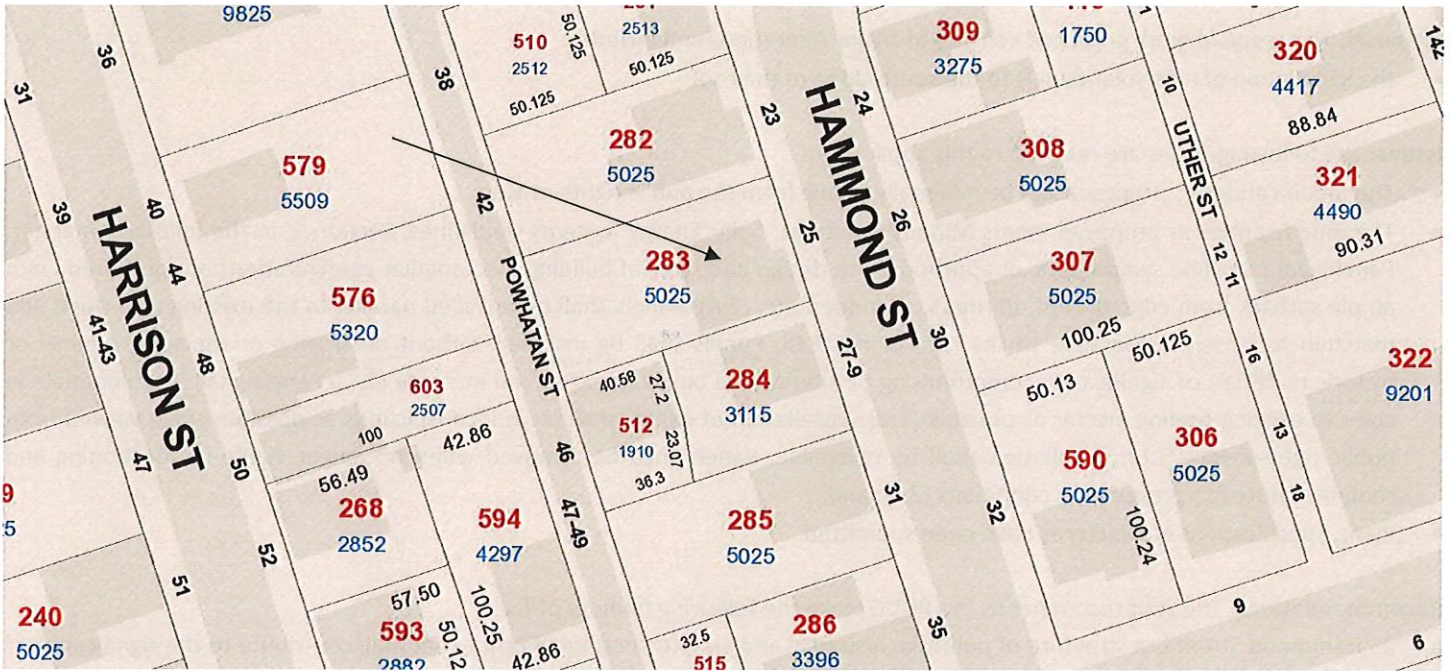
