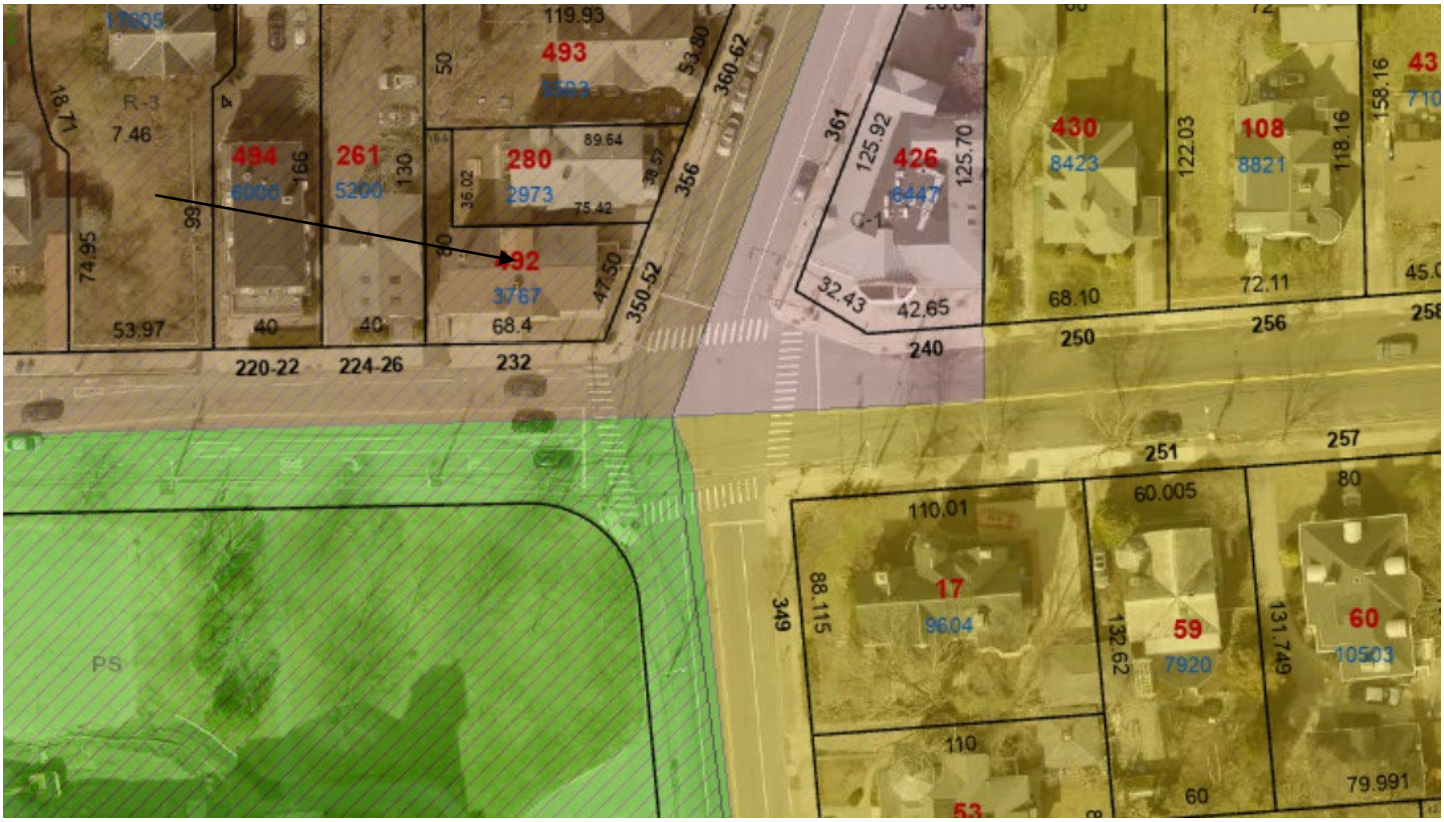
3. CASE 24.129, 350 HOPE STREET, House, c1900 (COLLEGE HILL)
CONTRIBUTING



Arrow indicates 350 Hope Street.

Arrow indicates project location, looking north.

