9	-	13.5	-	-	27	Adc
Max. Input Short Circuit Current	45							Adc
Reverse-Polarity Protection	Yes							
Ground-Fault Isolation Detection	600k Ω Sensitivity							
Maximum Inverter Efficiency	99	99.2						%
CEC Weighted Efficiency	99						99 @ 240V 98.5 @ 208V	%
Nighttime Power Consumption	< 2.5							W

* For other regional settings please contact SolarEdge support
 ** A higher current source may be used; the inverter will limit its input current to the values stated

Exhibit 3



PALMETTO SOLAR
 1505 KING ST.
 CHARLESTON, SC 29405
 (853) 339-1831
 NABCEP: PV-102415-012615
 ELECTRICAL LIC#: 41375

REVISIONS		
DESCRIPTION	DATE	REV

Signature with Seal

DATE: 05/26/2021

PROJECT NAME & ADDRESS

RONALD OCCOUS
 RESIDENCE
 12 PRINCETON AVENUE
 PROVIDENCE, RI 02907
 PH NO. (401) 339-6890

SHEET NAME
 EQUIPMENT
 SPECIFICATION

SHEET SIZE
 ANSI B
 11" X 17"

SHEET NUMBER
 PV-7

L-Mount | QMLM / QMLM-ST

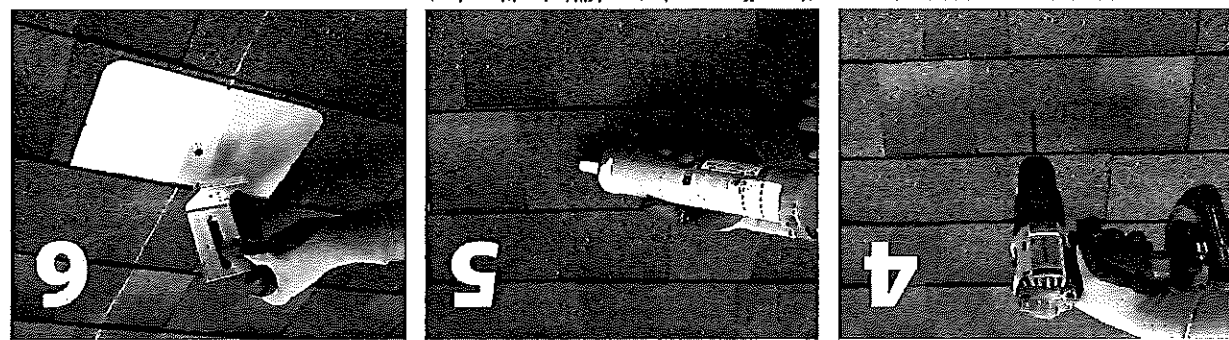
Elevated Water Seal Technology®

L-Mount Installation Instructions
Installation Tools Required: tape measure, roofing bar, chalk line, stud finder, caulking gun, sealant compatible with roofing materials, drill with 7/32" or 1/8" bit, drill or impact gun with 1/2" socket.

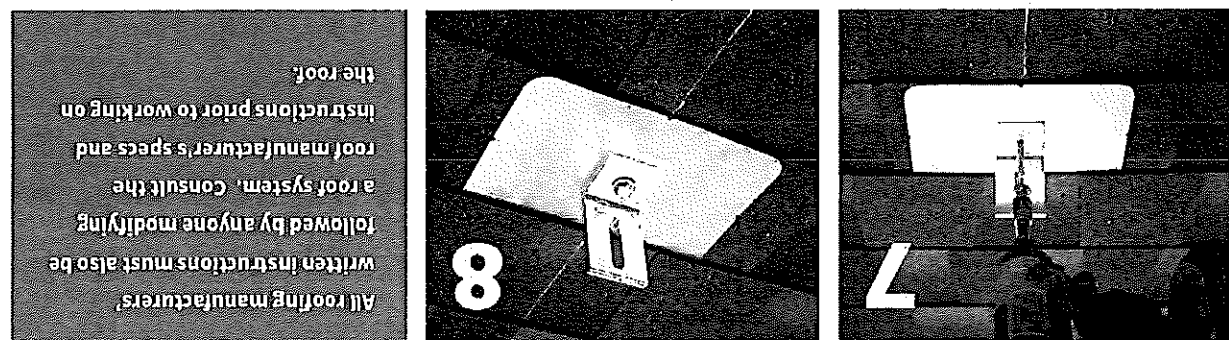
WARNING: Quick Mount PV products are NOT designed for and should NOT be used to anchor fall protection equipment.



1. Locate, choose, and mark centers of rafters to be mounted. Select the courses of shingles where mounts will be placed.