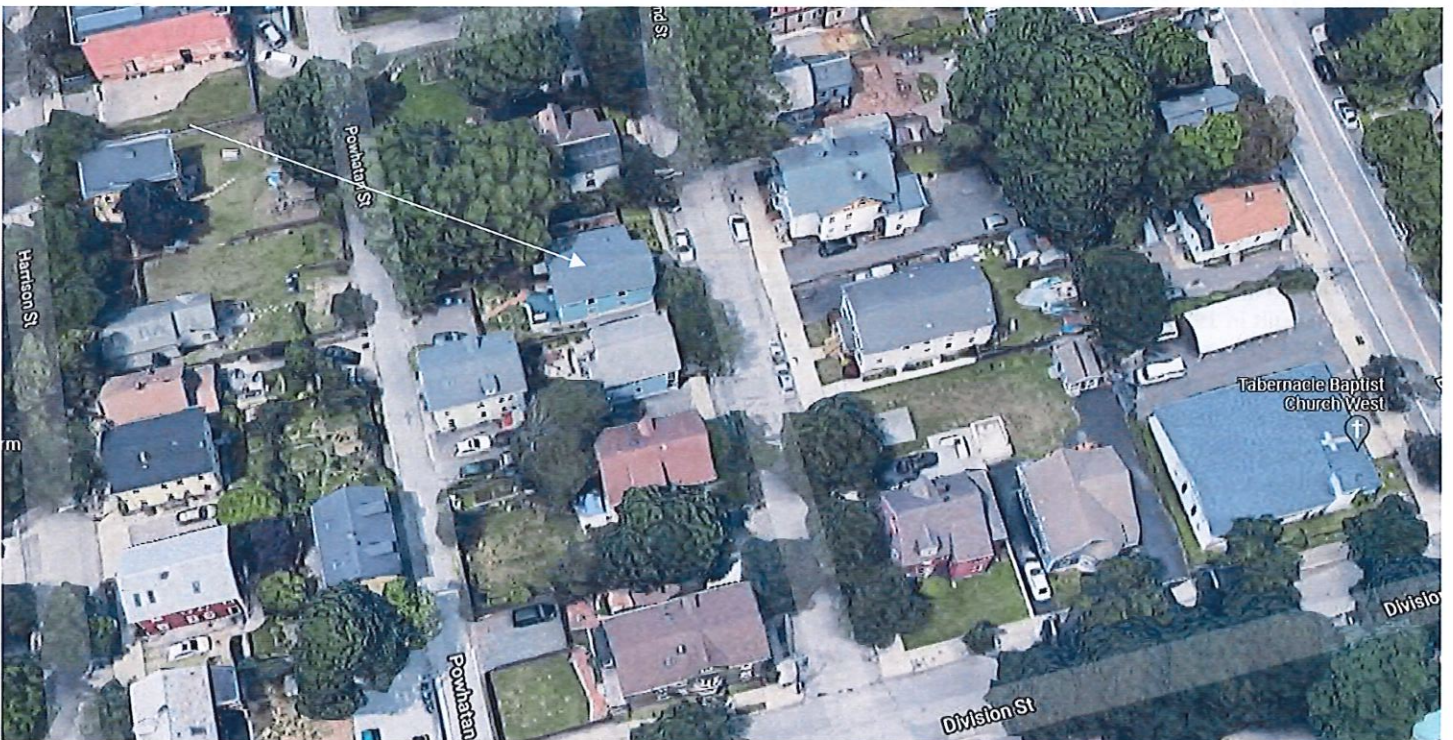


