APPLICATION FOR BUILDING PERMIT

The Village of Irvington | 85 Main St | Irvington NY 10533

Application Number:	519	Date:	03/06/2023
Job Location:	4 DEEP HOLLOW CLOSE	Parcel ID:	2.170-77-6
Property Owner:	Mick Cartwright	Property Class:	1 FAMILY RES
Occupancy:	One/ Two Family	Zoning:	
Common Name:			

Applicant	Contractor
Schrader Christine	Schrader Christine
Sunrise Solar Solutions LLC	Sunrise Solar Solutions LLC
510 North State RoadBriarcliff Manor NY 10510	510 North State Road Briarcliff Manor NY 10510
914-762-7622	914-762-7622

Description of Work

Type of Work:	Solar Panels	Applicant is:	Contractor
Work Requested by:	The Owner	In association with:	
Cost of Work (Est.):	28123.00	Property Class:	1 FAMILY RES

Description of Work

15 SunPower Equinox 415 BoB (M-Series) modules
SunPower micro-inverters
SunPower Invis-mount racking
Snow Guards

Please Note: Completing the application does not constitute a permit to commence construction. To obtain your permit follow the instructions on the instruction page provided on page 3.

VILLAGE OF IRVINGTON
BUILDING DEPARTMENT
85 MAIN STREET
IRVINGTON, NEW YORK 10533
TEL: (914) 591-8335 • **FAX:** (914) 591-5870

PHOTOVOLTAIC (PV SOLAR) RESIDENTIAL SYSTEMS PERMIT APPLICATION CHECK LIST

Revised June 7, 2017

It is suggested that all applicants applying for a permit read and understand the manufacture installation instructions prior to applying for a building permit and attached ARB guide lines and Village code for Solar Energy Equipment.

REQUIREMENTS TO APPLY FOR A PHOTOVOLTAIC (PV SOLAR) SYSTEM PERMIT

- X 1) Apply on line at www.irvingtonny.gov for a mechanical permit, under building permits and along with your application, submit to the building department the following;
- X 2) Owners phone number and email address entered in the online permit application
- X 3) Evidence of Workers Compensation Insurance (on a C-105 or equivalent)
- X 4) Evidence of Liability Insurance naming the Village of Irvington additional insured
- X 5) A copy of the contractors Westchester County Department of Consumer Protection License
- ___ 6) Pursuant to 9-12-A. provide evidence of notice to adjacent properties owners not less than 10 days prior to the meeting (see attached code section for more details)
- X 7) Submit permit fee: (all fees must be paid at time of submission) 610.00
  - X $85 application fee
  - ___ $200 for systems up to 5 kilowatts
  - X $450 for systems above 5 kilowatts and less than 10 kilowatts
  - ___ $700 for systems above 10 kilowatts and less than 20 kilowatts
  - ___ $700 plus $250 per additional 10 kilowatts above 20 for systems above 20 kilowatts
  - X $75 Certificate of Completion inspection and fee
- X 8) An affidavit from a NYS licensed professional detailing and certifying that the existing structure meets or exceeds the minimum load requirement's as per TABLE R301.2(1) for wind and load before and after installation of the proposed equipment or the proposed upgrades to the existing structure to accomplish the aforesaid.
- X 9) Drawings (signed and sealed by a NYS licensed professional) of the roof plan showing the following criteria;
  - a. ✓ Showing all proposed PV panels on all proposed roof surfaces.
  - b. ✓ Showing all equipment on all elevations including
  - c. ✓ Show / list all roof connectors and flashing details
  - d. ✓ Show compliance with section R902.4 (fire classification in accordance with UL1703 and 3' from any lot line)
  - e. ✓ Show compliance with sections R324.3.1 through R324.7.2.5 and NFPA 70 (installation)
  - f. ✓ Show compliance with section R324.7 (access and pathways) (see attachment)
  - g. ✓ Show compliance with section R324.7.2.1-6. (roof access points) (see attachment)
  - h. ✓ Show compliance with section R324.7.3 (ground access areas) (see attachment)
  - i. ✓ Show compliance with section R324.7.4 (single ridge roofs *when applicable*) (see attachment)
  - j. ✓ Show compliance with section R324.7.5 (hip roofs *when applicable*) (see attachment)
  - k. ✓ Show compliance with section R324.7.6 (roof with valleys *when applicable*) (see attachment)
  - l. ✓ Show compliance with section R324.7.7 (allowance for smoke ventilation operations) (see attachment)
  - m. ✓ Show a Fire Department AC disconnect, located outside by the Utility meter on all systems.
- ✓ 10) Provide a drawing or manufactures cut sheets of array mounting hardware and interconnection diagram and specifications.
- ✓ 11) Provide a drawing or manufactures cut sheets of the unit mount and roof penetration's flashing system.
- ✓ 12) 3 wire diagram showing all proposed equipment as governed by the National Electrical Code (NEC)
- ✓ 13) Provide a diagram showing all proposed labels and labeling locations including; Solar AC Disconnect, Inverter Output, Connection Warning, Duel Power Source Warning, Solar AC Combiner Panel, Solar PV Circuits Only, Solar Production meter. (see attachment)
- ✓ 14) Provide snow guards on panels were snow has the potential of sliding of the panel into a neighbor's property
- ✓ 15) Pictures of dwelling showing photo shopped arrays on the structure.
- ✓ 16) Provide a drawing or photo shop picture of all proposed equipment on all effected elevations (including FD emergency disconnect switch)
- ✓ 17) A Fire Department AC disconnect, located outside by the Utility meter on all systems.

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TEL: (914) 591-8335 • **FAX:** (914) 591-5870

X 18) Separate Electrical Permit application by a Westchester County Department of Licensing, licensed Electrician with required insurances and the appropriate fee (must be filed by the licensed contractor, see village application for further details).
X 19) Submit signed check list with submission and appropriate building permit fee.
X 20) Applicant has provided seven copies of the entire submittal for Architectural Review Board approval.

Applicant Affidavit:
Applicants Name: Sunrise Solar Solutions LLC Christine Schrader
Applicants Address: 510 N. State Rd
Briarcliff Manor NY 10510
Applicants Phone # 914 762 7622
Applicants Email christine@sunrisesolarLLC.com

Applicant Name: Christine Schrader **Signature:** _____ **Date:** 4/24/23 **By signing this affidavit I attest to have read the attached Solar Energy Equipment Code and the Solar Equipment Guidelines manufactures installation instructions and that all information asked for above has been submitted and that the submitted information is correct.**

General Contractor Affidavit:
Contractors Name: Sunrise Solar Solutions LLC
Contractors Address: 510 N State Rd
Briarcliff Manor 10510
Contractors Phone # 9147627622
Contractors Email christine@sunrisesolarLLC.com

General Contractor Name: Christine Schrader **Signature:** _____ **Date:** 4/24/23 **By signing this affidavit I attest to being the general contractor of record for this application and will be responsible for oversite and direct supervision of same, and will maintain a valid Westchester County Department of Consumer Protection License, a valid for Workers Compensation Policy and a General Liability Policy listing the Village of Irvington as Certificate Holder and additional insured with no conditions until such time I apply for and receive a Certificate of Completion.**

Electrical Contractor Affidavit:
Electrical Contractors Name: Mil Mart Electric
Electrical Contractors Address: 19 Strawberry Hill Lane
W. Nyack NY 10994
Electrical Contractors Phone # 845 222 5348
Electrical Contractors Email milmartelectric@gmail.com

Electrical Contractor Name: A. Schrader **Signature:** _____ **Date:** 4/24/23 **By signing this affidavit I attest to being the electrical contractor of record for this application and will be responsible for oversite and direct supervision of same, and will maintain a valid Westchester County Electrical License, a valid for Workers Compensation Policy and a General Liability Policy listing the Village of Irvington as Certificate Holder and additional insured with no conditions until such time I apply for and receive a Certificate of Completion.**

Note: Applications for all exterior elevation changes including photovoltaic solar systems are required to apply for, make a presentation in front of, and receive approval from the Village of Irvington Architectural Review Board (ARB) prior to issuance of a building permit. The ARB meetings are the second and fourth Mondays of the month, with a deadline for submissions one week prior to the meetings (see village web site for confirmation of meetings). Seven sets of copies of the entire application are required to be submitted at the deadline with appropriate fee at the time of submission.

Note: The following list above is given to assist in the application process. It is not intended to be a replacement for the Building or Zoning Code, County or State Regulations, or Consolidate Edison Requirements. Unique and Special projects may require additional information.

Hours of Construction: Monday-Friday 7AM-7PM; Saturday 9AM-5PM; Sunday and holiday's construction is prohibited
Only completed applications will be accepted with attached insurance certificates and County license

VILLAGE OF IRVINGTON
BUILDING DEPARTMENT
85 MAIN STREET
IRVINGTON, NEW YORK 10533
TEL: (914) 591-8335 • **FAX:** (914) 591-5870
Web Site: www.Irvingtonny.gov

LICENSED PROFESSIONAL AFFIDAVIT for RESIDENTIAL SOLAR SYSTEMS

TO BE SUBMITTED AS PART OF THE PERMIT APPLICATION

AFFIDAVIT OF ARCHITECT OR ENGINEER

State of New York } ss.:
County of Westchester }

I the undersigned, under penalty of perjury, do hereby affirm:

1. I am an the (architect)(engineer) duly licensed in the State of New York

2. I am the NYS licensed design professional named in the Application for which a Building Permit for a residential solar system located at 4 DEEP HOLLOW CLOSE, Irvington, New York 10533.

3. I have inspected the existing building and structure and find that the existing structure with the proposed solar panel installation and connections to the existing roof meet the minimum criteria set forth in;
   Applicable Codes: 2015 Residential Code of New York State
   Design Roof Load: 30 psf live load, 115 psf dead load, 45 psf total load 15psf
   Design Wind Load: 120 mph, 35psf
   OR have proposed additional measures to insure compliance with above.

4. I have reviewed the following submitted drawings and/or manufacture specifications as part of the submission
   List applicable plans with revision dates: S1-S5 (rev date) 2/10/23
   _____(rev date)_____
   G1 (rev date) 2/10/23
   _____(rev date)_____
   _____(rev date)_____
   _____(rev date)_____

5. The plans, drawings and specifications which the Building Permit is requested and listed above, as submitted (a)-were prepared by me or under my supervision, and (b)-to the best of my knowledge comply with the requirements of the Residential Building Code of New York State as adopted by the Village of Irvington, applicable design loads and all other applicable laws, rules and regulations governing building construction.

