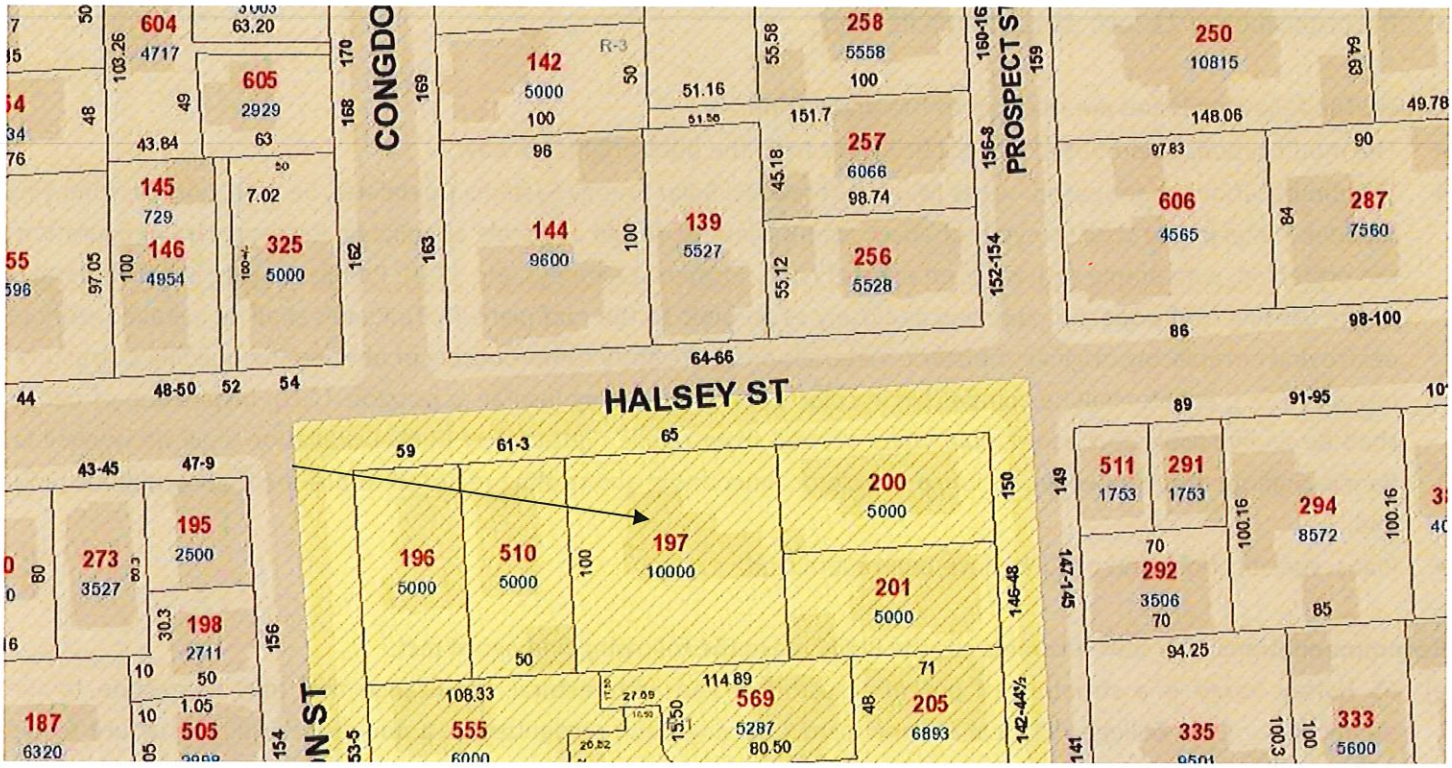
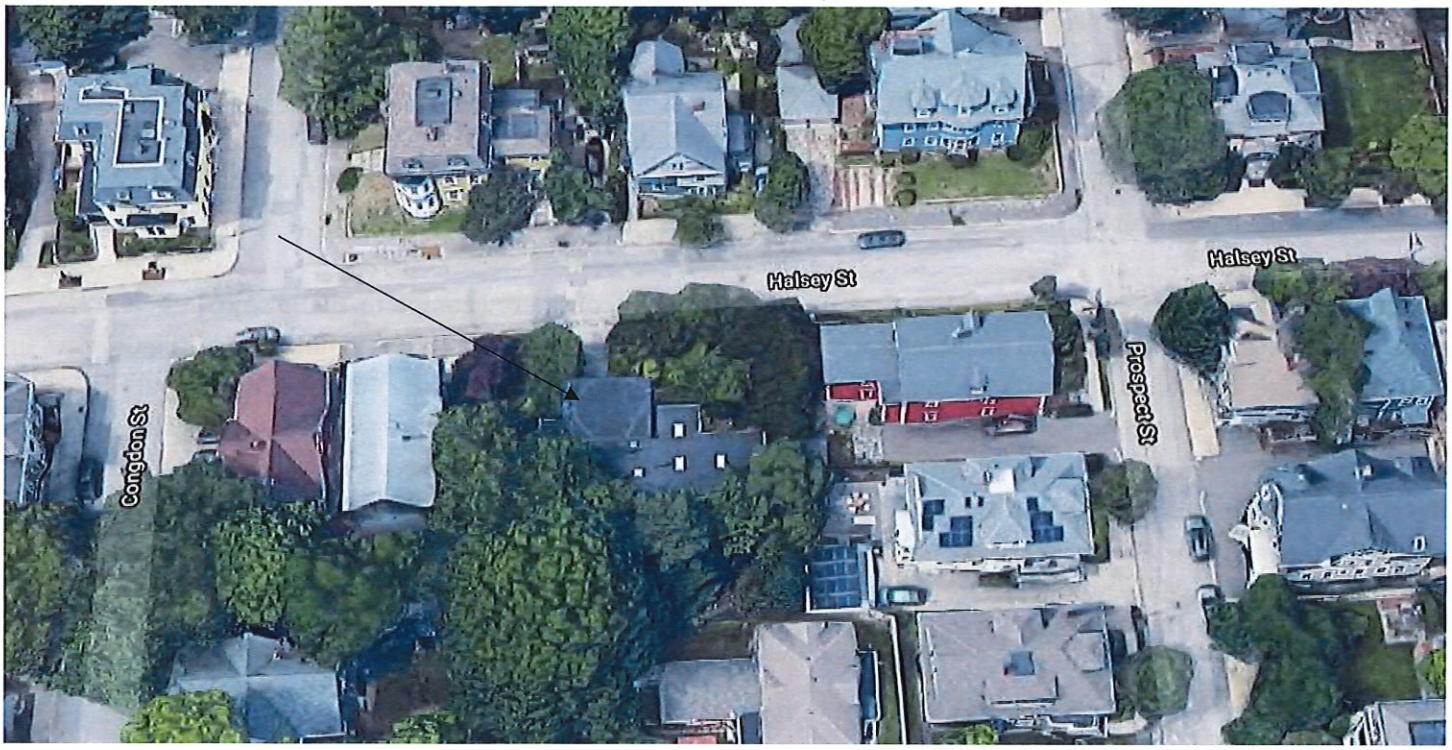
3. CASE 21.123, 65 HALSEY STREET, House, post 1957 (COLLEGE HILL)