2. CASE 22.019, 25 HAMMOND STREET, House, 1988 (ARMORY)  
NON-CONTRIBUTING to Broadway/Armory National Register Historic District



Arrow indicates 25 Hammond Street.



Arrow indicates project location, looking north.

**Applicant/Owner:** Joel Revill, 25 Hammond St, Providence, RI 02909

**Contractor:** Newport Solar, 376 Dry Bridge Road, North Kingstown, RI 02852

**Proposal:** The scope of work proposed consists of Major Alterations and includes:

- the installation of nine solar panels to the south slope of the roof.

**Issues:** The following issues are relevant to this application:

- The modifications as proposed will be minimally 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) 25 Hammond Street is a structure of potential historical and architectural significance that may contribute to the significance of the Armory local historic district, having been built in 1988 and not having been evaluated for its historic significance to the Broadway/Armory 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; 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. 25 Hammond Street is a structure of potential historical and architectural significance that may contribute to the significance of the Armory local historic district, having been built in 1988 and not having been evaluated for its historic significance to the Broadway/Armory 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 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.**

**GENERAL NOTES**

- 1.11 PROJECT NOTES:
- 1.12 THIS PHOTOVOLTAIC (PV) SYSTEM SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE (NEC) ARTICLE 690. ALL MANUFACTURERS LISTING AND INSTALLATION INSTRUCTIONS, AND THE RELEVANT CODES AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION (HAJ) APPLICABLE CODES.
- 1.13 THE UTILITY INTERCONNECTION APPLICATION MUST BE APPROVED AND PV SYSTEM INSPECTED PRIOR TO PARALLEL OPERATION.
- 1.14 GROUND FAULT DETECTION AND INTERRUPTION (GFDI) DEVICE IS INTEGRATED WITH THE MICROINVERTER IN ACCORDANCE WITH NEC 690.41(b).
- 1.15 ALL PV SYSTEM COMPONENTS, MODULES, UTILITY-INTERACTIVE INVERTERS, AND SOURCE CIRCUIT COMBINDER BOXES ARE IDENTIFIED AND LISTED FOR USE IN PHOTOVOLTAIC SYSTEMS AS REQUIRED BY NEC 690.4.
- PV MODULES: UL1703, IEQ31703, AND IEQ31705, AND NETA TO CLASS C-FIRE.
- INVERTERS: UL 1741 CERTIFIED, IEEE 1547, 202.519.
- COMBINDER BOXES: UL 1703 OR UL 1741 APPROXIMATELY PROVIDED.
- 1.16 MAX DC VOLTAGE CALCULATED USING MANUFACTURER PROVIDED TEMP COEFFICIENT FOR VOC, IF UNAVAILABLE, MAX DC VOLTAGE CALCULATED ACCORDING TO NEC 690.7.
- 1.17 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(A).
- 1.18 ALL SIGNAGE TO BE PLACED IN ACCORDANCE WITH LOCAL BUILDING CODE. IF PROPOSED TO SIGNIFY, IT SHALL BE UV RESISTANT. ALL PLACARDS AND SIGNAGE WILL BE INSTALLED AS REQUIRED BY THE NEC AND HAJ.
- 1.21 SCOPE OF WORK:
- 1.22 PRIME CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND SPECIFICATIONS OF THE GRID-TIED PHOTOVOLTAIC SYSTEM RETROFIT. PRIME CONTRACTOR WILL BE RESPONSIBLE FOR COLLECTING EXISTING ON-SITE REQUIREMENTS TO DESIGN SPECIFIC, AND INSTALL THE EXTERIOR ROOF-MOUNTED PORTION OF THE PHOTOVOLTAIC SYSTEM DETAILED IN THIS DOCUMENT.
- 1.31 WORK INCLUDES:
- 1.32 PV/ROOF ATTACHMENTS - EPOXY/ASTEN GF1
- 1.33 PV/RACKING SYSTEMS/INSTALLATION - UNIRAC STANDARD
- 1.34 PV MODULE AND INVERTER INSTALLATION - SOLARA POWERXT-400R-PM / BIPHASE 107P-PLUS-72-4US
- 1.35 PV/EQUIPMENT GROUNDING
- 1.36 PV SYSTEM WIRING TO A ROOF-MOUNTED JUNCTION BOX
- 1.37 PV/LEAD-IN CENTERS (IF INCLUDED)
- 1.38 PV/LETTERING/MONITORING (IF INCLUDED)
- 1.39 PV/DISCONNECTS
- 1.3.10 PV GROUNDING ELECTRODE & BONDING TO G/EEC
- 1.3.11 PV/FINAL COMMISSIONING
- 1.3.12 ELECTRICAL EQUIPMENT RETROFIT FOR PV
- 1.3.13 SIGNAGE PLACED IN ACCORDANCE WITH LOCAL BUILDING CODE

SCOPE OF WORK  
SYSTEM SIZE: STC: 3 X 400W = 3.600KW  
PTC: 3 X 394.1W = 3.277KW  
(9) SOLARA POWERXT-400R-PM  
(9) BIPHASE 107P-PLUS-72-4US