Signature

(Architect) (Engineer)

Sworn to before me this
16 day of March, 2023

Notary Public

BROOKE NARDONI
My Commission Expires 12/27/2026
NOTARY PUBLIC NOTARY SEAL #22191098
St. Charles County
STATE OF MISSOURI

Job Location: 4 DEEP HOLLOW CLOSE Parcel Id: 2.170-77-6

AFFIDAVIT OF APPLICANT

I **Schrader Christine** being duly sworn, depose and says: That s/he does business as: **Sunrise Solar Solutions LLC** with offices at: **510 North State Road Briarcliff Manor NY 10510** and that s/he is:

- ☐ The owner of the property described herein.
- ☐ The _____ of the New York Corporation _____ with offices at: _____ duly authorized by resolution of the Board of Directors, and that said corporation is duly authorized by the owner to make this application.
- ☐ A general partner of _____ with offices _____ and that said Partnership is duly authorized by the Owner to make this application.
- ☐ The Lessee of the premises, duly authorized by the owner to make this application.
- ☐ The Architect of Engineer duly authorized by the owner to make this application.
- ☒ The contractor authorized by the owner to make this application.

That the information contained in this application and on the accompanying drawings is true to the best of his knowledge and belief. The undersigned hereby agrees to comply with all the requirements of the New York State Uniform Fire Prevention and Building Code, the Village of Irvington Building Code, Zoning Ordinance and all other laws pertaining to same, in the construction applied for, whether or not shown on plans or specify in this application.

Sworn to before me this 27 day of March of 2023

Notary Public / Commission of Deeds

Anthony Covone
Notary Public, State of New York
Reg. No. 01CO6118733
Qualified in Westchester County
Commission Expires November 15, 2024

Christine Schrader
Applicant's Signature

OWNER'S AUTHORIZATION

I **Mick Cartwright** as the owner of the subject premises and have authorized the contractor named above to perform the work under the subject application.

Owner phone number 917-442-5366 Owner email address mickcartwright@gmail.com

☐ Michael Cartwright I hereby acknowledge that it is my responsibility as the **property owner** to ensure that if the permit (if issued) receives a Final Certificate of Approval from the Building Department and further that if a Final Certificate of Approval is not obtained upon completion of the construction, a property violation may be placed on the property for which this permit is being requested.

Sworn to before me this 8 day of March of 2023

Notary Public / Commission of Deeds

Applicant's Signature

ERIK LEVI CARLSON
NOTARY PUBLIC-STATE OF NEW YORK
No. 01CA6443904
Qualified in Westchester County
My Commission Expires 11-14-2026

SUNRSOL-01 JBRUNO

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 3/6/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Levitt-Fuirst Associates, LTD 520 White Plains Road 2nd Floor Tarrytown, NY 10591	CONTACT NAME: PHONE (A/C, No, Ext): (914) 457-4200 FAX (A/C, No): (914) 457-4200 E-MAIL ADDRESS: info@levittfuirst.com
INSURED Sunrise Solar Solutions, LLC 510 North State Rd Briarcliff Manor, NY 10510	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : Southwest Marine & General Insurance Company — 12294 INSURER B : AmGuard Insurance Company — 42390 INSURER C : New York State Insurance Fund — 36102 INSURER D : ShelterPoint — 81434 INSURER E : Fair American Insurance & Reinsurance Co. — 35157 INSURER F :

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR X EPL $250,000 Ded $5, GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [X] PRO-JECT [ ] LOC OTHER:			GL202200008728	3/21/2022	3/21/2023	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG ERRORS AND OMIS	$ 1,000,000 $ 100,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $ 1,000,000
B	AUTOMOBILE LIABILITY ANY AUTO OWNED AUTOS ONLY [X] SCHEDULED AUTOS X HIRED AUTOS ONLY [X] NON-OWNED AUTOS ONLY			SUAU387412	4/25/2022	4/25/2023	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
A	[ ] UMBRELLA LIAB [X] OCCUR X EXCESS LIAB [ ] CLAIMS-MADE DED [X] RETENTION $ 10,000			EX202200001810	3/21/2022	3/21/2023	EACH OCCURRENCE AGGREGATE	$ 5,000,000 $ 5,000,000 $
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N [Y] N/A If yes, describe under DESCRIPTION OF OPERATIONS below			20925574	6/29/2021	6/29/2023	X PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000
D	Disability			DBL333258	2/8/2022	2/7/2024	Statutory Limits	
E	Owners/Contractors P			RPL700031700	3/2/2021	9/21/2022	$2MM/$6MM	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Re: 4 Deep Hollow Close Irvington, NY 10533
Village of Irvington is included as Additional Insured for covered operations of the named insured,

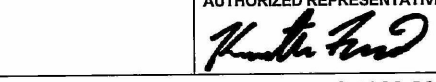
CERTIFICATE HOLDER

Village of Irvington
85 main St.
Irvington, NY 10533

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE



ACORD 25 (2016/03)

NEW YORK STATE | Workers' Compensation Board

CERTIFICATE OF INSURANCE COVERAGE

NYS DISABILITY AND PAID FAMILY LEAVE BENEFITS LAW

PART 1. To be completed by NYS disability and Paid Family Leave benefits carrier or licensed insurance agent of that carrier

1a. Legal Name & Address of Insured (use street address only)
SUNRISE SOLAR SOLUTIONS, LLC
510 NORTH STATE ROAD
BRIARCLIFF MANOR, NY 10510

Work Location of Insured *(Only required if coverage is specifically limited to certain locations in New York State, i.e., Wrap-Up Policy)*

1b. Business Telephone Number of Insured
914-762-7622

1c. Federal Employer Identification Number of Insured or Social Security Number
270479601

2. Name and Address of Entity Requesting Proof of Coverage (Entity Being Listed as the Certificate Holder)
Village of Irvington
85 Main Street
Irvington, NY 10533

3a. Name of Insurance Carrier
ShelterPoint Life Insurance Company

3b. Policy Number of Entity Listed in Box "1a"
DBL333258

3c. Policy effective period
02/08/2023 to 02/07/2024

4. Policy provides the following benefits:
- [x] A. Both disability and paid family leave benefits.
- [ ] B. Disability benefits only.
- [ ] C. Paid family leave benefits only.

5. Policy covers:
- [x] A. All of the employer's employees eligible under the NYS Disability and Paid Family Leave Benefits Law.
- [ ] B. Only the following class or classes of employer's employees:

Under penalty of perjury, I certify that I am an authorized representative or licensed agent of the insurance carrier referenced above and that the named insured has NYS Disability and/or Paid Family Leave Benefits insurance coverage as described above.

Date Signed 3/6/2023 By Richard O. White
(Signature of insurance carrier's authorized representative or NYS Licensed Insurance Agent of that insurance carrier)

Telephone Number 516-829-8100 Name and Title Richard White, Chief Executive Officer

IMPORTANT: If Boxes 4A and 5A are checked, and this form is signed by the insurance carrier's authorized representative or NYS Licensed Insurance Agent of that carrier, this certificate is COMPLETE. Mail it directly to the certificate holder.

If Box 4B, 4C or 5B is checked, this certificate is NOT COMPLETE for purposes of Section 220, Subd. 8 of the NYS Disability and Paid Family Leave Benefits Law. It must be emailed to PAU@wcb.ny.gov or it can be mailed for completion to the Workers' Compensation Board, Plans Acceptance Unit, PO Box 5200, Binghamton, NY 13902-5200.

PART 2. To be completed by the NYS Workers' Compensation Board (Only if Box 4B, 4C or 5B have been checked)

State of New York
Workers' Compensation Board

According to information maintained by the NYS Workers' Compensation Board, the above-named employer has complied with the NYS Disability and Paid Family Leave Benefits Law(Article 9 of the Workers' Compensation Law) with respect to all of their employees.

Date Signed _____ By _____
(Signature of Authorized NYS Workers' Compensation Board Employee)

Telephone Number _____ Name and Title _____

Please Note: *Only insurance carriers licensed to write NYS disability and paid family leave benefits insurance policies and NYS licensed insurance agents of those insurance carriers are authorized to issue Form DB-120.1.* ***Insurance brokers are NOT authorized to issue this form.***

DB-120.1 (12-21)

DB-120.1 (12-21)

NYSIF
New York State Insurance Fund

PO Box 66699, Albany, NY 12206
| nysif.com

CERTIFICATE OF WORKERS' COMPENSATION INSURANCE

^^^^^^ 270479601
LEVITT-FUIRST ASSOCIATES LTD
520 WHITE PLAINS ROAD, 2ND FL
TARRYTOWN NY 10591

SCAN TO VALIDATE
AND SUBSCRIBE

POLICYHOLDER	CERTIFICATE HOLDER 4 DEEP HOLLOW CLOSE
SUNRISE SOLAR SOLUTIONS LLC 510 NORTH STATE ROAD BRIARCLIFF MANOR NY 10510	THE VILLAGE OF IRVINGTON 85 MAIN STREET IRVINGTON NY 10533

POLICY NUMBER	CERTIFICATE NUMBER	POLICY PERIOD	DATE
G2092 557-4	940142	06/29/2022 TO 06/29/2023	3/6/2023

THIS IS TO CERTIFY THAT THE POLICYHOLDER NAMED ABOVE IS INSURED WITH THE NEW YORK STATE INSURANCE FUND UNDER POLICY NO. 2092 557-4, COVERING THE ENTIRE OBLIGATION OF THIS POLICYHOLDER FOR WORKERS' COMPENSATION UNDER THE NEW YORK WORKERS' COMPENSATION LAW WITH RESPECT TO ALL OPERATIONS IN THE STATE OF NEW YORK, EXCEPT AS INDICATED BELOW.

IF YOU WISH TO RECEIVE NOTIFICATIONS REGARDING SAID POLICY, INCLUDING ANY NOTIFICATION OF CANCELLATIONS, OR TO VALIDATE THIS CERTIFICATE, VISIT OUR WEBSITE AT HTTPS://WWW.NYSIF.COM/CERT/CERTVAL.ASP. THE NEW YORK STATE INSURANCE FUND IS NOT LIABLE IN THE EVENT OF FAILURE TO GIVE SUCH NOTIFICATIONS.