Contemporary; 1; flat; vertical sheathing; L plan with garage under; bands of windows; entrance in arms of L under cantilevered overhang.

NON-CONTRIBUTING to College Hill National Historic Landmarks District



Arrow indicates 65 Halsey Street



Arrow indicates project location, looking north.

OWNER DETAIL

NAME : **PAULA MARTIESIAN**
MUNICIPALITY : PROVIDENCE, RI

CONTRACTOR DETAILS

NAME : GOTSUN GOSOLAR
PHONE : 774-229-2986

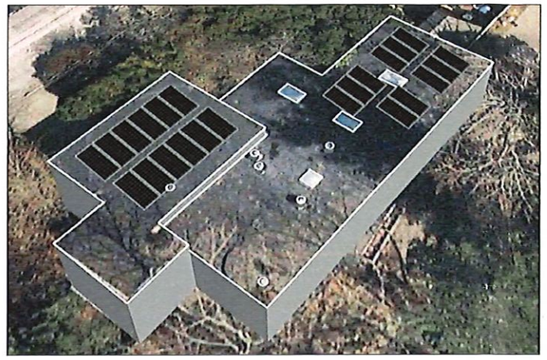
DESIGN SPECIFICATIONS

OCCUPANCY : II
CONSTRUCTION : SINGLE FAMILY DWELLING
ZONING : RESIDENTIAL

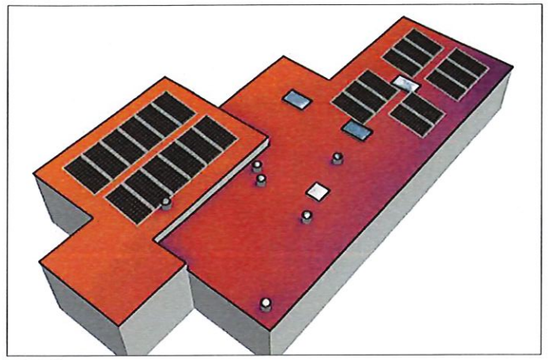
APPLICABLE CODES & STANDARDS

BUILDING : IBC 2015
ELECTRICAL : NEC 2020

ROOF MOUNT PV SYSTEM
9.085 KW DC / 6.67 KW AC
PAULA MARTIESIAN
65 HALSEY ST
PROVIDENCE, RI 02906

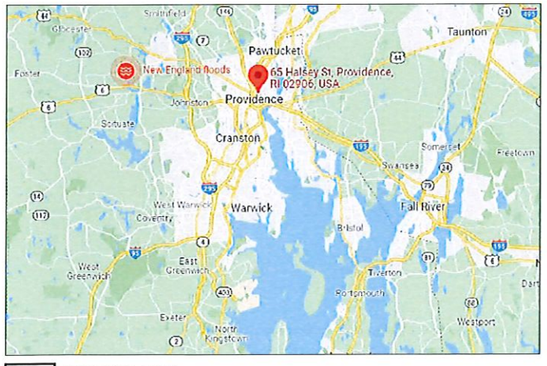


G1 | 3D MODEL
01 | NTS



G1 | IRRADIANCE MAP
02 | NTS

G1 | LOCAL MAP
03 | NTS



G1 | REGIONAL MAP
04 | NTS

SHEET LIST TABLE

SHEET NUMBER	SHEET TITLE
G-1	COVER PAGE
G-2	NOTES
A-1	SITE PLAN
A-2	PROJECT PLAN
E-1	COMPONENTS INFORMATION
E-2	THREE LINE DIAGRAM
S-1	RACKING
S-2	LABELLING
D-1	MODULE DATASHEET
D-2	INVERTER DATASHEET
D-3	RACKING DATASHEET
D-4	RACKING MOUNT DATASHEET