ATTACHMENT TYPE: EPOXY/ASTEN GF1

MAP UPGRADE: NO

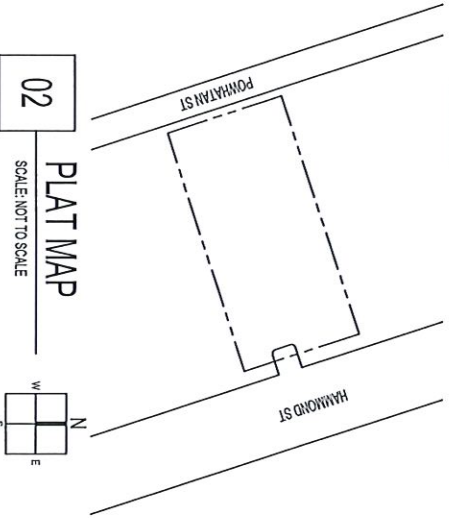
**NEW PV SYSTEM: 3.600 KWP**

**REVILL RESIDENCE**

25 HAMMOND ST  
PROVIDENCE, RI 02909  
ASSESSOR'S #: 320283



**01 AERIAL PHOTO**  
SCALE: NOT TO SCALE



**02 PLAT MAP**  
SCALE: NOT TO SCALE

**SHEET LIST TABLE**

SHEET NUMBER	SHEET TITLE
T-001	COVER PAGE
G-001	NOTES
A-01	SITE PLAN
A-102	ELECTRICAL PLAN
A-103	SOLAR ATTACHMENT PLAN
E-001	LINE DIAGRAM
E-002	DESIGN TABLES
E-003	PLACARDS
S-001	ASSEMBLY DETAILS
R-001	RESOURCE DOCUMENT
R-002	RESOURCE DOCUMENT
R-003	RESOURCE DOCUMENT
R-004	RESOURCE DOCUMENT
R-005	RESOURCE DOCUMENT
R-006	RESOURCE DOCUMENT
R-007	RESOURCE DOCUMENT
R-008	RESOURCE DOCUMENT

**PROJECT INFORMATION**

**OWNER:** JOEL REVILL

**PROJECT MANAGER:** MARK CORBERO  
PHONE: 401-241-9393

**CONTRACTOR:** SABBETTI CONSTRUCTION INC. DBA NEWPORT SOLAR  
PHONE: 401-295-4500

**AUTHORITIES HAVING JURISDICTION:** PROVIDENCE COUNTY, PROVIDENCE COUNTY, NATIONAL GRID

**DESIGN SPECIFICATIONS:** II SINGLE-FAMILY CONSTRUCTION, RESIDENTIAL GRID-TIED ZONING, GROUND SNOW LOAD: 30 PSF, WIND EXPOSURE: B, WIND SPEED: 139 MPH

**APPLICABLE CODES & STANDARDS:** 2019 RISBC-1, IBC 2015, 2019 RISBC-2, IRC 2015, ELECTRICAL: 2019 RISBC-5, NEC 2017, FIRE: 2019 RISBC-1



**CONTRACTOR**  
SABBETTI CONSTRUCTION INC. DBA  
NEWPORT SOLAR

PHONE: 401-295-4500  
ADDRESS: 300 OLD BAPTIST ROAD  
NORTH KINGSTOWN, RI 02852

LIC. NO.: ACO04943  
H.C. NO.:  
E.L.E. NO.:

UNAUTHORIZED USE OF THIS DRAWING SET WITHOUT WRITTEN PERMISSION FROM CONTRACTOR IS IN VIOLATION OF PROFESSIONAL LAWS AND WILL BE SUBJECT TO CIVIL DAMAGES AND PENALTIES.