Applicant/Contractor: Hailey Brinn, PosiGen, 50 Howe Avenue, Box 8, Millbury Ma 01527
Owner: Kevin Lo, 350 Hope Street, Providence, RI 02906

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

- the installation of 30 solar panels to the north and south slopes of the gable-end roof.

Issues: The following issues are relevant to this application:

- The application as submitted will be partially visible from the public rights-of-way;
- Although a prominent location, 350 Hope Street is a vernacular property that Staff would classify as a secondary resource. It is unfortunate that only half the roof (north slope) is being replaced with a charcoal shingle before the installation, although that slope is partially visible at best from the public rights-of-way. Staff still believes that this installation is appropriate to the guidelines, due to the property's minimal significance. Even with solar panels installed, this property will continue to be a "background building" with the surrounding architecture dominating the streetscape;
- 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) 350 Hope Street is a structure of historical and architectural significance that contributes to the significance of the College Hill local historic district, having been recognized as a contributing structure to the College Hill 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 as they are not on the primary elevation and will be minimally 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. 350 Hope Street is a structure of historical and architectural significance that contributes to the significance of the College Hill local historic district, having been recognized as a contributing structure to the College Hill 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. The proposed alteration meets Minor Alterations: Solar Energy Systems Guidelines, Section 2, is reversible and will not have an adverse effect on the property or district as they will be minimally visible from the public rights-of-way (Standards 8 & 9), and the recommendations in the staff report, with staff to review any additional required details.

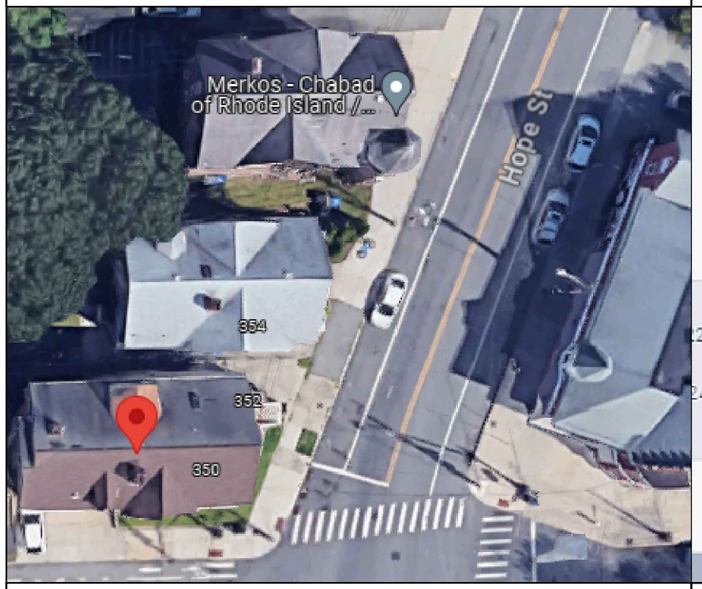
ABBREVIATIONS

A	AMPERE
AC	ALTERNATE CURRENT
BLDG	BUILDING.
CONC	CONCRETE
C	COMBINER BOX
D	DISTRIBUTION PANEL
DC	DIRECT CURRENT
EGC	EQUIPMENT GROUNDING CONDUCTOR
(E)	EXISTING
EMT	ELECTRICAL METALLIC TUBING
GALV	GALVANIZED
GEC	GROUNDING ELECTRODE CONDUCTOR
GND	GROUND
HDG	HOT DIPPED GALVANIZED
I	CURRENT
Imp	CURRENT AT MAX POWER
INVS	INVERTERS
Isc	SHORT CIRCUIT CURRENT
kVA	KILOVOLT AMPERE
kW	KILOWATT
LBW	LOAD BEARING WALL
MIN	MINIMUM
(N)	NEW
NEC	NATIONAL ELECTRIC CODE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
P	PANEL BOARD
PL	PROPERTY LINES
PV	PHOTOVOLTAIC
PVC	POLYVINYL CHLORIDE
S	SUBPANEL
SCH	SCHEDULE
SS	STAINLESS STEEL
SSD	SEE STRUCTURAL DIAGRAMS
STC	STANDARD TESTING CONDITIONS
SWH	SOLAR WATER HEATER
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLT
Vmp	VOLTAGE AT MAX POWER
Voc	VOLTAGE AT OPEN CIRCUIT
3R	NEMA 3R, RAIN TIGHT
W	WATT
POI	POINT OF INTERCONNECTION