PROJECT NOTES

1.1.2 THIS PHOTOVOLTAIC (PV) SYSTEM SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE (NEC) ARTICLE, ALL MANUFACTURERS'S LISTING AND INSTALLATION INSTRUCTIONS, AND THE RELEVANT CODES AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION'S (AHJ) APPLICABLE CODES.
1.1.3 THE UTILITY INTERCONNECTION APPLICATION MUST BE APPROVED AND PV SYSTEM INSPECTED PRIOR TO PARALLEL OPERATION
1.1.4 GROUND FAULT DETECTION AND INTERRUPTION (GFDI) DEVICE IS INTEGRATED WITH THE MICROINVERTER IN ACCORDANCE WITH NEC 690.5(A)
1.1.5 ALL PV SYSTEM COMPONENTS; MODULES, UTILITY-INTERACTIVE INVERTERS, AND SOURCE CIRCUIT COMBINER BOXES ARE IDENTIFIED AND LISTED FOR USE IN PHOTOVOLTAIC SYSTEMS AS REQUIRED BY NEC 690.4 & NEC 690.60:
PV MODULES: UL1703, IEC61730, AND IEC61215, AND NFPA 70 CLASS C FIRE
INVERTERS: UL 1741 CERTIFIED, IEEE 1547, 929, 519
COMBINER BOX(ES): UL 1703 OR UL 1741 ACCESSORY
1.1.6 MAX DC VOLTAGE CALCULATED USING MANUFACTURER PROVIDED TEMP COEFFICIENT FOR VOC. IF UNAVAILABLE, MAX DC VOLTAGE CALCULATED ACCORDING TO NEC 690.7.
1.1.7 ALL INVERTERS, PHOTOVOLTAIC MODULES, PHOTOVOLTAIC PANELS, AND SOURCE CIRCUIT COMBINERS INTENDED FOR USE IN A PHOTOVOLTAIC POWER SYSTEM WILL BE IDENTIFIED AND
LISTED FOR THE APPLICATION PER 690.4 (D). SHALL BE INSTALLED ACCORDING TO ANY INSTRUCTIONS FROM LISTING OR LABELING (NEC 110.3).
1.1.8 ALL SIGNAGE TO BE PLACED IN ACCORDANCE WITH LOCAL BUILDING CODE. IF EXPOSED TO SUNLIGHT, IT SHALL BE UV RESISTANT. ALL PLAQUES AND SIGNAGE WILL BE INSTALLED AS REQUIRED BY THE NEC AND AHJ.