THIS POLICY AFFORDS COVERAGE TO THE SOLE PROPRIETOR, PARTNERS AND/OR MEMBERS OF A LIMITED LIABILITY COMPANY.

DOUGLAS HERTZ
RAND M MANASSEE
ERIC MESSER
SUNRISE SOLAR SOLUTIONS LLC

THE POLICY INCLUDES A WAIVER OF SUBROGATION ENDORSEMENT UNDER WHICH NYSIF AGREES TO WAIVE ITS RIGHT OF SUBROGATION TO BRING AN ACTION AGAINST THE CERTIFICATE HOLDER TO RECOVER AMOUNTS WE PAID IN WORKERS' COMPENSATION AND/OR MEDICAL BENEFITS TO OR ON BEHALF OF AN EMPLOYEE OF OUR INSURED IN THE EVENT THAT, PRIOR TO THE DATE OF THE ACCIDENT, THE CERTIFICATE HOLDER HAS ENTERED INTO A WRITTEN CONTRACT WITH OUR INSURED THAT REQUIRES THAT SUCH RIGHT OF SUBROGATION BE WAIVED.

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS NOR INSURANCE COVERAGE UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICY.

NEW YORK STATE INSURANCE FUND

DIRECTOR,INSURANCE FUND UNDERWRITING

VALIDATION NUMBER: 551631804

U-26.3

George Latimer
Westchester County Executive

Westchester gov.com

James Maisano
Director, Consumer Protection

Department of Consumer Protection
Home Improvement License

SUNRISE SOLAR SOLUTIONS, LLC

510 NORTH STATE ROAD

BRIARCLIFF MANOR,NY-10510

This license is issued in accordance with Article XVI of the Westchester County Consumer Protection Code and is valid only upon presence of the official department seal. Proof of citizenship or immigration status is not required for issuance of this license.
NOT FOR FEDERAL PURPOSES

License Number

WC-22419-H09

Department of Consumer Protection
Westchester County, NY

Date of Expiration

11/18/2023

ENGINEERED SOLUTIONS, LLC
DESIGN - ENGINEERING - CONSULTING

Mr. Doug Hertz
Sunrise Solar Solutions, LLC
510 North State Road
Briarcliff Manor, NY 10510

February 13, 2023

RE: Cartwright Residence – 4 Deep Hollow Close, Irvington, NY 10533
Project # 23.093

Mr. Hertz:

We have reviewed the proposed solar array and the structure(s) at the above referenced address.

The array on the residence consists of (15) Sunpower modules on the structure, mounted on an Invisimount racking system, with a system weight of 2.8 psf. Attachments to be 5/16" standard lag bolt, with a minimum of 2" embedment into the structural member. A minimum of 1.3 attachments per panel is required for uplift resistance.

We hereby certify that the existing structure, with the addition of the proposed solar energy devices and racking, is capable of supporting the design loads required by the 2020 Residential Code of New York State.

We have attached the calculation for the critical roof member for the residence – a 2" x 8" rafter, checked for bending stress and deflection in accordance with ASCE 7-16.

Please feel free to contact us should you have any comments or questions.

Respectfully yours,

Matthew J. Boyce, PE

Matthew J. Boyce, PE

Engineered Solutions, LLC
3368 Carriage Crossing
Saint Charles, MO 63301

Wood Beam

DESCRIPTION: 2x6 or larger

CODE REFERENCES

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combination Set : ASCE 7-16

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : ASCE 7-16

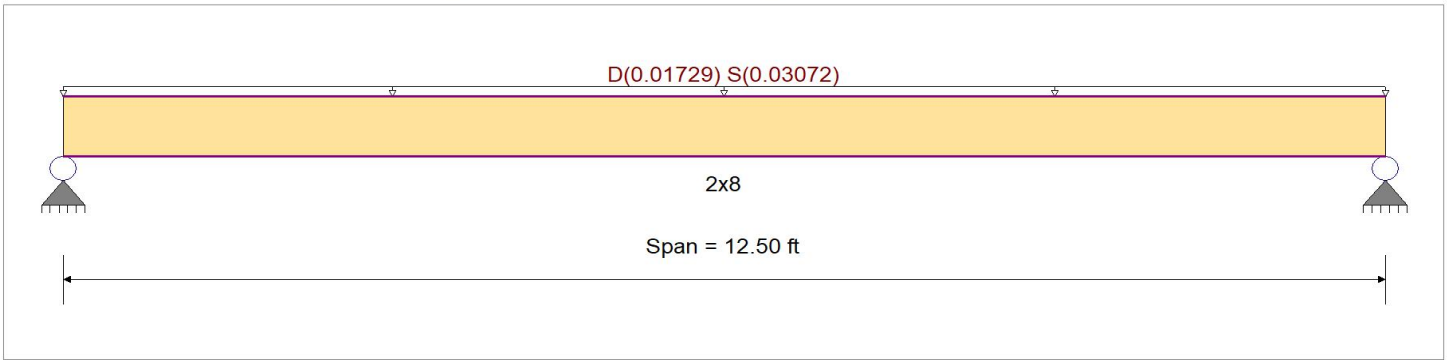
Wood Species : Southern Pine
Wood Grade : No.2: 2"-4" Thick: 8" Wide

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb +	1200 psi
Fb -	1200 psi
Fc - Prll	1550 psi
Fc - Perp	565 psi
Fv	175 psi
Ft	650 psi

E : Modulus of Elasticity

Ebend- xx	1600 ksi
Eminbend - xx	580 ksi
Density	34.33 pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Loads on all spans...
Uniform Load on ALL spans : D = 0.0130, S = 0.02310 ksf, Tributary Width = 1.330 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.621 : 1	Maximum Shear Stress Ratio	=	0.206 : 1
Section used for this span		2x8	Section used for this span		2x8
	=	856.36 psi		=	41.39 psi
	=	1,380.00 psi		=	201.25 psi
Load Combination		+D+S	Load Combination		+D+S
Location of maximum on span	=	6.250 ft	Location of maximum on span	=	0.000 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.223 in	Ratio =	673 >=240
Max Upward Transient Deflection	0.000 in	Ratio =	0 <240
Max Downward Total Deflection	0.348 in	Ratio =	430 >=180
Max Upward Total Deflection	0.000 in	Ratio =	0 <180

Maximum Forces & Stresses for Load Combinations

Load Combination		Max Stress Ratios									Moment Values			Shear Values		
Segment Length	Span #	M	V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	M	fb	F'b	V	fv	F'v
D Only													0.00	0.00	0.00	0.00
Length = 12.50 ft	1	0.286	0.095	0.90	1.000	1.00	1.00	1.00	1.00	1.00	0.34	308.38	1080.00	0.11	14.91	157.50
+D+L					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 12.50 ft	1	0.257	0.085	1.00	1.000	1.00	1.00	1.00	1.00	1.00	0.34	308.38	1200.00	0.11	14.91	175.00
+D+S					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 12.50 ft	1	0.621	0.206	1.15	1.000	1.00	1.00	1.00	1.00	1.00	0.94	856.36	1380.00	0.30	41.39	201.25
+D+0.750L					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 12.50 ft	1	0.206	0.068	1.25	1.000	1.00	1.00	1.00	1.00	1.00	0.34	308.38	1500.00	0.11	14.91	218.75
+D+0.750L+0.750S					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 12.50 ft	1	0.521	0.173	1.15	1.000	1.00	1.00	1.00	1.00	1.00	0.79	719.36	1380.00	0.25	34.77	201.25
+0.60D					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 12.50 ft	1	0.096	0.032	1.60	1.000	1.00	1.00	1.00	1.00	1.00	0.20	185.03	1920.00	0.06	8.94	280.00

Wood Beam

DESCRIPTION: 2x6 or larger

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+S	1	0.3481	6.296		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	0.300	0.300
Overall MINimum	0.192	0.192
D Only	0.108	0.108
+D+L	0.108	0.108
+D+S	0.300	0.300
+D+0.750L	0.108	0.108
+D+0.750L+0.750S	0.252	0.252
+0.60D	0.065	0.065
S Only	0.192	0.192

SunPower® InvisiMount™ | Residential Mounting System

Simple and Fast Installation

- Integrated module-to-rail grounding
- Pre-assembled mid and end clamps
- Levitating mid clamp for easy placement
- Mid clamp width facilitates consistent, even module spacing
- UL 2703 Listed integrated grounding

Flexible Design

- Addresses sloped and low-sloped residential roofs
- Design in landscape and portrait with up to 8' rail span
- Pre-drilled rails and rail splice
- Rails enable easy obstacle management

Customer-Preferred Aesthetics

- Best-in-class system aesthetics
- Black anodized components
- Low-profile mid clamps and capped, flush end clamps

Part of Superior System

- Best-in-class system reliability and aesthetics
- Optional rooftop transition flashing, rail-mounted J-box, and wire management rail clips
- Combine with SunPower modules and mySunPower® monitoring app

Elegant Simplicity

SunPower® InvisiMount™ is a SunPower-designed rail-based mounting system. The InvisiMount system addresses residential sloped roofs and combines faster installation time, design flexibility, and superior aesthetics. Classic InvisiMount is specifically envisioned and engineered to pair with SunPower modules; Universal InvisiMount is compatible with a wide range of modules. The resulting system-level approach amplifies the installation and aesthetic benefits—for homeowners and for installers.