**NEW PV SYSTEM: 3.600 KWP**  
**REVILL**

**RESIDENCE**  
25 HAMMOND ST  
PROVIDENCE, RI 02909  
APN: 320283

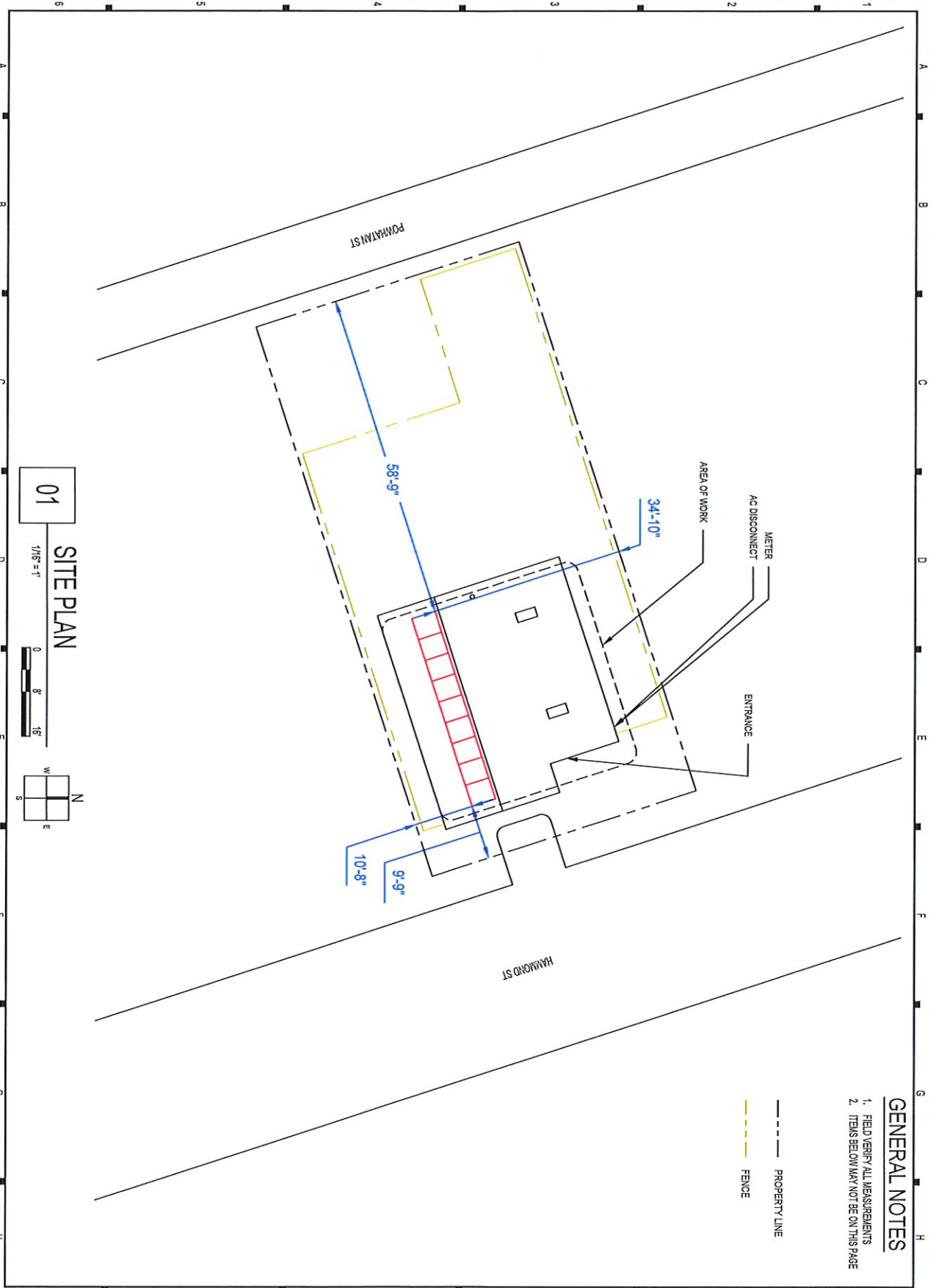
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PAPER SIZE: 11" X 17" (ANSI B)

**COVER PAGE**

DATE: 02.10.2022  
DESIGN BY: A.K.  
CHECKED BY: M.M.  
REVISIONS

**T-001.00**  
(SHEET 1)



**GENERAL NOTES**

1. FIELD VERIFY ALL MEASUREMENTS
2. ITEMS BELOW MAY NOT BE ON THIS PAGE

--- PROPERTY LINE  
 - - - FENCE



**CONTRACTOR**  
 SABELTI CONSTRUCTION INC. DBA  
 NEWPORT SOLAR

PHONE: 401-295-4500  
 ADDRESS: 300 OLD BAPTIST ROAD  
 NORTH KINGSTOWN, RI 02852

LIC. NO.: AC00943  
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**NEW PV SYSTEM: 3.600 KWP**

**REVELL**  
**RESIDENCE**

26 HAMMOND ST  
 PROVIDENCE, RI 02909  
 APN: 320283

**ENGINEER OF RECORD**

**01 SITE PLAN**

1/8" = 1'

**A-101.00**

(SHEET 3)

PAPER SIZE: 11"x17" (ANSI B)

**SITE PLAN**

DATE: 02.10.2022  
 DESIGN BY: A.K.  
 CHECKED BY: M.M.  
 REVISIONS



**CONTRACTOR**  
 SABBETTI CONSTRUCTION INC. DBA  
 NEWPORT SOLAR

PHONE: 401-295-4500  
 ADDRESS: 300 OLD BAPTIST ROAD  
 NORTH KINGSTOWN, RI 02852

LIC. NO.: AC004943  
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 PERMISSION OF THE ENGINEER OR IN  
 VIOLATION OF U.S. COPYRIGHT LAW  
 AND WILL BE SUBJECT TO CIVIL  
 DAMAGES AND PROSECUTIONS.