1.2.1 SCOPE OF WORK

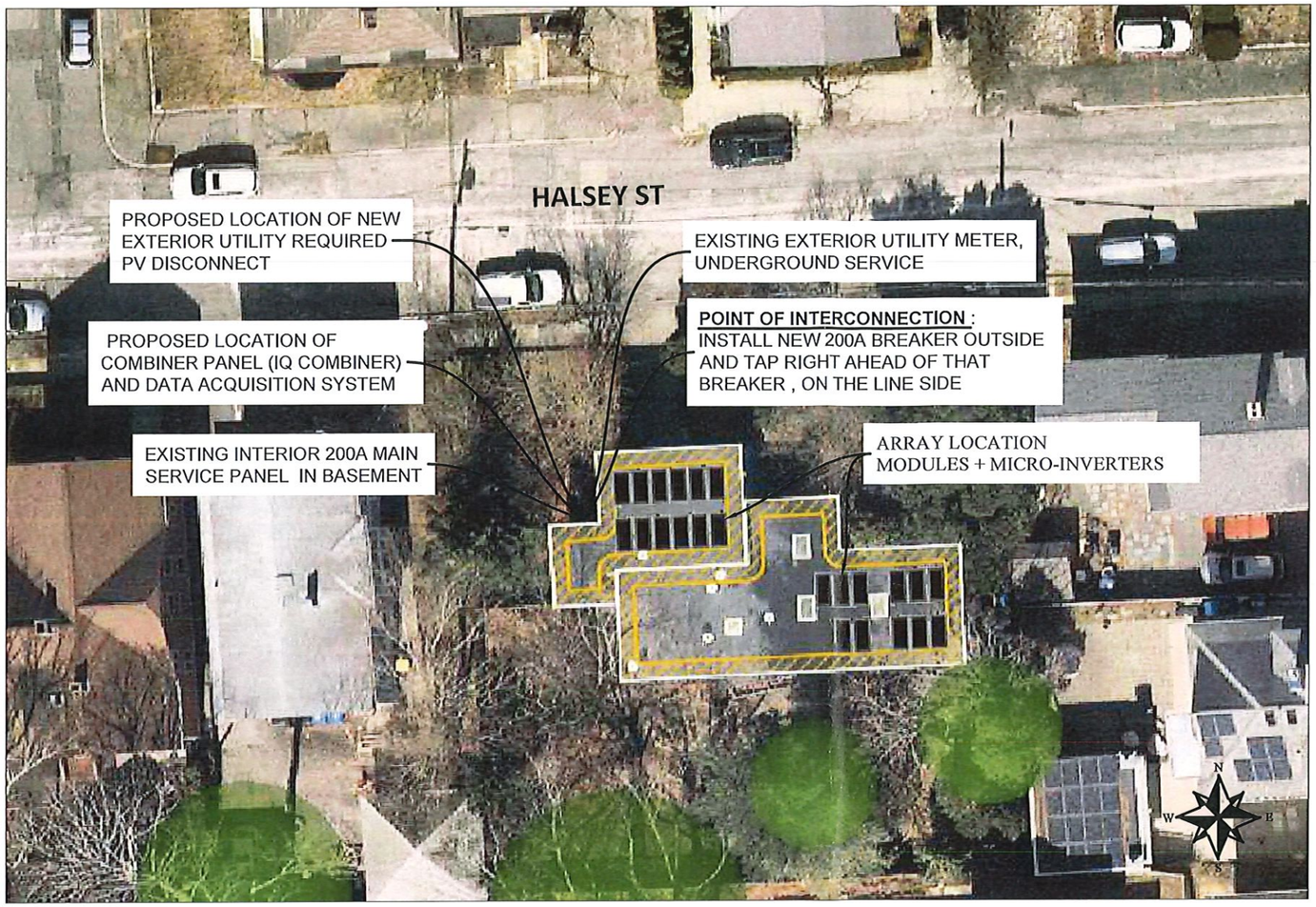
PRIME CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND SPECIFICATIONS OF THE GRID-TIED PHOTOVOLTAIC SYSTEM RETROFIT. PRIME CONTRACTOR WILL BE RESPONSIBLE FOR COLLECTING EXISTING ONSITE REQUIREMENTS TO DESIGN, SPECIFY, AND INSTALL THE EXTERIOR ROOF-MOUNTED PORTION OF THE PHOTOVOLTAIC SYSTEMS DETAILED IN THIS DOCUMENT.
1.2.2 WORK INCLUDES:
1.2.3 PV ROOF ATTACHMENTS
1.2.4 PV RACKING SYSTEM INSTALLATION
1.2.5 PV MODULE AND INVERTER INSTALLATION
1.2.6 PV EQUIPMENT GROUNDING
1.2.7 PV SYSTEM WIRING TO A ROOF-MOUNTED JUNCTION BOX
1.2.8 PV LOAD CENTERS (IF INCLUDED)
1.2.9 PV METERING/MONITORING (IF INCLUDED)
1.2.10 PV DISCONNECTS
1.2.11 PV GROUNDING ELECTRODE & BONDING TO (E) GEC
1.2.12 PV FINAL COMMISSIONING
1.2.13 (E) ELECTRICAL EQUIPMENT RETROFIT FOR PV
1.2.14 SIGNAGE PLACED IN ACCORDANCE WITH LOCAL BUILDING CODE

N
W E
S

GOTSUN GOSOLAR
1547 FALL RIVER AVE
SUITE #1
SEEKONK, MA 02771
PHONE: 774-229-2986
MA REG# CS-091168
MA HIC# 180717
RI REG# 3973

ROOF MOUNT PV SYSTEM
9.085 KW DC / 6.67 KW AC
PAULA MARTIESIAN
65 HALSEY ST
PROVIDENCE, RI 02906

COVER PAGE
DATE: 09.05.2021
DESIGNED BY: YO
CHECKED BY: RB
REVISIONS
REV1
G-1



LOCATION INFO	
LOCATION	PROVIDENCE, RI 02906 USA
LATITUDE	41.834038' N
LONGITUDE	--71.407175' W
ELEVATION	247 m
DESIGN LOW TEMP	-4° F (-20° C)
DESIGN HIGH TEMP	89.6° F (32° C)

ELECTRICAL CHARACTERISTICS	
MICRO-INVERTERS	(23) ENPHASE IQ 7+
MODULES	(23) LG395N2K-A5 395W
NUMBER OF MODULES	(14)
ARRAY CIRCUITS	2 BRANCHES : 11/12
STC POWER OF ARRAY	9.085 KW
MAX AC OUTPUT CURRENT	27.83 A

A-1 / 01 SITE PLAN

N W E S

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Exceeding expectations, one array at a time. Since 2009.