Intertek
5024883
Conf. To UL STD 2703
Class A Fire Rating

sunpower.com

SunPower® InvisiMount™ | Residential Mounting System

InvisiMount Components

Classic InvisiMount


Ground Lug Assembly


Rail and Rail Splice


Mid Clamp


Row-to-Row Grounding Clip


Row-to-Row Spacer


End Clamp

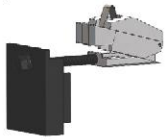
Universal InvisiMount


Ground Lug Assembly


Rail and Rail Splice


Universal Mid Clamp


Row-to-row Grounding Jumper (DynoBond)


Universal End Clamp

InvisiMount Component Details		
Classic mid clamp	Black oxide stainless steel 300 series	63 g (2.2 oz)
Universal mid clamp	Black anodized aluminum 6000 series	60 g (2.1 oz)
Classic end clamp	Black anodized aluminum 6000 series	110 g (3.88 oz)
Universal end clamp	Black anodized aluminum 6000 series	103 g (3.63 oz)
Rail	Black anodized aluminum 6000 series	830 g/m (9 oz/ft)
Rail splice	Aluminum alloy 6000 series	830 g/m (9 oz/ft)
Rail bolt	M10-1.5 × 25 mm; custom T-head SS304	18 g (0.63 oz)
Rail nut	M10-1.5; DIN 6923 SS304	nominal
Ground lug assembly	SS304; A2-70 bolt; tin-plated copper lug	106.5 g (3.75 oz)
Row-to-row grounding clip	SS 301 with SS 304 M6 bolts	75 g (2.6 oz)
Row-to-row grounding jumper	Stainless steel 300 series	10 g (0.35 oz)
Row-to-row spacer	Black POM-grade plastic	5 g (0.18 oz)

Roof Attachment BOM

- InvisiMount Comp Shingle Attachment with Pegasus
- InvisiMount Flat Tile Replacement Attachment with Pegasus
- InvisiMount S-Tile Replacement Attachment with Pegasus
- InvisiMount W-Tile Replacement Attachment with Pegasus

InvisiMount Warranties And Certifications	
Warranties	• 25-year product warranty • 5-year finish warranty
Certifications	• UL 2703 Listed • Class A Fire Rated

InvisiMount Operating Conditions	
Temperature	−40°C to 90°C (−40°F to 194°F)

Roof Attachment Hardware Warranties

Refer to roof attachment hardware manufacturer's documentation.

InvisiMount Component LRFD Capacities[2]		
Classic Mid clamp	Uplift	664 lbf
	Shear	540 lbf
Universal Mid clamp	Uplift	962 lb
	Shear	437 lb
Classic End clamp	Uplift	899 lbf
	Shear	220 lbf
Universal End clamp	Uplift	605 lb
	Shear	242 lb
Rail	Moment: upward	548 lbf-ft
	Moment: downward	580 lbf-ft
Rail splice	Moment: upward	548 lbf-ft
	Moment: downward	580 lbf-ft
L-foot	Uplift	1000 lbf
	Shear	390 lbf

[1] With Classic InvisiMount, a module frame that is compatible with the InvisiMount system is required for hardware interoperability; modules without this frame may be used with Universal InvisiMount.

[2] SunPower recommends that all Equinox™, InvisiMount™, and AC module systems always be designed using the InvisiMount Span Tables #524734. If a designer decides to instead use the component capacities listed in this document to design a system, note that the capacities shown are Load and Resistance Factor Design (LRFD) design loads, and are NOT to be used for Allowable Stress Design (ASD) calculations; and that a licensed Professional Engineer (PE) must then stamp all calculations. If you have any questions please contact SunPower Technical Support at 1-855-977-7867.

sunpower.com
509506 RevH

425-410 W Residential Black AC Module

SunPower® Maxeon® Technology

Built specifically for use with the SunPower Equinox® system, the only fully integrated solution designed, engineered, and warranted by one company.

Part of the SunPower Equinox® Solar System

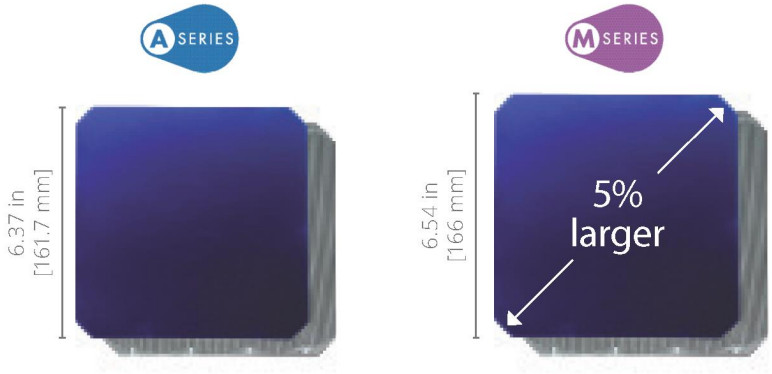
- Seamless aesthetics
- Compatible with mySunPower monitoring

Factory-integrated Microinverter

- Highest-power integrated AC module in solar
- Engineered and calibrated by SunPower for SunPower AC modules

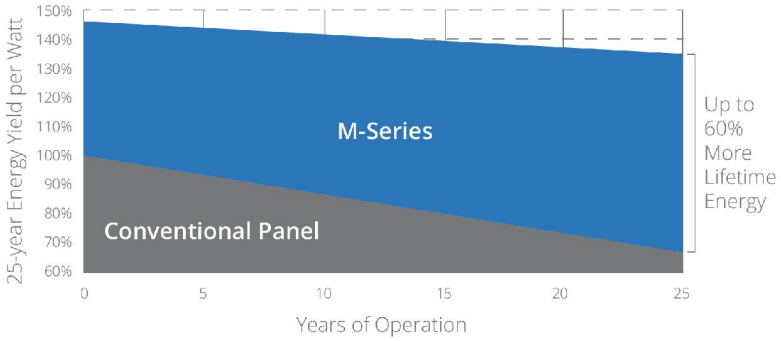
Highest Power Density Available

The patented, solid-copper foundation Maxeon Gen 6 cell is over 5% larger than prior generations, delivering the highest-efficiency all-black AC solar module available.[1]



Highest Lifetime Energy and Savings

Designed to deliver 60% more energy over 25 years in real-world conditions like partial shade and high temperatures.[2]



Best Reliability, Best Warranty

With more than 42.6 million and 15 GW of modules deployed around the world, SunPower technology is proven to last. That's why we stand behind our module and microinverter with the industry's best 25-year Combined Power and Product Warranty, including the highest Power Warranty in solar.

M-Series: M425-BLK | M415-BLK | M410-BLK SunPower® Residential Black AC Module

AC Electrical Data		
Inverter Model: Type H (Enphase IQ7HS)	@240 VAC	@208 VAC
Peak Output Power (VA)	384	369
Max. Continuous Output Power (VA)	384	369
Nom. (L–L) Voltage/Range[3] (V)	240 / 211–264	208 / 183–229
Max. Continuous Output Current (A)	1.60	1.77
Max. Units per 20 A (L–L) Branch Circuit[4]	10	9
CEC Weighted Efficiency	97.0%	96.5%
Nom. Frequency	60 Hz	60 Hz
Extended Frequency Range	47–68 Hz	47–68 Hz
AC Short Circuit Fault Current Over 3 Cycles	4.82 A	4.82 A
Overvoltage Class AC Port	III	III
AC Port Backfeed Current	18 mA	18 mA
Power Factor Setting	1.0	1.0
Power Factor (adjustable)	0.85 (inductive) / 0.85 (capacitive)	0.85 (inductive) / 0.85 (capacitive)

DC Power Data	SPR-M425-BLK-H-AC	SPR-M415-BLK-H-AC	SPR-M410-BLK-H-AC
Nom. Power[6] (Pnom) W	425	415	410
Power Tolerance	+5/–0%	+5/–0%	+5/–0%
Module Efficiency	22.0%	21.5%	21.2%
Temp. Coef. (Power)	–0.29% / °C	–0.29% / °C	–0.29% / °C
Shade Tolerance	Integrated module-level max. power point tracking		

Tested Operating Conditions	
Operating Temp.	–40°F to +185°F (–40°C to +85°C)
Max. Ambient Temp.	122°F (50°C)
Max. Test Load[8]	Wind: 125 psf, 6000 Pa, 611 kg/m² back Snow: 187 psf, 9000 Pa, 917 kg/m² front
Max. Design Load	Wind: 75 psf, 3600 Pa, 367 kg/m² back Snow: 125 psf, 5400 Pa, 550 kg/m² front
Impact Resistance	1 inch (25 mm) diameter hail at 52 mph (23 m/s)

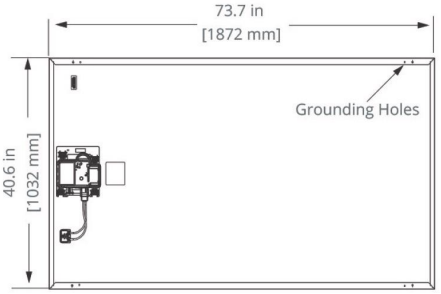
Mechanical Data	
Solar Cells	66 Maxeon Gen 6
Front Glass	High-transmission tempered glass with anti-reflective coating
Environmental Rating	Outdoor rated
Frame	Class 1 black anodized (highest AAMA rating)
Weight	48 lb (21.8 kg)
Recommended Max. Module Spacing	1.3 in. (33 mm)

Warranties, Certifications, and Compliance	
Warranties	• 25-year limited power warranty • 25-year limited product warranty
Certifications and Compliance	• UL 1741 / IEEE-1547 • UL 1741 AC Module • UL 61730 (Type 2 fire rated) • UL 62109-1 / IEC 62109-2 • FCC Part 15 Class B • ICES-0003 Class B • CAN/CSA-C22.2 NO. 107.1-01 • CA Rule 21 (UL 1741 SA)[5] (includes Volt/Var and Reactive Power Priority) • UL Listed PV Rapid Shutdown Equipment[7] Enables installation in accordance with: • NEC 690.6 (AC module) • NEC 690.12 Rapid Shutdown (inside and outside the array) • NEC 690.15 AC Connectors, 690.33(A)–(E)(1) When used with AC module Q Cables and accessories (UL 6703 and UL 2238)[7] • Rated for load break disconnect When used with InvisiMount racking and InvisiMount accessories (UL 2703): • Module grounding and bonding through InvisiMount • Class A fire rated
PID Test	1000 V: IEC 62804

Packaging Configuration	
Modules per pallet	25
Packaging box dimensions	75.4 × 42.2 × 48.0 in. (1915 × 1072 × 1220 mm)
Pallet gross weight	1300 lb (590 kg)
Pallets per container	32
Net weight per container	18,880 kg

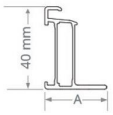
1 Based on datasheet review of websites of top 20 manufacturers per IHS, as of July 2021.
2 Maxeon 435 W, 22.5% efficient, compared to a Conventional Panel on same-sized arrays (300 W, 19% efficient, approx. 1.6 m²), 7.9% more energy per watt (based on PVSyst pan files for avg. US climate), 0.5%/yr slower degradation rate (Jordan, et. al. "Robust PV Degradation Methodology and Application."PVSC 2018).
3 Based on search of datasheet values from websites of top 10 manufacturers per IHS, as of June 2021.
4 Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.
5 Factory set to IEEE 1547a-2014 default settings. CA Rule 21 default settings profile set during commissioning.
6 Standard Test Conditions (1000 W/m² irradiance, AM 1.5, 25°C). All DC voltage is fully contained within the module.
7 UL Listed as PVRSE and conforms with NEC 2017 and NEC 2020 690.12 and C22.1-2015 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors; when installed according to manufacturer's instructions.
8 Please read the safety and installation instructions for more information regarding load ratings and mounting configurations.