**NEW PV SYSTEM: 3,600 KWP**  
**REVVLL**  
 25 HAMMOND ST  
 PROVIDENCE, RI 02909  
 APN: 320283

**ENGINEER OF RECORD**

PAPER SIZE: 11" x 17" (ANSI B)

**ASSEMBLY DETAILS**

DATE: 02.10.2022  
 DESIGN BY: A.K.  
 CHECKED BY: M.M.  
 REVISIONS

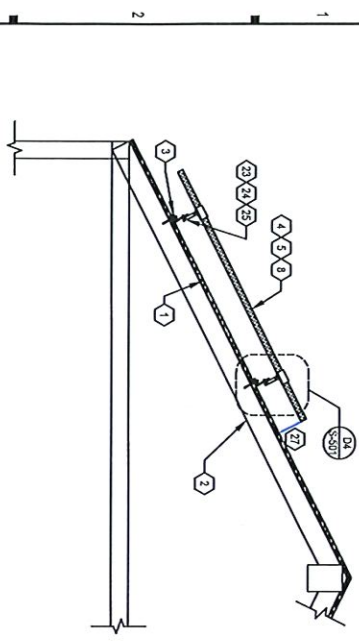
**S-501.00**  
 (SHEET 9)

**GENERAL NOTES**

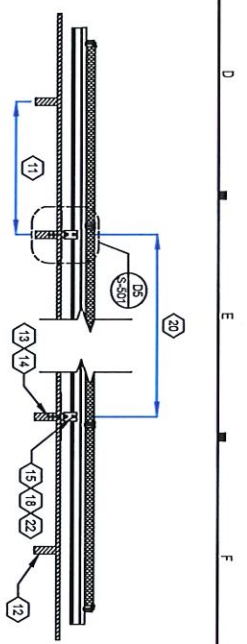
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2. ITEMS BELOW MAY NOT BE ON THIS PAGE

**SHEET KEYNOTES**

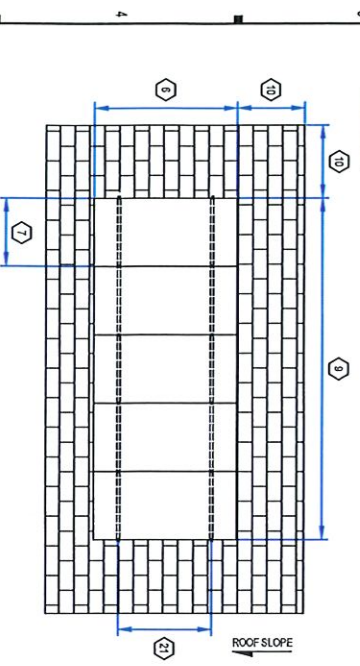
1. ROOF MATERIAL: ASPHALT SHINGLE
2. ROOF STRUCTURE: SINGLE SPAN RAFTER
3. ATTACHMENT TYPE: ECOFASTEN GF-F
4. MODULE MANUFACTURER: SOLARPA
5. MODULE MODEL: POWERTXT-400R-PM
6. MODULE LENGTH: 94.72 IN.
7. MODULE WIDTH: 47.4 IN.
8. MODULE WEIGHT: 46 LBS.
9. SEE SHEET A-103 FOR DIMENSION(S)
10. MIN. FIRE OFFSET: NO FIRE CODE ENFORCED
11. RAFTER SPACING: 24 IN. O.C.
12. LAG BOLT SIZE: 2X4 IN. NOMINAL
13. LAG BOLT DIAMETER: 5/16 IN.
14. TOTAL # OF ATTACHMENTS: 18
15. TOTAL AREA: 19,173 SQ. FT.
16. DISTRIBUTED LOAD: 27.07 LBS.
17. WEIGHT PER ATTACHMENT: 27.07 LBS.
18. MAX. HORIZONTAL STANDOFF: 48 IN.
19. MAX. VERTICAL STANDOFF: 48 IN.
20. WITH MODULE MANUFACTURER'S INSTRUCTIONS
21. STANDOFF STAGGERING: NO
22. RAIL MANUFACTURER (OR EQUIV.): UNIRAC
23. RAIL MODEL (OR EQUIVALENT): STANDARD
24. RAIL WEIGHT: 0.729 P.L.F.
25. MAX. RAFTER SPAN: NA
26. MODULE CLEARANCE: 3 IN. MIN., 6 IN. MAX
- 27.