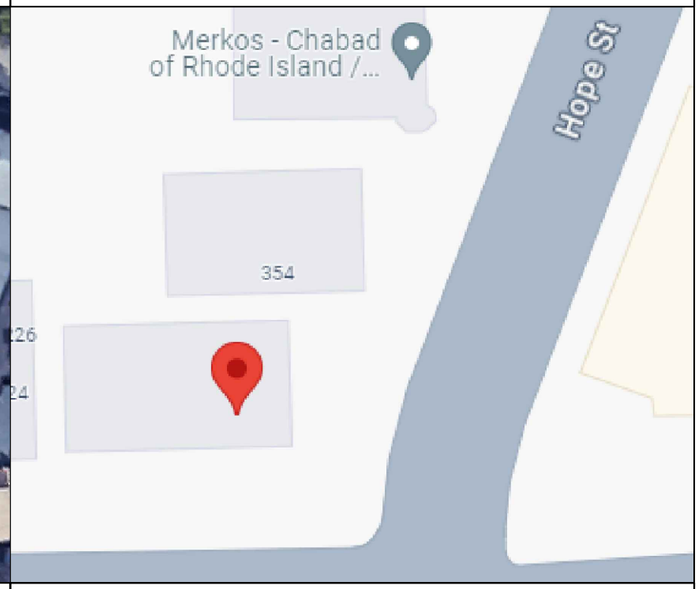
ELECTRICAL NOTES

1. WHERE ALL TERMINALS OF THE DISCONNECTING MEANS MAY BE ENERGIZED IN THE OPEN POSITION, A SIGN WILL BE PROVIDED WARNING OF THE HAZARDS PER ART. 690.17.
2. EACH UNGROUNDED CONDUCTOR OF THE MULTIWIRE BRANCH CIRCUIT WILL BE IDENTIFIED BY PHASE AND SYSTEM PER ART. 210.5.
3. A NATIONALLY-RECOGNIZED TESTING LABORATORY SHALL LIST ALL EQUIPMENT IN COMPLIANCE WITH ART. 110.3.
4. CIRCUITS OVER 250V TO GROUND SHALL COMPLY WITH NEC. 250.97, 250.92(B)
5. DC CONDUCTORS EITHER DO NOT ENTER BUILDING OR ARE RUN IN METALLIC RACEWAYS OR ENCLOSURES TO THE FIRST ACCESSIBLE DC DISCONNECTING MEANS PER NEC. 690.31(E).
6. ALL WIRES SHALL BE PROVIDED WITH STRAIN RELIEF AT ALL ENTRY INTO BOXES AS REQUIRED BY UL LISTING.
7. MODULE FRAMES SHALL BE GROUNDED AT THE UL-LISTED LOCATION PROVIDED BY THE MANUFACTURER USING UL LISTED GROUNDING HARDWARE.
8. ALL EXPOSED METAL PARTS (MODULE FRAMES, BOXES, ETC.) SHALL BE GROUNDED USING UL LISTED LAY-IN LUGS LISTED FOR THE PURPOSE.
9. MODULE FRAMES AND POSTS SHALL BE ELECTRICALLY CONTINUOUS WITH ATTACHED RAIL.
10. THE DC GROUNDING ELECTRODE CONDUCTOR SHALL BE SIZED ACCORDING TO NEC. 250.166(B) & 690.47.

AERIAL VIEW



VICINITY VIEW



APPLICABLE CODE

INTERNATIONAL BUILDING CODE 2018
INTERNATIONAL FIRE CODE 2018
INTERNATIONAL RESIDENTIAL CODE 2018
INTERNATIONAL MECHANICAL CODE 2018
INTERNATIONAL FUEL GAS CODE 2018
NFPA 70 NATIONAL ELECTRICAL CODE 2020

AHJ: PROVIDENCE COUNTY

UTILITY: RHODE ISLAND ENERGY

GENERAL NOTES

1. THIS SYSTEM IS GRID-INTERTIED VIA A UL-LISTED POWER-CONDITIONING INVERTER.
2. THIS SYSTEM HAS NO BATTERIES, NO UPS.
3. ALL INVERTERS AND ARRAYS ARE NEGATIVELY GROUNDED.
4. SOLAR MOUNTING FRAMES ARE TO BE GROUNDED.