See www.sunpower.com/company for more reference information.
For more details, see extended datasheet: www.sunpower.com/solar-resources.
Specifications included in this datasheet are subject to change without notice.



Please read the safety and installation instructions for details.

FRAME PROFILE



(A) Long Side: 1.3 in (32 mm)
Short Side: 0.9 in (24 mm)

AC MODULE
GRID SUPPORT UTILITY INTERACTIVE
PV RAPID SHUTDOWN EQUIPMENT
E478330
LISTED
Module Fire Performance: Type 2

544400 RevB
March 2022

ConnectDER

SMART **CONNECTDER**™

Plug-&-Play integration for residential Distributed Energy Resources

The Smart ConnectDER™ is a meter collar for rapid connection of grid-ready energy assets.

It is a UL listed, NEC compliant, low-cost alternative to traditional wiring methods.

Onboard metering, communications & controls unlock alternate tariff models and grid management capabilities.

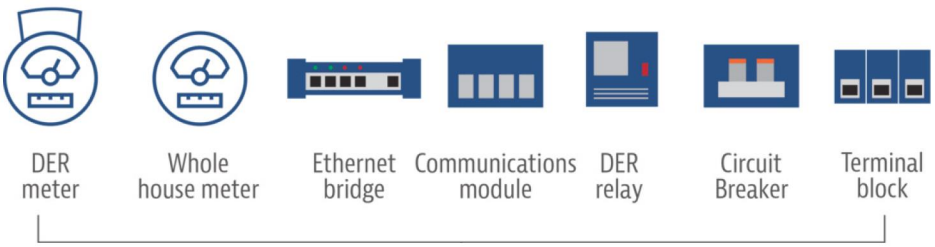
BENEFITS

- Drives down wiring costs, logistics headaches, & site inspection time
- Decreases BoS costs by eliminating components and reducing need for premises wiring upgrades
- Integrated circuit breaker provides PV equipment protection & safe field connection to terminal block
- Traditional below-the-meter connection option
- supports net metering, direct utility grid connection (above-the-meter) option enables alternate PV asset ownership models
- Onboard revenue grade telemetry & communications track system production
- Track mixed model inverter fleet operations through ConnectDER Cloud™ (GUI or API)

TECH. INFO

- Supports solar PV installations up to 15kW AC
- Grounding and bonding compliant with NEC Article 250
- For use with grid-interactive PV systems with UL 1741-compliant string- or micro-inverters

What's inside a Smart ConnectDER™?



MECHANICAL SPECIFICATIONS

ENCLOSURE RATING	NEMA 3R
ENCLOSURE TYPE	Injection molded polycarbonate, UL 94 V0 flame rating
COOLING	Natural convection
DIMENSIONS (H X W X D)	6.7 x 6.7 x 5.25in (170 x 170 x 133mm) collar only 8.5 x 6.7 x 5.25in (246 x 170 x 133mm) with junction box
WEIGHT	4lb (1.8kg)
SHIPPING WEIGHT	5.5lb (2.5kg)
MOUNTING SYSTEM	Blade interface with 4-jaw or 5-jaw meter socket
ELECTRIC METER COMPATIBILITY	Type 2S, 12S
METER SOCKET COMPATIBILITY	Ringless and ring-type meter sockets
CIRCUIT INTERFACE POINT	Below-the-meter or above-the-meter circuit interface (factory configured)
CONDUIT CONNECTIONS	Groove provided for ½", ¾", or 1" trade size opening

SAFETY INFORMATION

APPLICABLE SAFETY STANDARD	UL2745: Meter Socket Communications Equipment
FILE NUMBER	E468258

UTILITY INTERACTIVE SOURCE RATINGS

MAXIMUM POWER	15000 W
MAXIMUM VOLTAGE	240 V
MAXIMUM CONTINUOUS PV CURRENT	64 A
CONTINUOUS COMBINED CURRENT, PV/GRID	160 A
INVERTER WIRING TERMINATION	Box lugs, maximum wire size 3AWG
GRID CONNECTION TYPE	Split-Ø/3W (2S/4-jaw), 1 Ø/3W (12S/5-jaw)
GRID WIRING TERMINATION	Blade interface with meter socket for L1/L2, pigtail for neutral, optional 5th stab

OVERCURRENT PROTECTION

TYPE	Eaton BR, 120/240V, externally resettable
OVERCURRENT RATINGS AVAILABLE	15-45A in 5A increments, 50A-80A in 10A increments
CURRENT INTERRUPTING RATING	10k AIC rating

ENVIRONMENTAL

AMBIENT AIR OPERATING TEMPERATURE RANGE	-22°F to 158°F (-30°C to 70°C)
AMBIENT AIR STORAGE TEMPERATURE RANGE	-40°F to 176°F (-40°C to 80°C)

SMART CONNECTDER™

ConnectDER
e: info@connectder.com
t: 703-232-1427
w: www.connectder.com

METERING SPECIFICATIONS

FORM	2S, 12S
CLASS	100
ACCURACY	0.5%
FREQUENCY	60Hz +-5%
BURDEN	<3W
STANDARDS	ANSI C12.1, ANSI C12.20, UL Subject 2745
OPERATIONAL TEMP RANGE	-40°F to 185°F (-40°C to 85°C)t
HUMIDITY	0% to 100% (non-condensing)

INTERFACES

LCD	Watt hours and status
TERMINAL CONNECTIONS	Up to 3AWG wire

CELLULAR SPECIFICATIONS

LTE CAT 3	
DATA RATE	100.0D/50/0U Mbps
LTE BANDS	B17 (700), B5 (850), B4 (1700), B2 (1900)
LTE CAT 1	
DATA RATE	10.0D/5U Mbps
FREQUENCY BANDS (VERIZON)	LTE Bands B2 (1900), B4 (AWS1700), B13 (700)
FREQUENCY BANDS (AT&T)	LTE Bands B12/B13 (700), B4 (AWS1700), B2 (1900)
OUTPUT POWER	Class 3 (.2W, 23dBm)@LTE

WARRANTY

STANDARD WARRANTY	10 years

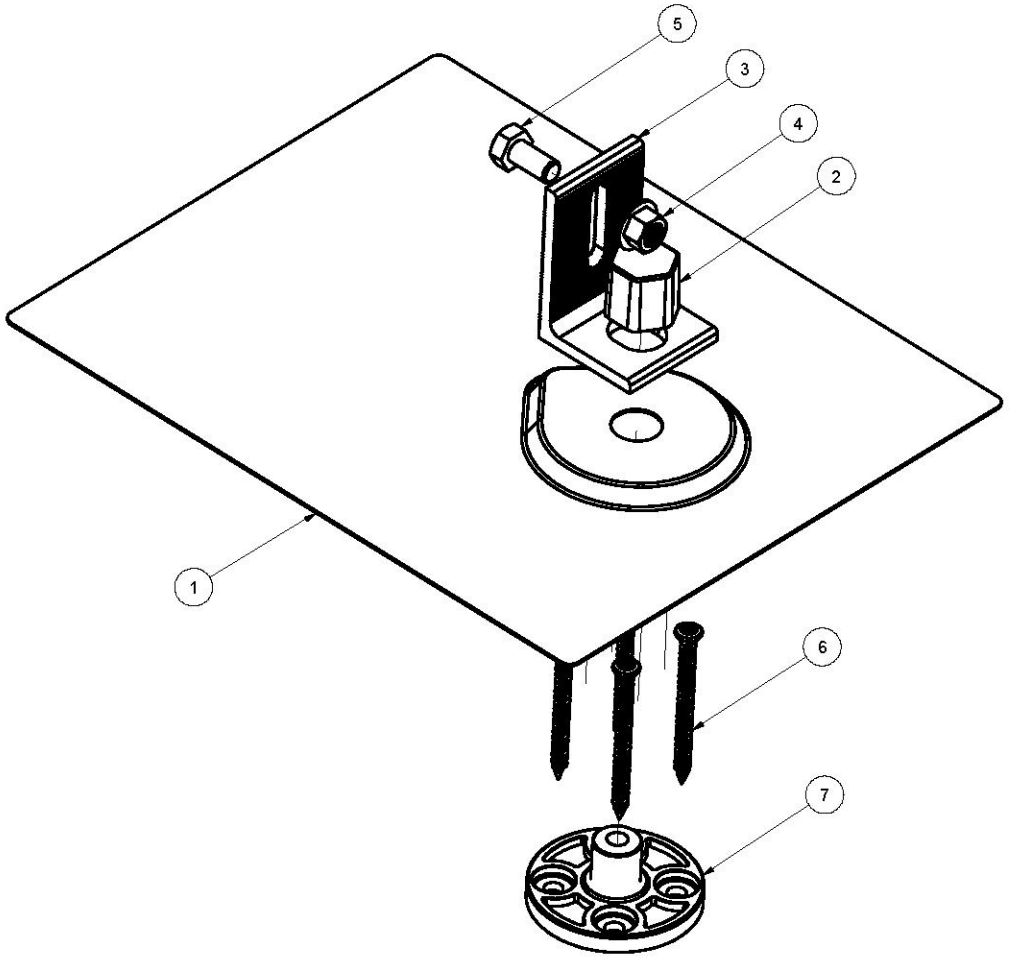
The ConnectDER is one of these potential "game-changers" that has really caught my attention. ...the main distribution panels in the home are notoriously small, outdated, maxed out, recessed into the wall, not listed for a supply-side interconnection or a combination of the above – making interconnection costly and complex. Utilizing the ConnectDER however can greatly simplify the process – bypassing the existing distribution panel all together and tying directly in at the meter in both a code-compliant and utility-sanctioned manner.