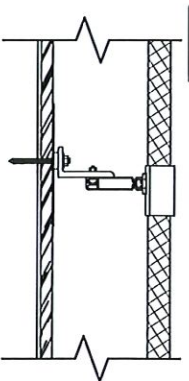
**D1**  
 RACKING DETAIL (TRANSVERSE)  
 SCALE: NOT TO SCALE



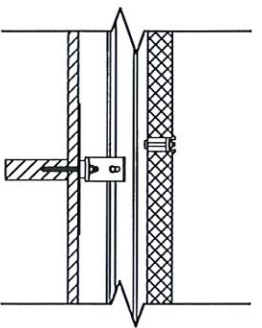
**D2**  
 RACKING DETAIL (LONGITUDINAL)  
 SCALE: NOT TO SCALE



**D3**  
 RACKING DETAIL (TOP)  
 SCALE: NOT TO SCALE



**D4**  
 DETAIL (TRANSVERSE)  
 SCALE: NOT TO SCALE



**D5**  
 DETAIL (LONGITUDINAL)  
 SCALE: NOT TO SCALE

1 2 3 4 5 6 A B C D E F G H

# SOLARIA®

Solaria PowerXT® | DC Panel



Solaria PowerXT®-400R-PM

Achieving over 20% efficiency, Solaria PowerXT solar panels are one of the highest power panels in the residential and commercial solar market. Compared to conventional panels, Solaria PowerXT panels have fewer gaps between the solar cells; this leads to higher power and superior aesthetics. Solaria PowerXT Pure Black™ panels are manufactured with black backsheets and frames, enhancing a home or building's architectural beauty.

### Higher Efficiency, Higher Power

Solaria PowerXT panels achieve over 20% efficiency; conventional panels achieve 15% -17% efficiency. Solaria PowerXT panels are one of the highest power panels available.

### Lower System Costs

Solaria PowerXT panels produce more power per square meter area. This reduces installation costs due to lower balance of system components.

### Improved Shading Tolerance

Sub-strings are interconnected in parallel, within each of the four panel quadrants, which dramatically lowers the shading losses and boosts energy yield.

### Improved Aesthetics

Compared to conventional panels, Solaria PowerXT panels have a more uniform appearance and superior aesthetics.

### Durability and Reliability

Solderless cell interconnections are highly reliable and designed to far exceed the industry leading 25 year warranty.

### PID Resistant

Solaria PowerXT panels are PID resistant. This insures stable and predictable energy production over time.



### About Solaria

Established in 2010, The Solaria Corporation has created one of the industry's most respected IP portfolios, with over 250 issued and pending patents in PV cell and module technology. Headquartered in Fremont, California, Solaria has developed a technology platform that unlocks the potential of solar energy.

The Solaria Corporation 43705 Netherport Loop East, Fremont, CA 94539 P: (510) 270-2507 www.solaria.com  
Product specifications are subject to change without notice.



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SOL-DAT-0005 Rev-03 1/2021

# SOLARIA®

Solaria PowerXT®-400R-PM

### Performance at STC (1000W/m², 25°C, AM 1.5)

Solaria PowerXT-400R-PM	400R-PM
Max Power (P <sub>max</sub> )	400
Efficiency	20.2
Open Circuit Voltage (V <sub>oc</sub> )	51.1
Short Circuit Current (I <sub>sc</sub> )	9.82
Max Power Voltage (V <sub>mp</sub> )	42.4
Max Power Current (I <sub>mp</sub> )	9.41
Power Tolerance	-0/+3

### Performance at NOCT (800W/m², 20°C Ambient, Wind: m/s, AM 1.5)

Max Power (P <sub>max</sub> )	295
Open Circuit Voltage (V <sub>oc</sub> )	48.1
Short Circuit Current (I <sub>sc</sub> )	7.92
Max Power Voltage (V <sub>mp</sub> )	40.0
Max Power Current (I <sub>mp</sub> )	7.59