TOTAL ROOF AREA : 2508.53 sq.ft

TOTAL AREA COVERED BY ARRAY (%) : 25.53

INDEX

PosiGen
Solar • Energy Efficiency • Roofing

POSIGEN SOLAR
145 James Drive East, Suite 300,
St. Rose, LA 70087
LICENSES
RI ELECTRICAL LICENSE
ELC. # AC004959

JOB NUMBER: P-053952, P-053958 & P-053957

UTILITY: RHODE ISLAND ENERGY

RACKING: UNIRAC SMARTMOUNT LIGHT RAIL WITH SOLARMOUNT BUTYL

MODULES: (30) SILFAB SOLAR SIL-400 HC+

OPTIMIZER: (30) SOLAREDGE OPTIMIZER S440

INVERTER: (3) SOLAREDGE SE3800H-US

OWNER:
KEVIN LO
350/352 HOPE ST
PROVIDENCE RI 02906

DESCRIPTION:
KEVIN LO,
RESIDENCE
DC SIZE:12.00 kW
AC SIZE:11.40 kW
ANNUAL PRODUCTION: 13,324 kWH

ACCOUNT NUMBER : 00712-49048, 87992-47026 & 75514-51129

UTILITY CUSTOMER'S NAME: KEVIN LO, YUHUA CHIH LO & KEVIN LO

DESIGNED BY: KARAN RANA

REV:

STAMP:

DAVID ROBERT HOEHMAN
No. 15325
REGISTERED
PROFESSIONAL ENGINEER
ELECTRICAL

PV-1.0

PAGE NAME:
COVER SHEET

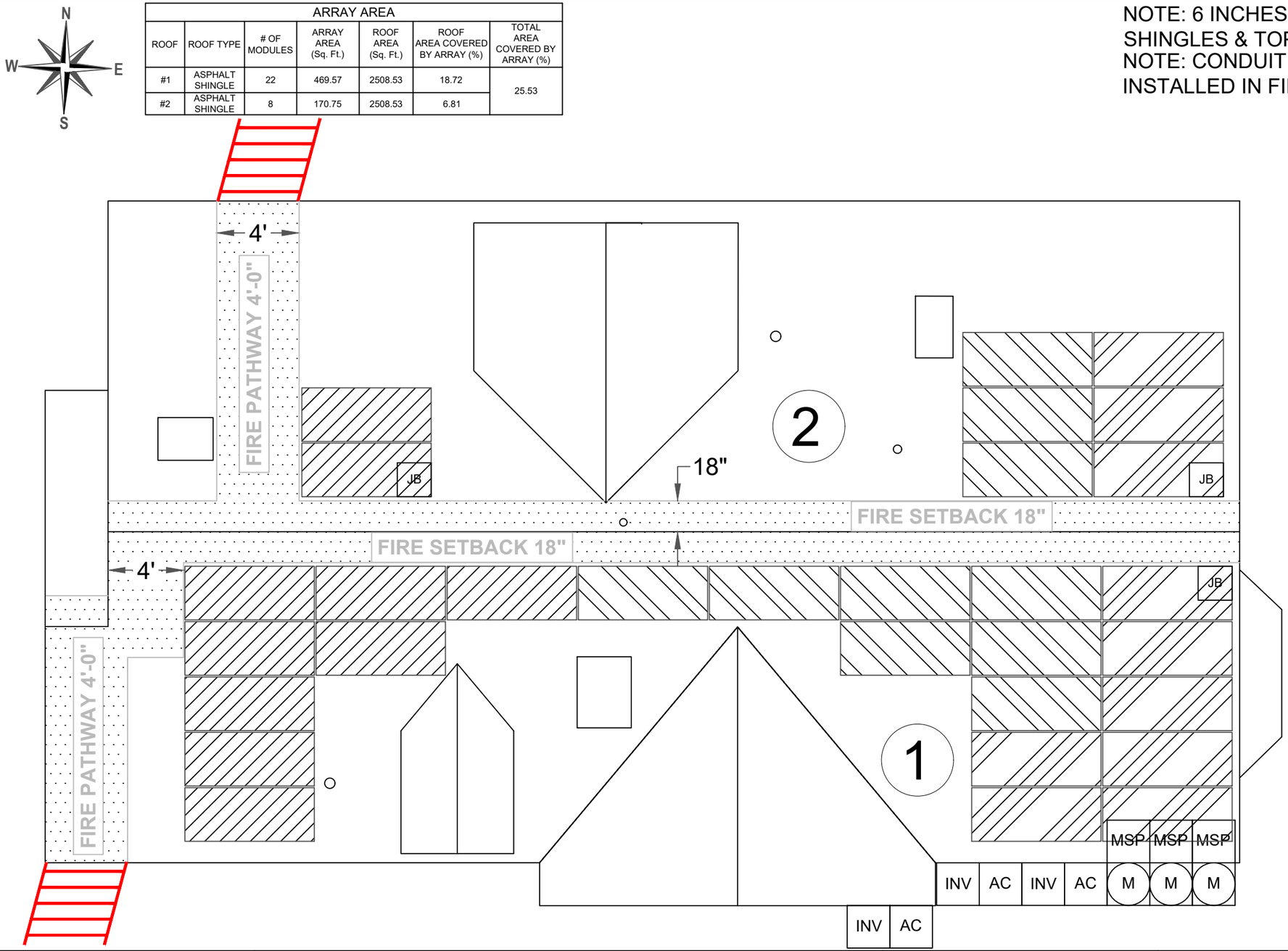
SCALE:
NTS

DATE:
9/4/2024


348 Hope St
Providence, Rhode Island
Google Street View
Sep 2023
See more dates
Hope St
Google
Olney St
Alumni Ave

ARRAY AREA						
ROOF	ROOF TYPE	# OF MODULES	ARRAY AREA (Sq. Ft.)	ROOF AREA (Sq. Ft.)	ROOF AREA COVERED BY ARRAY (%)	TOTAL AREA COVERED BY ARRAY (%)
#1	ASPHALT SHINGLE	22	469.57	2508.53	18.72	25.53
#2	ASPHALT SHINGLE	8	170.75	2508.53	6.81	

NOTE: 6 INCHES GAP BETWEEN SHINGLES & TOP OF PANELS.
NOTE: CONDUIT RUNS SHALL NOT BE INSTALLED IN FIRE PATHWAYS



HOPE ST
FOH

LEGEND:

- (M) (E) UTILITY METER
- (MSP) (E) MAIN SERVICE PANEL
- (AC) AC DISCONNECT
- (INV) INVERTER
- (JB) JUNCTION BOX
- OBSTRUCTION
- MODULE
- FIRE CODE OFFSET
- ROOF ACCESS POINT

STRING'S

SYSTEM #1 (P-053958)

STRING #1 - 10 MODULES

SYSTEM #2 (P-053957)

STRING #2 - 10 MODULES

SYSTEM #3 (P-053952)

STRING #3 - 10 MODULES

ROOF SECTION(S):

① SLOPE: 40
MODULE: 22
AZIMUTH: 178

② SLOPE: 40
MODULE: 8
AZIMUTH: 359

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REV:

STAMP:

DAVID ROBERT HOEHMAN
No. 15325
REGISTERED
PROFESSIONAL ENGINEER
ELECTRICAL

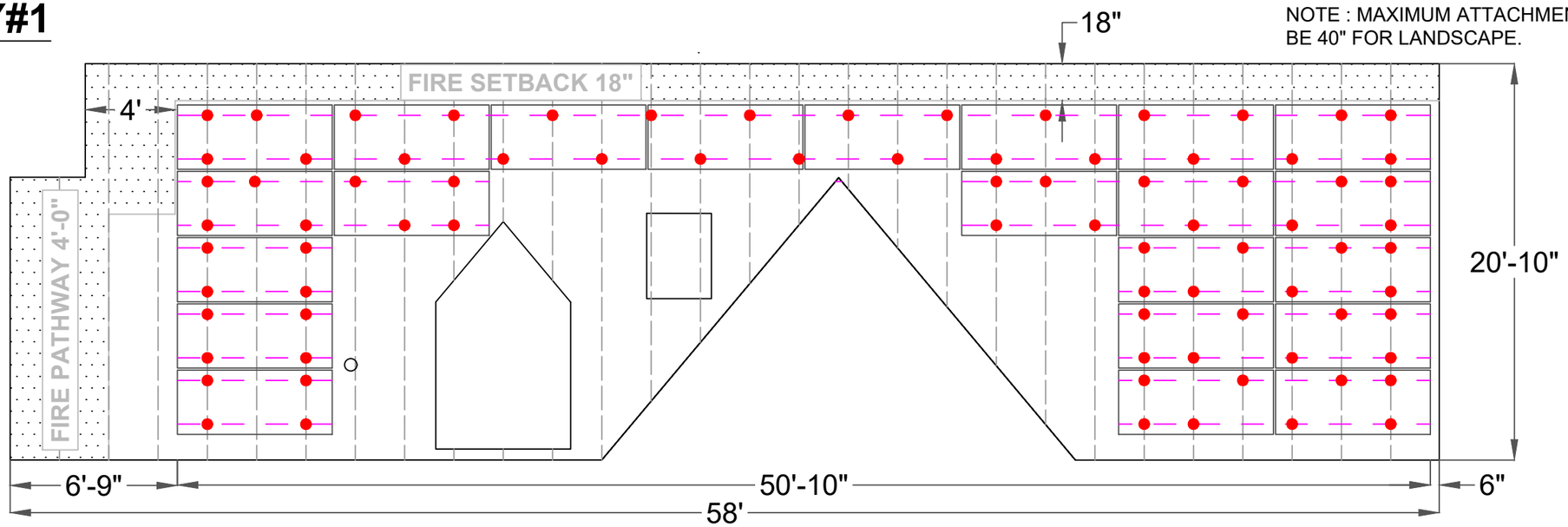
PV-2.0

PAGE NAME:
PLOT/SITE PLAN

SCALE:
3/16" = 1'-0"

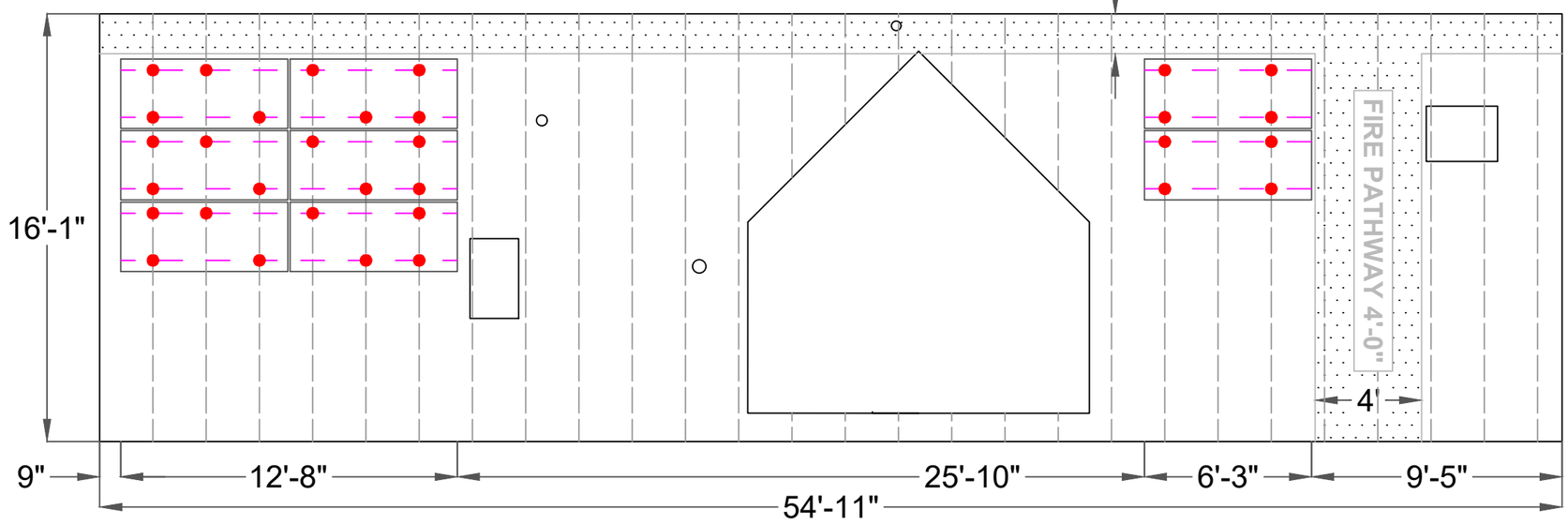
DATE:
9/4/2024

ARRAY#1



NOTE : MAXIMUM ATTACHMENT SPACING SHOULD BE 40" FOR LANDSCAPE.