-15 year veteran solar installer

SMART CONNECTDER™

ConnectDER

e: info@connectder.com
t: 703-232-1427
w: www.connectder.com



EZ Roof Mount Kit - K10068-020[4]			
Load Direction (Figure 1)	Test Load at 0.250 inch deflection	Test Load at 0.125 inch deflection	Allowable Design Load[1,2]
Uplift-2 in.screw	770	396	200
Lateral-2 in.screw	232	114	85
Uplift-3 in.screw	777	390	177
Lateral-3 in.screw	264	157	102

Footnotes
1. Allowable load values are based on the least value from ultimate load tests divided by the safety factor, calculated fastener capacity (withdrawal or lateral) for wood, or allowable stress of the connector load (specified in Section 5.4 of EC002-2016), whichever is the lowest.
2. Allowable load values are based on lumber with a specific gravity of 0.55 (Southern Pine or equal).
3. Allowable load values are based on fasteners penetrating through minimum 1/2 inch thick wood sheathing.
4. Values based on IAPMO UES Evaluation Report Number 248.

ITEM	PART NUMBER	DESCRIPTION	QTY
7	K10291-001	ROOF MOUNT SHOE WITH EPDM GASKET KIT	1
6	B15040-001	OMG SCREW XHD003B,#15X3	4
5	B15018-001	HEX CAP SCREW 3/8-16 X 3/4	1
4	B15003-001	FLANGE NUT 3/8-16	1
3	A20064-003	L-FOOT	1
2	A20066-001	AL HEX CAP	1
1	A20052-001	ROOF MOUNT FLASHING	1

MATERIAL: SEE NOTES

Third Angle Projection:

GENERAL SPECIFICATIONS
All Dimensions in inches [millimeters]
Tolerances
X.XXX ±0.01 [0.25mm]
X.XX ±0.02 [0.50mm]
X.X ±0.039 [1.0mm]
Unless otherwise spec'd
Break all sharp edges .010-.020 unless otherwise specified.

DRAWN BY: LWF
DATE: 10/30/2018
CHECKED BY:
APPROVALS:

Sunmodo Corp.
14800 NE 65TH STREET, VANCOUVER WA 98682

TITLE: EZ ROOF MOUNT KIT-4 LAG BOLTS

B
DRAWING NUMBER: K10068-020 STRUCTURE

SCALE: NONE
SHEET 1 of 1

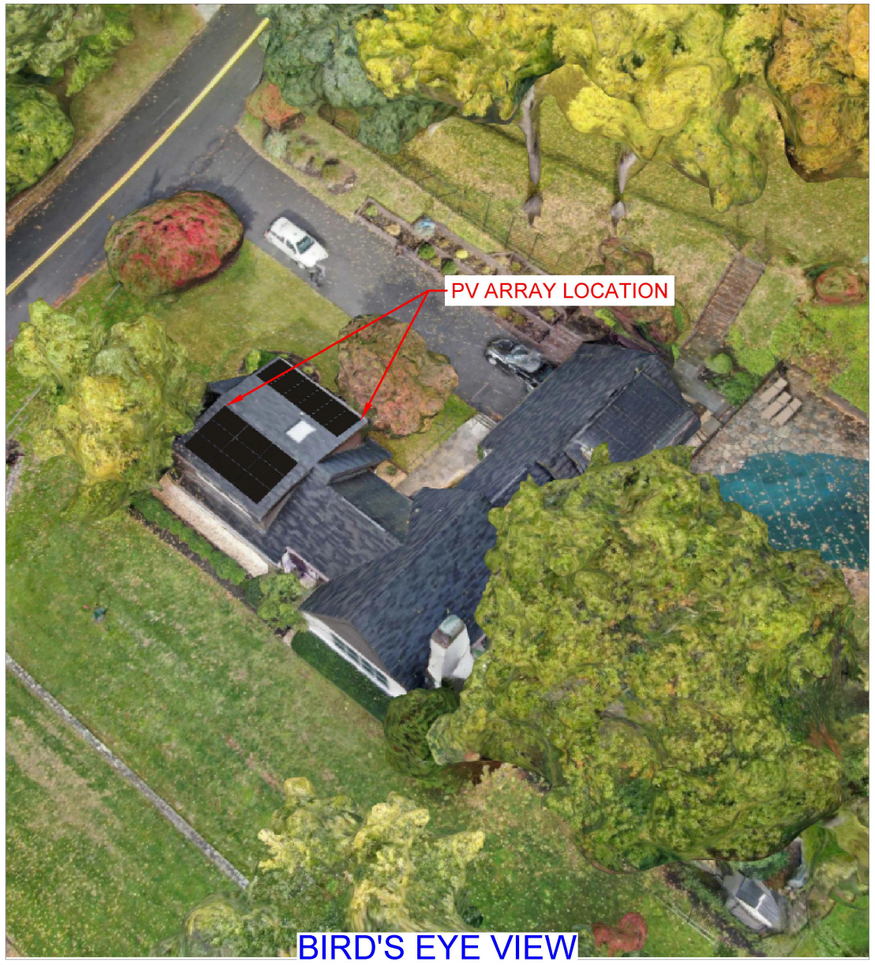
Solar Panel Installation

Cartwright Residence
4 DEEP HOLLOW CLOSE
IRVINGTON, NY 10533
AHJ: Village of Irvington
Tax Id#: Section 2.170 Block 77 Lot 6