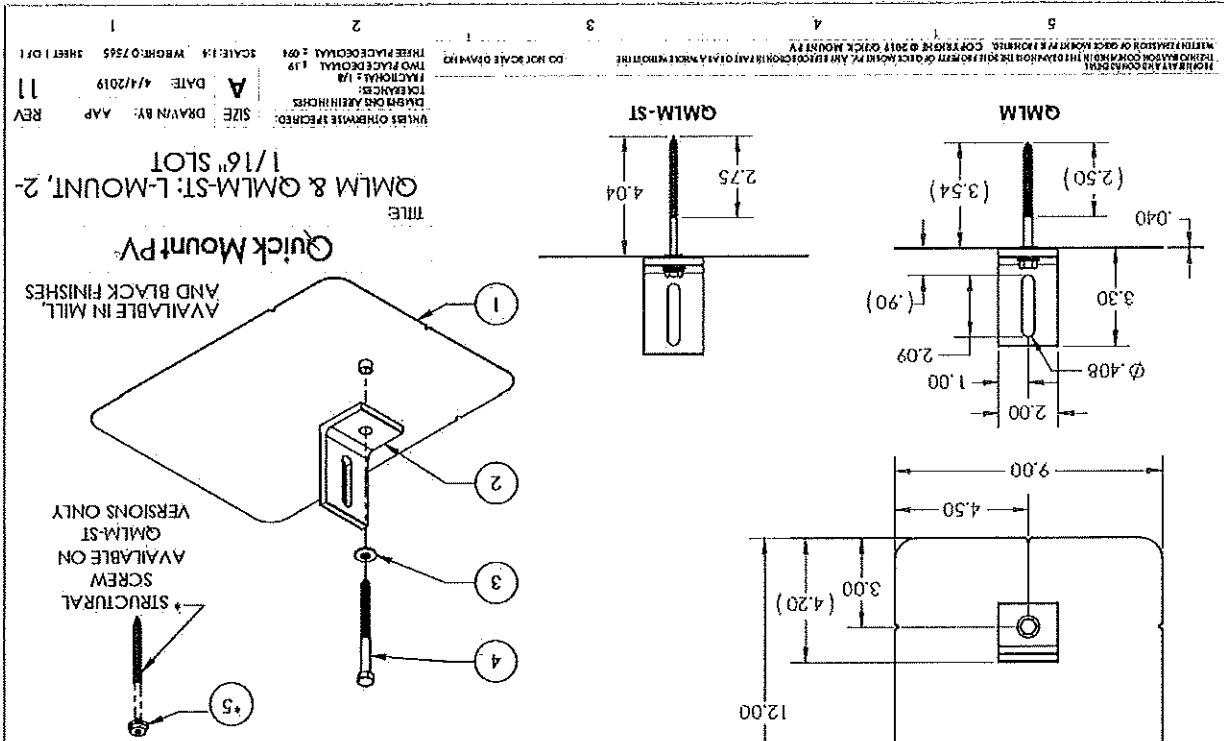
2. Carefully lift composition roof shingle with roofing bar, just above placement of mount. Remove nails as required and backfill holes with approved sealant. See "Proper Flashing Placement" on next page.
 3. Insert flashing between 1st and 2nd course. Slide up so top edge of flashing is at least 1/4" higher than the butt-edge of the 3rd course and lower than the butt-edge of the 1st course.
 4. Mark center for drilling.



3. Attach with lag bolt using a 1/2" bit (lag). Use a 3/4" bit (ST) for attaching with the structural screw. Drill pilot hole into roof and rafter, taking care to drill square to the roof. Do not use mount as a drill guide. Drill a 2" deep hole into rafter.
 4. Clean off any sawdust, and fill hole with sealant compatible with roofing materials.
 5. Place L-foot onto elevated flue and rotate L-foot to desired orientation.

5. Prepare lag bolt or structural screw with sealing washer. Using a 1/2-inch socket on an impact gun, drive prepared lag bolt through L-foot until L-foot can no longer easily rotate. **DO NOT** over-torque. NOTE: Structural screw can be driven with T-30 hex head bit.
 6. You are now ready for the rack of your choice. Follow all the directions of the rack manufacturer as well as the module manufacturer. NOTE: Make sure top of L-foot makes solid contact with racking.

ITEM NO.	DESCRIPTION	QTY.
1	FLASHING, ROUNDED CORNERS, 7" X 12" X .040", .438" HOLE, 5052, MILL	1
2	L-FOOT, 2" X 3.30" O.D. FASTENER, 2-1/16" SLOT, 6061-T6/6005A-161, MILL	1
3	WASHER, SEALING, 5/16" ID X 3/4" OD, EPDM BONDED SS	1
4	LAG SCREW, HEX HEAD, 5/16" X 4", 18-8 SS	1
5	STRUCTURAL SCREW, QMPV, T-30 HEX WASHER HEAD, 5/16" X 4-1/2", 18-8SS	1



Quick Mount PV
 RESPECT THE ROOF

Apr-2019 Rev6

BI7.2.3-44

SHEET NUMBER
 PV-9

SHEET SIZE
 ANSI B
 11" X 17"

SHEET NAME
 EQUIPMENT
 SPECIFICATION

RONALD OCCEUS
 RESIDENCE
 12 PRINCETON AVENUE
 PROVIDENCE, RI 02907
 PH NO. (401) 339-6890

PROJECT NAME & ADDRESS

DATE: 05/26/2021

Signature with Seal

REVISIONS	DESCRIPTION	DATE	REV

Exhibit 3

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Apr-2019 Rev6