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SITE PLAN

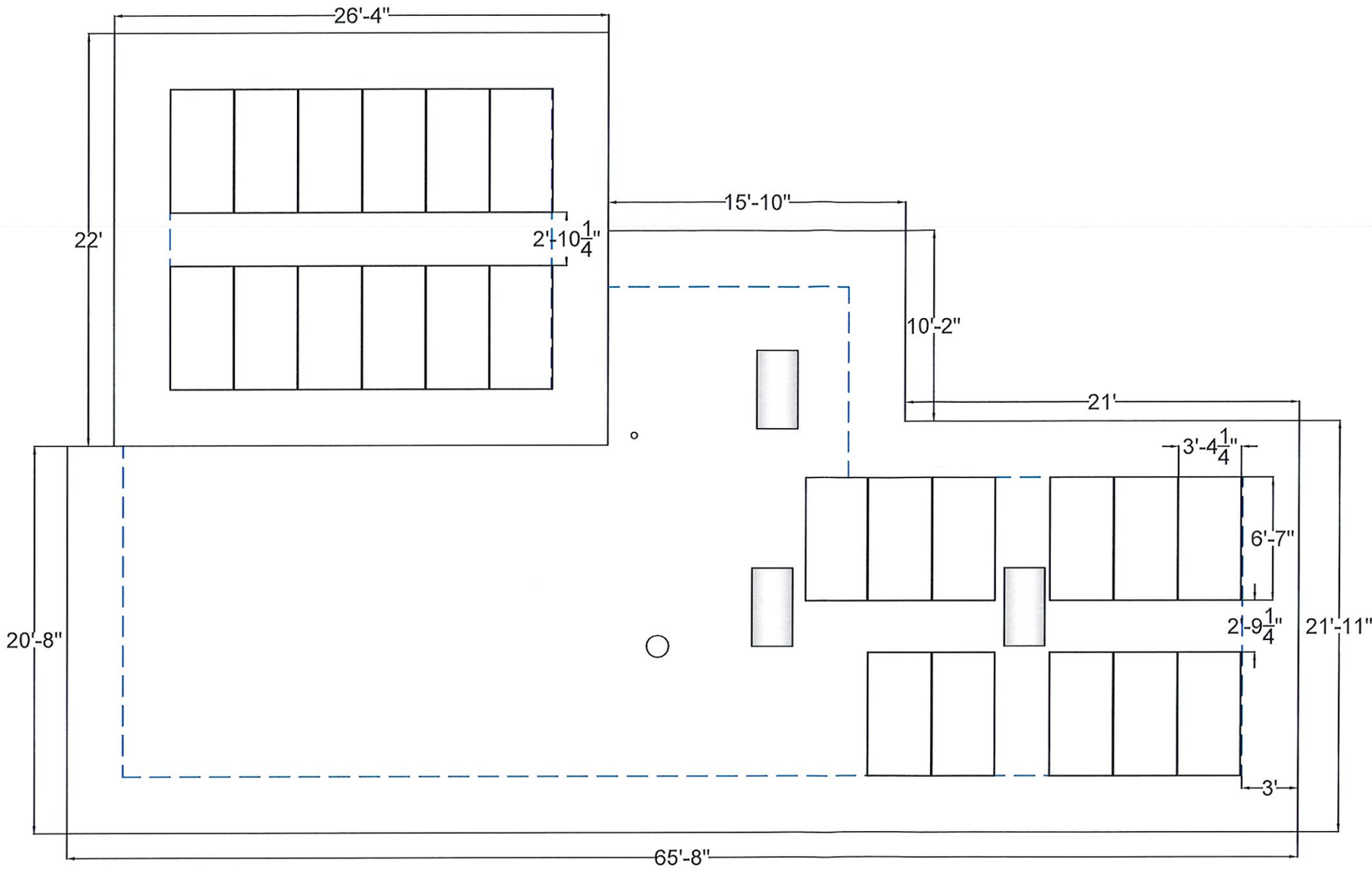
DATE: 09.05.2021

DESIGNED BY: YO

CHECKED BY: RB

REVISIONS
REV1

A-1



ARRAY :
23 x 395W MODULES
ROOF TILT : 0°
RACKING TILT : 8°
AZIMUTH : 177°
RACKING INTER-ROW SPACING : 33"/34"

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ARRAY LAYOUT

DATE: 09.05.2021

DESIGNED BY: YO

CHECKED BY: RB

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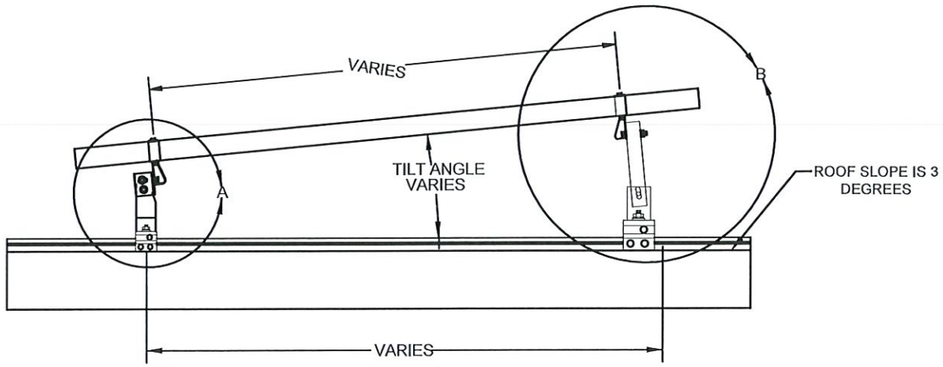
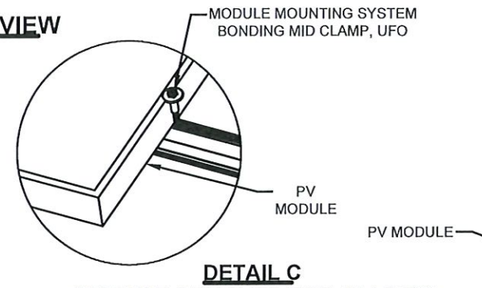
REV1