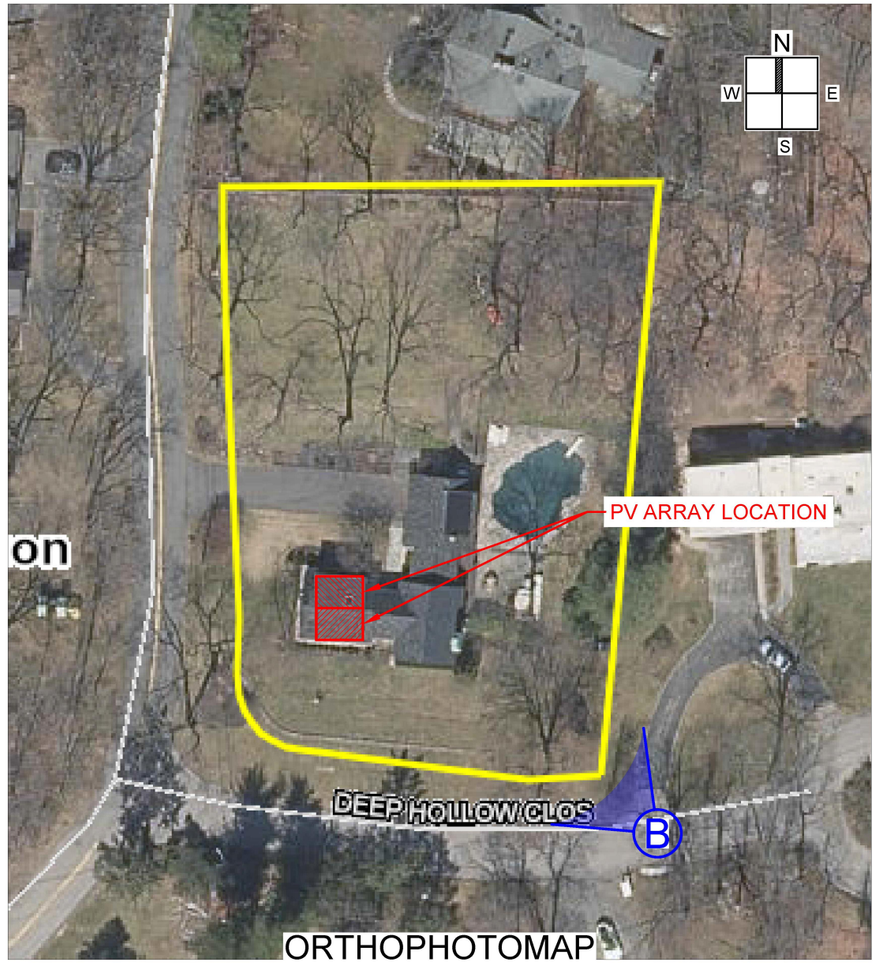
Sunrise Solar Solutions, LLC

510 North State Road
Briarcliff Manor, NY 10510

FRONT OF HOUSE
STREET VIEW



BIRD'S EYE VIEW



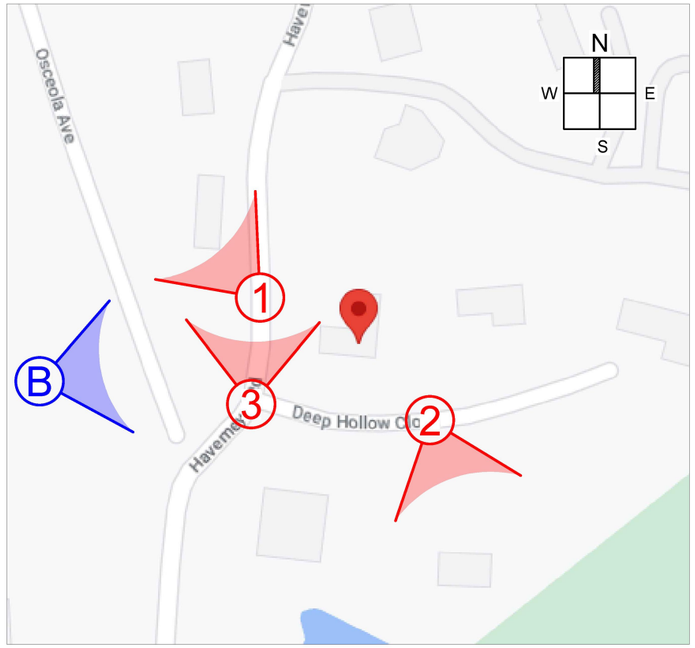
ORTHOPHOTOMAP

LEFT SIDE OF HOUSE
STREET VIEW

RIGHT SIDE OF HOUSE
STREET VIEW

FAR RIGHT SIDE OF HOUSE
STREET VIEW

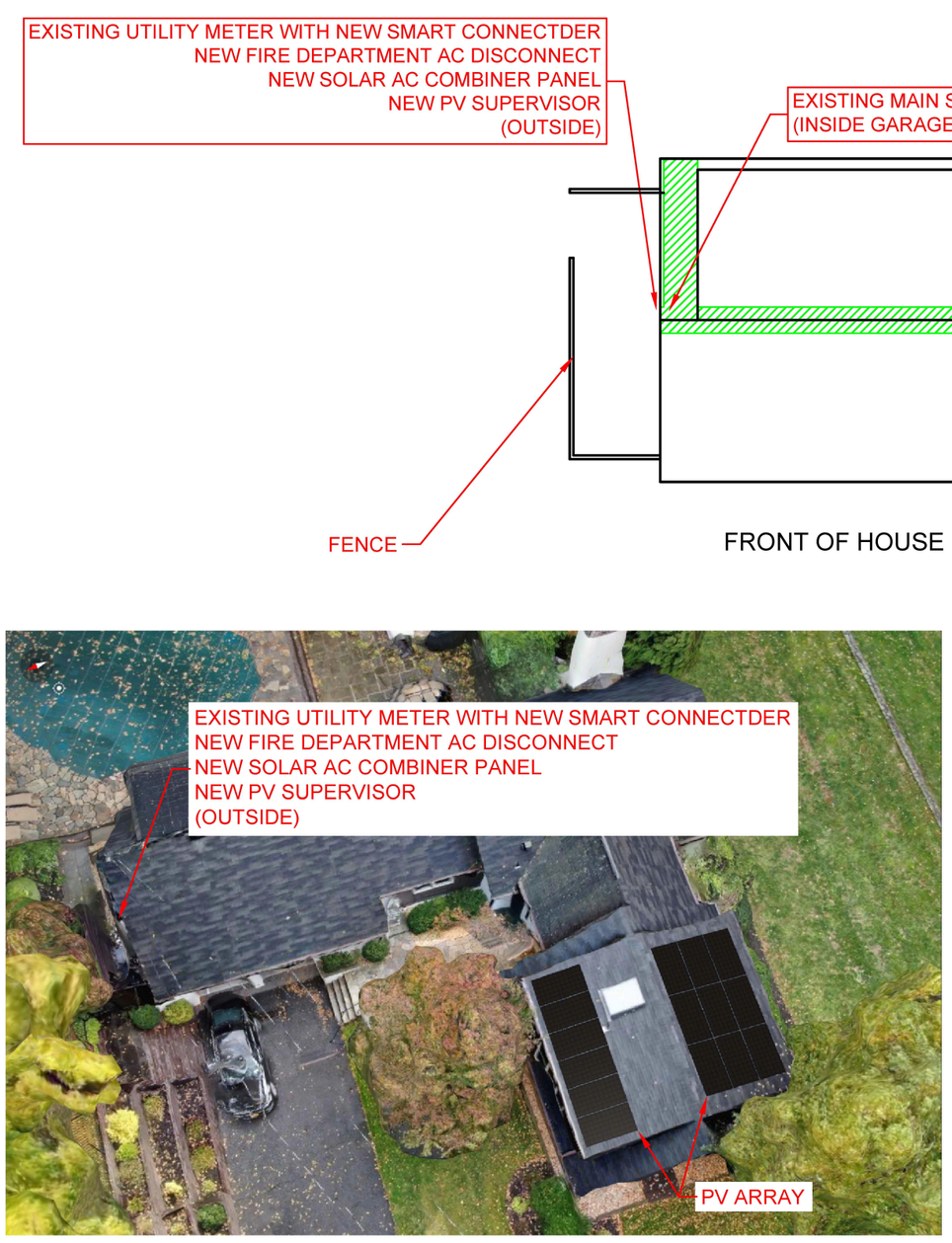
NEIGHBORING HOUSE
VIEW 1



VIEW OF HAVEMEYER ROAD
LOOKING NORTH - VIEW 3

NEIGHBORING HOUSE
VIEW 2

NEIGHBORING HOUSE
BIRD'S EYE VIEW



KEY MAP
N.T.S.

General Notes

1. Modules to be SUNPOWER 415 Watt BoB Residential AC Module, to be installed per SUNPOWER Installation Manual.
2. Racking to be Sunpower Invisimount, to be installed as per Sunpower Invisimount Manufacturer's Specifications.

Wind and Snow Load

Wind Speed: 120 mph
Snow Load: 30 psf

Design Notes (New York)

Design complies with NYS Residential Code and NEC 2017

510 N. State Rd.
Briarcliff Manor, NY
914.762.7622
sunrisesolarllc.com
Sunrise Solar SOLUTIONS

CARTWRIGHT RESIDENCE

4 DEEP HOLLOW CLOSE
IRVINGTON, NY 10533

SECTION 2.170 BLK 77 LOT 6

DATE	VER.	BY	CHK	REMARKS
2/10/2023	R0	CC		BUILDING PERMIT
3/27/2023	R5	CC		BUILDING PERMIT

JOB #22-0191

SYSTEM DESCRIPTION:

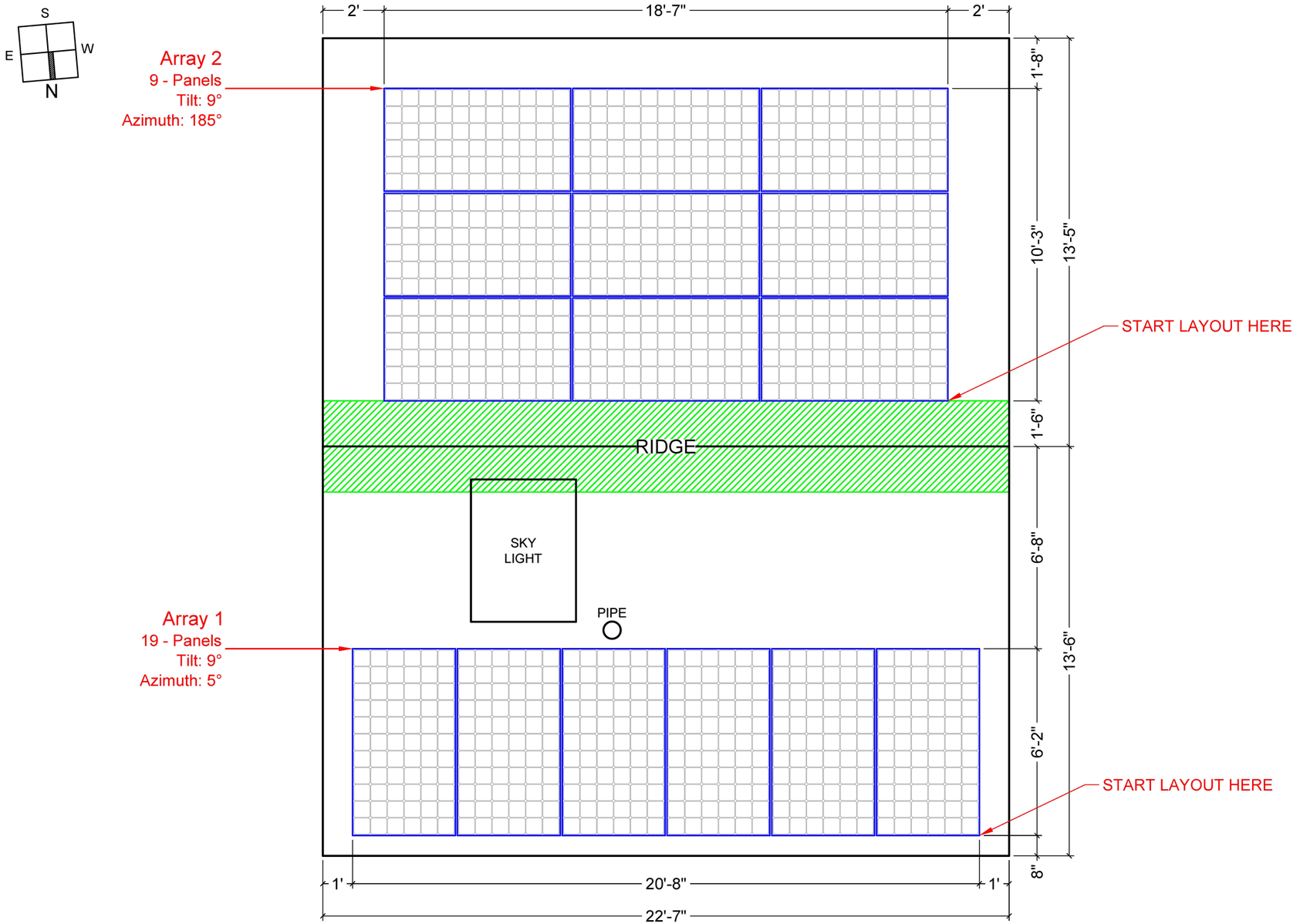
- 15 Photovoltaic Panels
- SUNPOWER
- SPR-M415-BLK-H-AC, BoB
- System Size: 6.23 kW DC
  5.76 kW AC

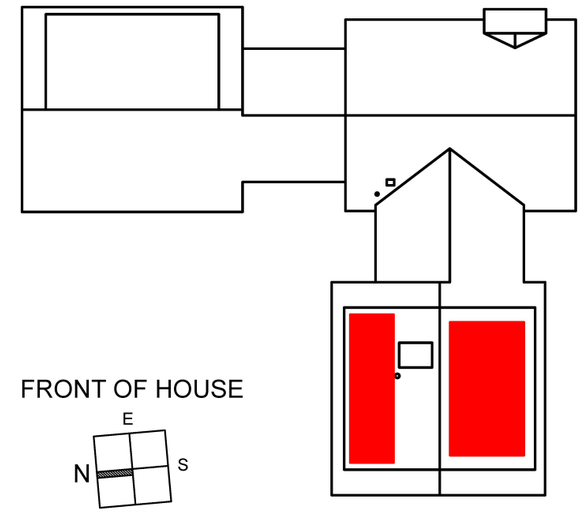
ARRAY	1	2
TILT	9°	9°
AZIMUTH	5°	185°

S1

SITE PLAN

2304130533PM





KEY MAP
N.T.S.