ARRAY#2



LEGEND

- ROOF
- ATTACHMENT
- RAIL
- OBSTRUCTION
- RAFTER
- FIRE CODE OFFSET

TOTAL PENETRATION **COUNT**: 114

ARRAY #1	
RAFTER PROFILE	2" X 8"
RAFTER SPACING	20"OC
ROOF PITCH	40°
ARRAY PITCH	40°
ROOF AZIMUTH	178°
ARRAY AZIMUTH	178°
ROOF MATERIAL	ASPHALT SHINGLE
TOTAL NO OF PENETRATION	82

ARRAY #2	
RAFTER PROFILE	2" X 8"
RAFTER SPACING	20"OC
ROOF PITCH	40°
ARRAY PITCH	40°
ROOF AZIMUTH	359°
ARRAY AZIMUTH	359°
ROOF MATERIAL	ASPHALT SHINGLE
TOTAL NO OF PENETRATION	32

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REV:

STAMP:

XIAOJIAN XIE
STATE OF RHODE ISLAND
No. 14149
REGISTERED
PROFESSIONAL ENGINEER
CIVIL

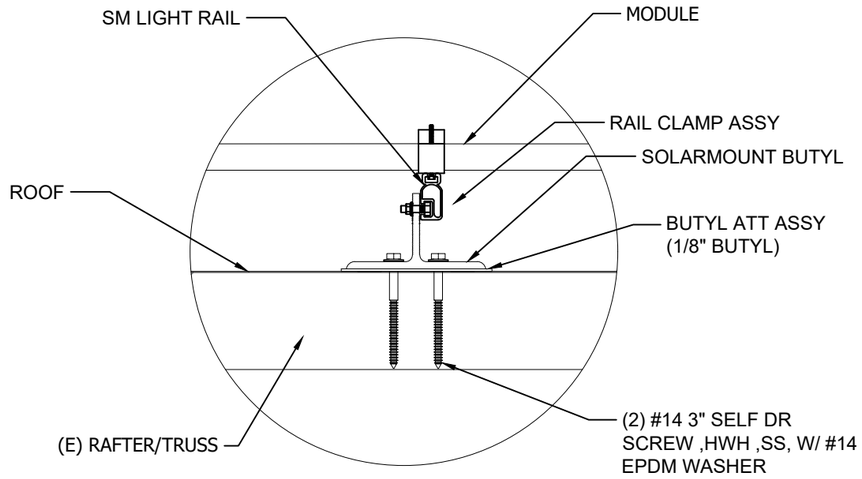
PV-3.0

PAGE NAME:
ATTACHMENT PLAN

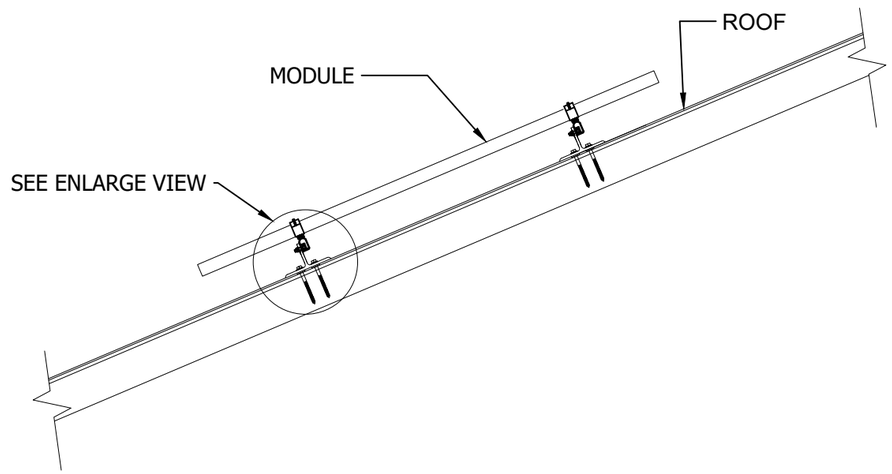
SCALE:
3/16" = 1'-0"