A-2

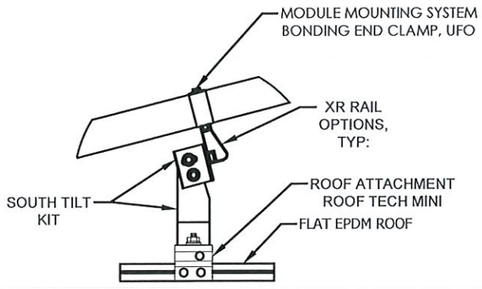
TILT MOUNT



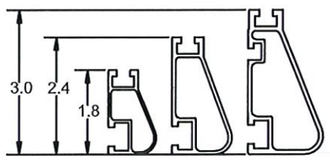
TYPICAL SIDE VIEW



DETAIL A
SOUTH TILT KIT ASSEMBLY

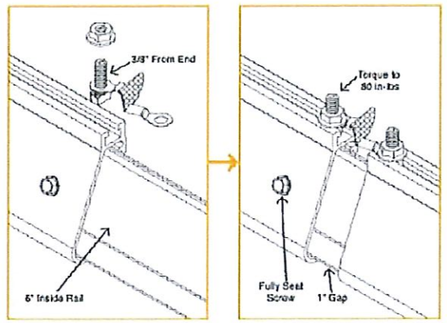


DETAIL C
(MODULE REMOVED FOR CLARITY)

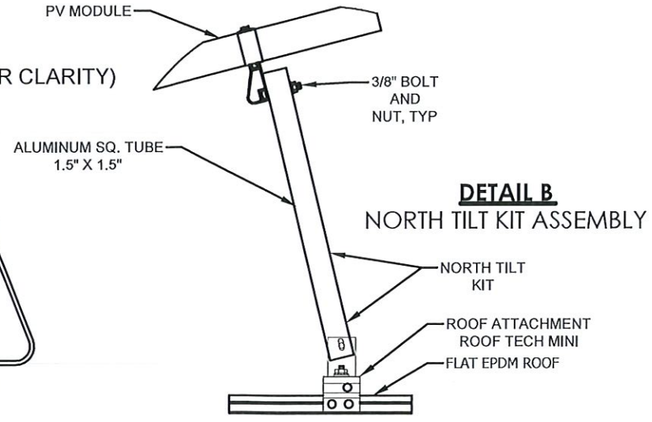


XR 10 XR 100 XR 1000

1. INSERT AN XR RAIL BONDED SPLICE INTO ONE XR RAIL AND SECURE WITH THE INCLUDED SCREW
2. SECURE ONE END OF THE GROUNDING STRAP EXPANSION JOINT ⅜" FROM THE END OF THE RAIL WITH THE INCLUDED T-BOLT
3. SLIDE THE SECOND XR RAIL OVER THE BONDED SPLICE, LEAVING A 1" GAP BETWEEN THE TWO RAILS
4. SECURE THE OTHER END OF THE GROUNDING STRAP EXPANSION JOINT ⅜" FROM THE END OF THE SECOND XR RAIL WITH THE INCLUDED T-BOLT
5. TORQUE T-BOLT HEX NUTS TO 80 IN-LBS
6. DO NOT INSTALL SOLAR PV MODULES OVER THE EXPANSION JOINT LOCATION



DETAIL D
(EXPANSION JOINT DETAIL)



DETAIL B
NORTH TILT KIT ASSEMBLY

NOTE: USE ROOF TECH RT-MINI AS ROOF ATTACHMENT ON THIS PROJECT.

1 / PV-09 **RACKING DETAILS-2**

SCALE : NOT TO SCALE

GOTSUN GOSOLAR
Exceeding expectations, one array at a time. Since 2003.

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MA HIC# 180717
RI REG# 3973

ROOF MOUNT PV SYSTEM
9.085 KW DC / 6.67 KW AC
PAULA MARTIESIAN
65 HALSEY ST
PROVIDENCE, RI 02906

RACKING SYSTEM (1)