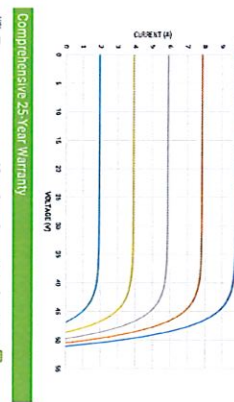
### Temperature Characteristics

NOCT	[°C]	45 +/-2
Temp. Coeff. of P <sub>max</sub>	[%/°C]	-0.39
Temp. Coeff. of V <sub>oc</sub>	[%/°C]	-0.29
Temp. Coeff. of I <sub>sc</sub>	[%/°C]	0.04

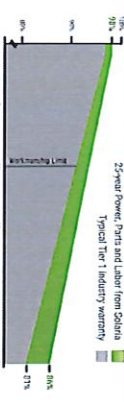
### Design Parameters

Operating temperature	[°C]	-40 to +85
Max System Voltage	[V]	1000
Max Fuse Rating	[A]	20
Bypass Diodes	[#]	4

### I<sub>v</sub> Curves vs. Irradiance (400W Panel)



### Comprehensive 25-Year Warranty



The Solaria Corporation 43705 Netherport Loop East, Fremont, CA 94539 P: (510) 270-2507 www.solaria.com  
Product specifications are subject to change without notice.

### Mechanical Characteristics

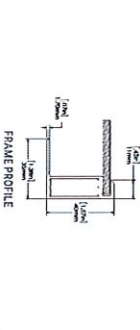
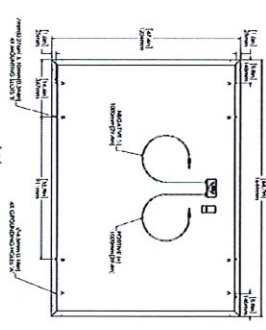
Cell Type	Monocrystalline Silicon
Dimensions (L x W x H)	64.72 x 51.2 x 1.57
Weight	1644mm x 1204mm x 40mm 21 kg / 46 lbs
Glass Type / Thickness	AR Coated, Tempered / 2.84mm
Frame Type	Black Anodized Aluminum
Cable Type / Length	12 AWG PV Wire (UL) / 1000mm
Connector Type	MC4
Junction Box	IP68 / 4 diodes
Front Load	5400 Pa / 113 psf*
Rear Load	3600 Pa / 75 psf*

### Certifications / Warranty

Fire Type (UL 1703)	UL 61730 / IEC 61215 / IEC 61730
Certifications	CEC & FSEC Listed
Warranty	25 years*

### Packing

Stacking Method	Horizontal / Palletized
Panel/Pallet	25
Pallet Dimensions (L x W x H)	66.57' x 48.7' x 48.4"
Pallet Weight	1720mm x 1260mm x 1255mm
Pallets / 40-ft Container	575kg / 1268 lbs
Panel / 40-ft Container	18
	450



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Product specifications are subject to change without notice.



CONTRACTOR

SABELTI CONSTRUCTION INC. DBA  
NEWPORT SOLAR

PHONE: 401-955-4500

ADDRESS: 300 OLD BAPTIST ROAD  
NORTH KINGSTOWN, RI 02852

LIC. NO.: ACO04943

HIC. NO.:

ELE. NO.:

UNAUTHORIZED USE OF THIS  
DRAWING SET WITHOUT WRITTEN  
PERMISSION FROM CONTRACTOR IS IN  
VIOLATION OF CONTRACT TERMS  
AND WILL BE SUBJECT TO CIVIL  
DAMAGES AND PROSECUTIONS.

NEW PV SYSTEM: 3,600 kWp

REVELL

26 HAMMOND ST  
PROVIDENCE, RI 02909  
APN: 320283

ENGINEER OF RECORD

CHECKED BY: MM

DESIGN BY: AX

DATE: 02.10.2022

CHECKED BY: MM

REVISIONS

RESOURCE DOCUMENT

PAPER SIZE: 11"x17" (ANSI B)

R-001.00

(SHEET 10)