DATE:
9/4/2024

UNIRAC LIGHT RAIL WITH SOLARMOUNT BUTYL

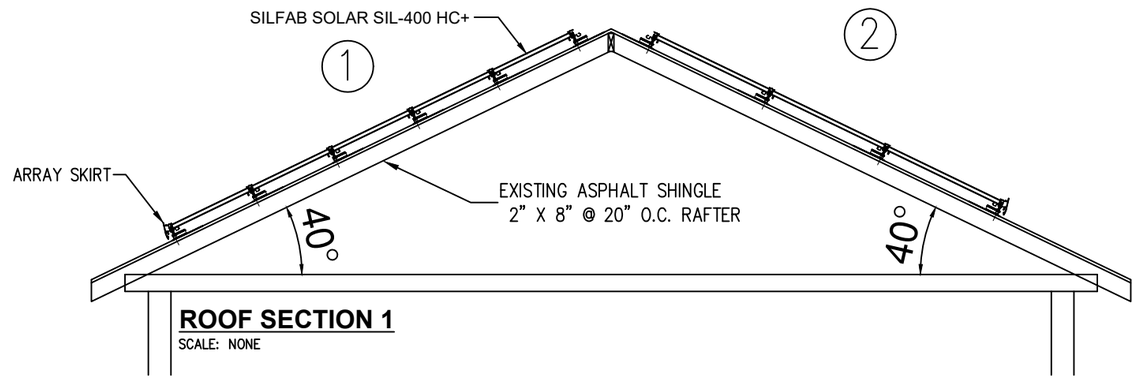


1	ENLARGED VIEW
	SCALE: NTS



2	ATTACHMENT DETAIL (SIDE VIEW)
	SCALE: NTS

FRAME SECTION



ROOF SECTION 1
SCALE: NONE

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REV:

STAMP:
XIAOJIAN XIE
No. 14149
REGISTERED
PROFESSIONAL ENGINEER
CIVIL

PV-4.0

PAGE NAME:
ATTACHMENT DETAIL

SCALE:
NTS

DATE:
9/4/2024

Bill Of Materials

KEVIN LO
350/352 HOPE ST PROVIDENCE RI 02906

QTY	Part #	Description
Electrical Equipment		
30	SILFAB SOLAR SIL-400 HC+	SILFAB SOLAR SIL-400 HC+ Solar Modules
3	SOLAREDGE SE3800H-US (240V)	SOLAREDGE SE3800H-US (240V) Inverter(s)
30	SOLAREDGE OPTIMIZER S440	SOLAREDGE OPTIMIZER S440 Optimizers
1	SE-GSM-R05-US-S1	SolarEdge GSM w/ 5 Year Plan
1	60A AC Disconnect	AC Disconnect, 60A, 240VAC, 2-Pole
3	Junction Box	Junction Box
1	60A Rated Service Panel	60A Rated Service Panel
1	60A FUSED AC Disconnect	AC Disconnect, 60A, 240VAC, 2-Pole
2	Tap Connectors	Tap Connectors
1	30A AC Disconnect	AC Disconnect, 30A, 240VAC, 2-Pole
Breakers and Fuses		
3	20A 2-Pole Breaker(s)	20A 2-Pole Breaker(s)
1	20A Fuses	20A Fuses
Racking		
23	315168M	SM LIGHT RAIL 168" MILL
4	315208M	SM LIGHT RAIL 208" MILL
4	303019M	BND SPLICE BAR PRO SERIES MIL
26	302030M	SM PRO SERIES MID – MILL
60	302035	SM PRO SERIES UNIV END - MILL
114	004BUTYLM	SOLARMOUNT BUTYL ATT KIT #14S MILL
15	008009P	ILSCO LAY IN LUG (GBL4DBT)

DAVID ROBERT HOEHMAN
No. 15325
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PROFESSIONAL ENGINEER
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