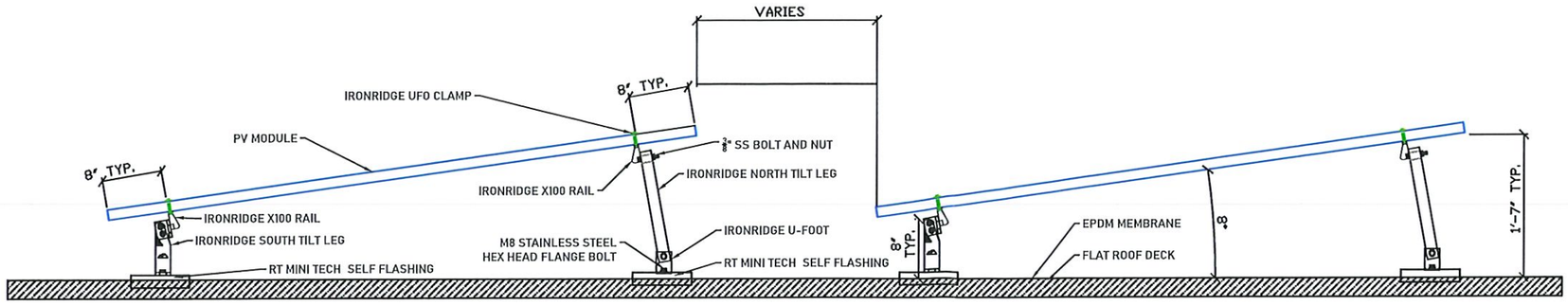
DATE: 09.05.2021

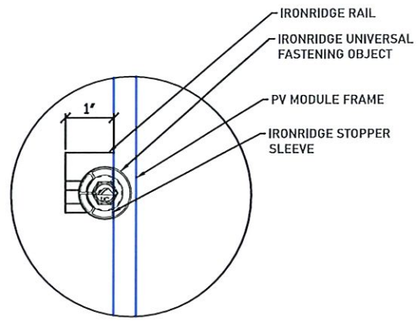
DESIGNED BY: YO

CHECKED BY: RB

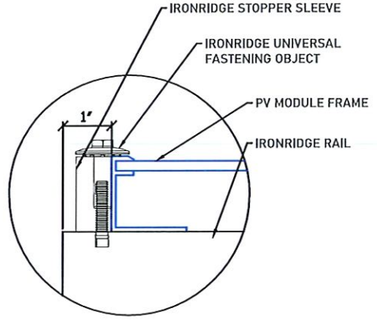
REVISIONS
REV0

A-3



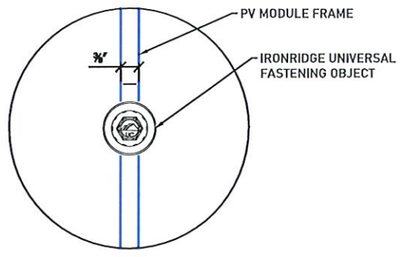


4 PV-10 **END CLAMP DETAIL, PLAN**

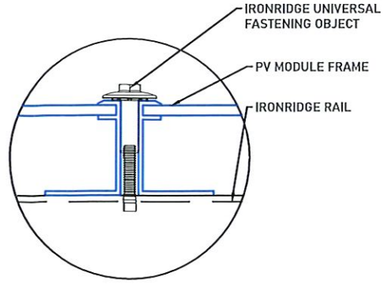


5 PV-10 **END CLAMP DETAIL, FRONT**

SCALE : NOT TO SCALE



6 PV-10 **MID CLAMP DETAIL, PLAN**



7 PV-10 **MID CLAMP DETAIL, FRONT**

SCALE : NOT TO SCALE

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RACKING SYSTEM

DATE: 09.05.2021

DESIGNED BY: YO

CHECKED BY: RB

REVISIONS
REV0

A-4

MICRO-INVERTERS

REF	QTY	MAKE AND MODEL	AC VOLTAGE	MAX OCPD RATING	RATED POWER	MAX OUTPUT CURRENT	CEC WEIGHTED EFFICIENCY
I 1-23	23	ENPHASE IQ 7+	240V	20A	290 W	1.21A	97.5%

MODULES

REF	QTY	MAKE AND MODEL	Pmax
M 1- 23	23	LG395N2K A5	395 W

OCPDs

REF	QTY	RATED CURRENT	MAX VOLTAGE
CB1	1	20A	240V
CB2	1	20A	240V

DISCONNECTS

REF	QTY	MAKE AND MODEL	RATED CURRENT
SW1	1	SQUARE D OR EQUIV	60A DISCONNECT 35A FUSES
SW2	1	SQUARE D OR EQUIV	200A MAIN BREAKER OR FUSED DISCONNECT FOR INTERCONNECTION METHOD

GOTSUN GOSOLAR

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PROVIDENCE, RI 02906

COMPONENTS INFORMATION

DATE: 09.05.2021

DESIGNED BY: YO

CHECKED BY: RB

REVISIONS
REV1

E-1

Datasheet

IRONRIDGE

Tilt Mount System

Trust your system at every angle.

The IronRidge Tilt Mount System supports a wide range of solar module tilting angles, while also resisting the extreme wind and snow forces experienced over a building's lifetime.

Every component has been carefully engineered and rigorously tested, and the entire system uses only aluminum and stainless steel materials to resist corrosion.

Roof Friendly
Lightweight and compatible with industry-standard attachments.

PE Certified
Pre-stamped engineering letters available in most states.

Strength Tested
All components evaluated for superior structural performance.

Design Assistant
Online software makes it simple to create, share, and price projects.

UL 2703 Listed System
Meets newest effective UL 2703 standard.

25-Year Warranty
Products guaranteed to be free of impairing defects.

Datasheet

XR Rails & Tilt Legs

XR Rails

Attach directly to Tilt Legs. Available in three targeted sizes to support specific wind and snow loads.
- Unique curved profile
- Spanning capabilities up to 12'
- Clear and black finish

Tilt Legs

Tilt assembly to desired angle, up to 30 degrees. Kits include South and North Tilt Leg and all hardware.
- Available in multiple lengths for a wide angle range
- Assembled South Tilt Legs include angle indicators
- Legs are electrically bonded to rails

Grounding Clamps

UFOs

Universal Fastening Objects secure and bond modules to rails.
- Fully assembled and lubricated
- Single, universal size
- Clear and black finish

Stopper Sleeves

Snap onto the UFO to transform into a bonded end clamp.
- Bonds modules to rails
- Sized to match modules
- Clear and black finish

CAMO

Bond modules to rails while staying completely hidden.
- Universal end-cam clamp
- Tool-less installation
- Fully assembled

Accessories

BOSS™ Bonded Splices

Bonded Structural Splices connect and bond XR Rails together.
- Integrated bonding
- No tools or hardware
- Self-centering stop tab

Grounding Lugs

Connects Tilt Mount system to equipment ground.
- Low profile
- Single tool installation
- Mounts in any direction

Ends Caps & Wire Clips

Provide a finished look and organize electrical wires.
- Simple snap-in installations
- Clips hold up to ten 5mm wires
- UV-stabilized polymer

Resources

Design Assistant
Go from rough layout to fully engineered system. For free.
Go to IronRidge.com/design

NABCEP Certified Training
Earn free continuing education credits, while learning more about our systems.
Go to IronRidge.com/training

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PROVIDENCE, RI 02906

RACKING DATASHEET

DATE: 09.05.2021

DESIGNED BY: YO

CHECKED BY: RB

REVISIONS
REV1

D-3

RT-MINI

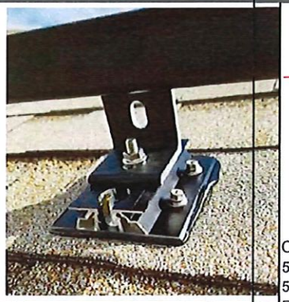
Self-flashing base for asphalt & metal roof-top PV mounting systems

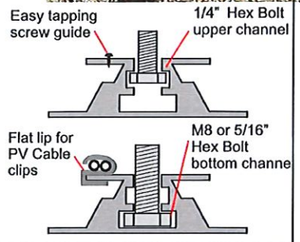
RT-MINI is suitable for mounting any rail system with a conventional L-Foot.

Dual bolt design: M8 or 5/16" for L-Foot & 1/4" for EMC

Installation Manual

ICC ES ICC ESR 3575





Roof Tech
The Standard for Waterproof Flexible Flashing Since 1994
www.roof-tech.us info@roof-tech.us

RT-MINI

Flexible Flashing certified by the International Code Council (ICC)

Engineered to ASTM D 1761 (Standard Test Methods for Mechanical Fasteners in Wood)

Components

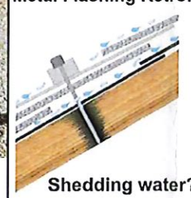
RT2-00-MINIBK

MINI base : 20 ea.
Screw : 40 ea.
Extra RT-Butyl : 10 ea.

Optional item
5 x 60mm Mounting screw (RT2-04-SD5-60) : 100 ea./Bag
5/16" Hex bolt, washer & nut set (RT-04-BN30SL-US) : 100 ea./Bag
RT-Butyl (RT2-04-BUTYLT) : 10 ea./Box

RT-Butyl is Roof Tech's flexible flashing used in one million residential PV systems for the last 26 years. It is the first PV mounting system with Flexible Flashing certified by the ICC. Engineered to withstand wind speeds up to 180 mph and ground snow up to 90 psf.

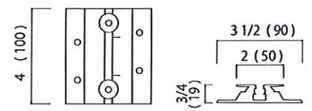
Metal Flashing Retrofit **Flexible Flashing**



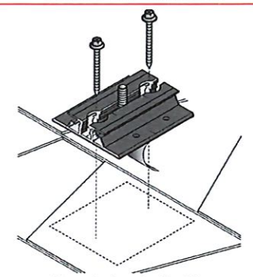
Shedding water? **100% Waterproof**

ICC ESR-3575 ASTM2140 testing UV testing (7500 hrs.)

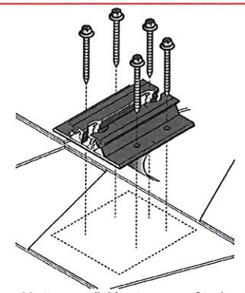
Dimensions in (mm)



Rafter installation



Deck installation



P.E. Stamped Letters available at www.roof-tech.us/support
TAS 100 A on metal and asphalt roof.

Roof Tech Inc.
www.roof-tech.us info@roof-tech.us
10620 Treena Street, Suite 230, San Diego, CA 92131
858.935.6064
March 2020

t_Mount_Data_Sheet.pdf

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65 HALSEY ST
PROVIDENCE, RI 02906

RACKING MOUNT DATASHEET

DATE: 09.05.2021

DESIGNED BY: YO

CHECKED BY: RB

REVISIONS
REV1

D-4