510 N. State Rd.
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914.762.7622
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Sunrise Solar SOLUTIONS

CARTWRIGHT RESIDENCE

4 DEEP HOLLOW CLOSE
IRVINGTON, NY 10533

SECTION 2.170 BLK 77 LOT 6

DATE	VER.	BY	CHK	REMARKS
2/10/2023	R0	CC		BUILDING PERMIT
3/27/2023	R5	CC		BUILDING PERMIT

JOB #22-0191

SYSTEM DESCRIPTION:

- 15 Photovoltaic Panels
- SUNPOWER
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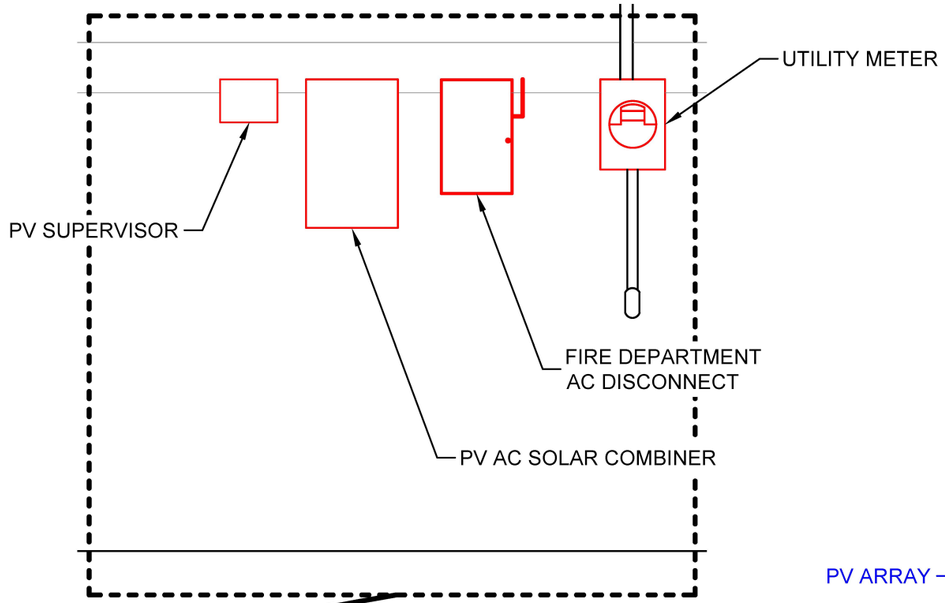
  5.76 kW AC

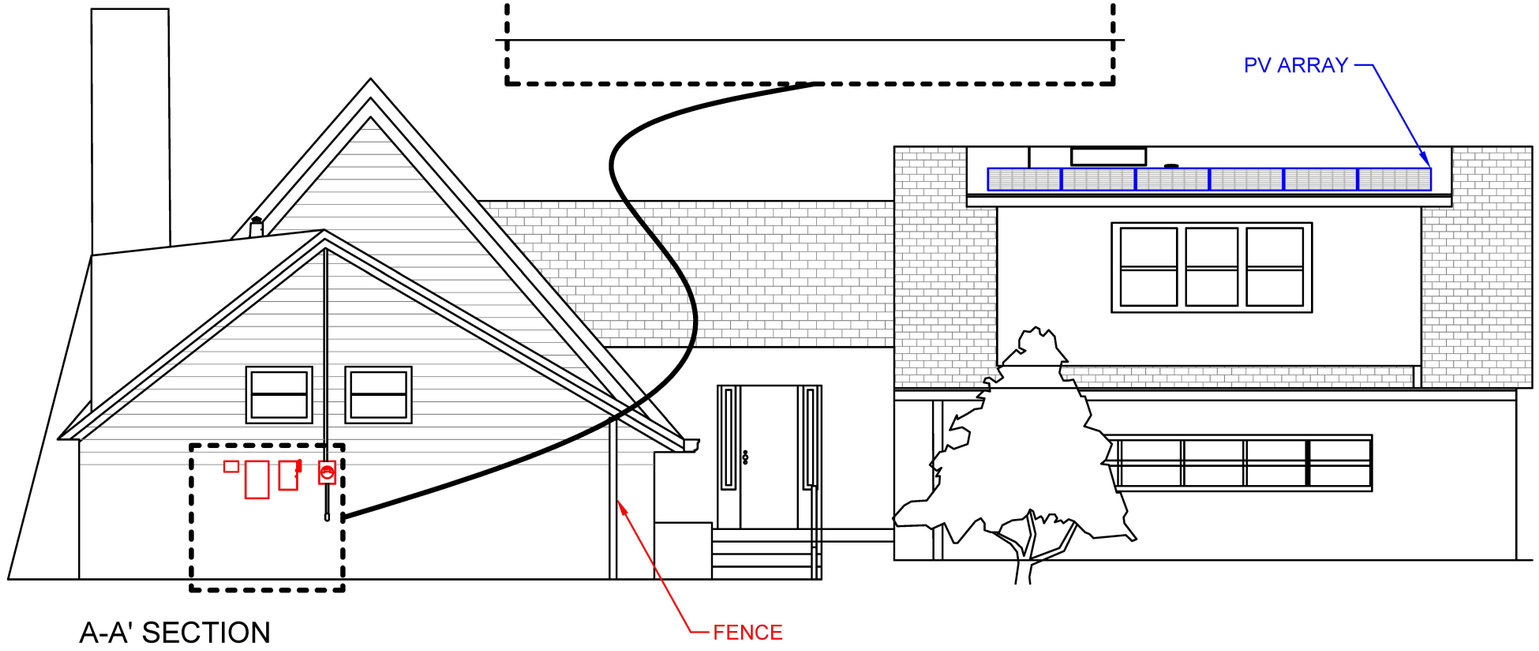
ARRAY	1	2
TILT	9°	9°
AZIMUTH	5°	185°

STATE OF NEW YORK
MATTHEW JOSEPH BOYCE
098208
LICENSED PROFESSIONAL ENGINEER

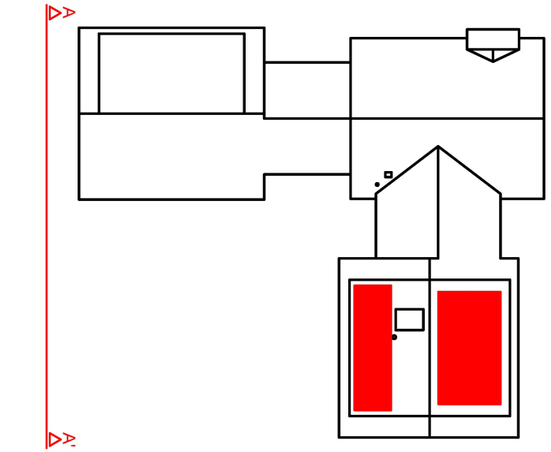
S2.1

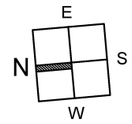
PANEL LAYOUT
CONSTRUCTION
PLAN





A-A' SECTION





FRONT OF HOUSE

KEY MAP
N.T.S.

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CARTWRIGHT RESIDENCE

4 DEEP HOLLOW CLOSE
IRVINGTON, NY 10533

SECTION 2.170 BLK 77 LOT 6

DATE	VER.	BY	CHK	REMARKS
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JOB #22-0191

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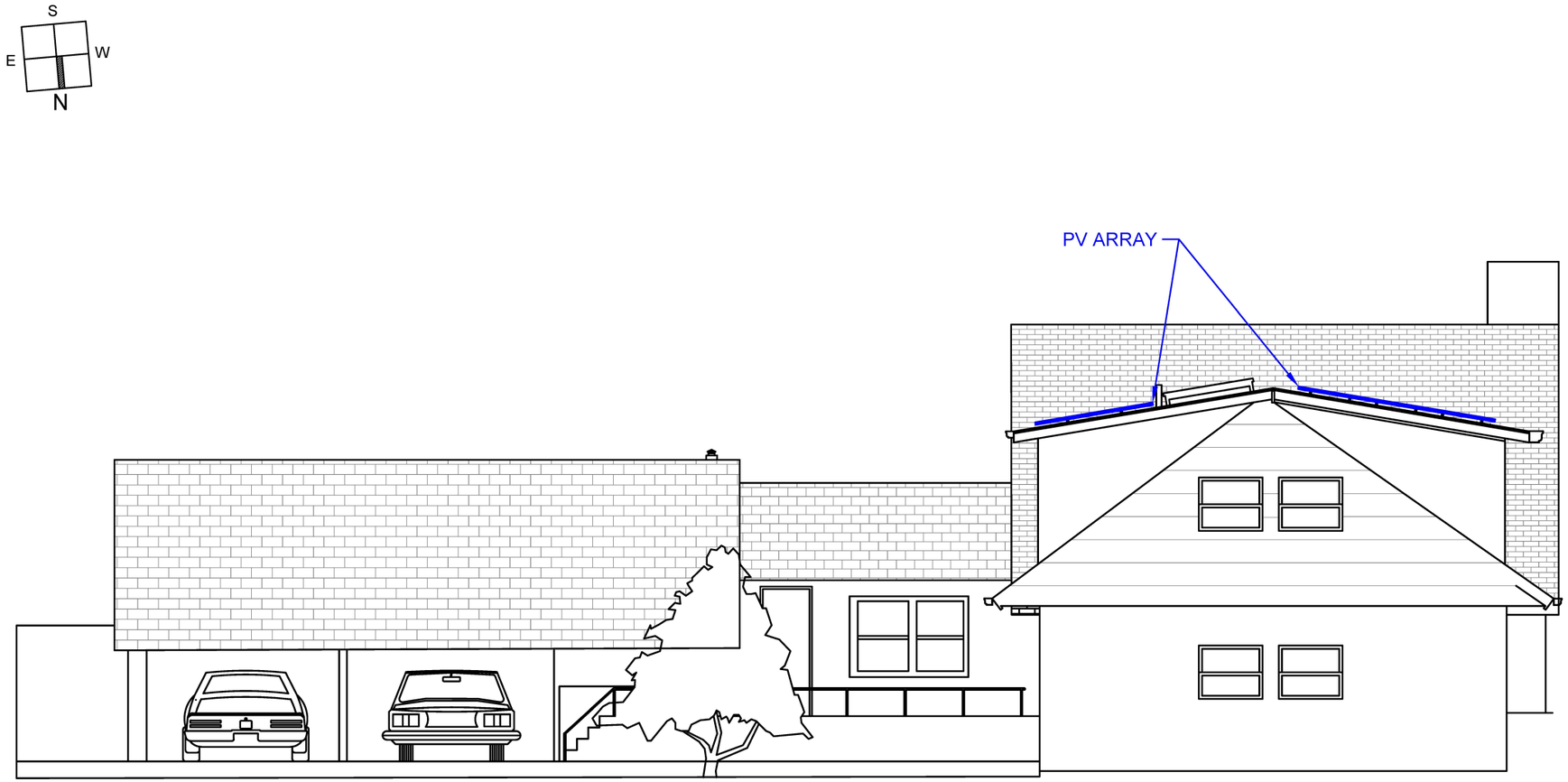
ARRAY	1	2
TILT	9°	9°
AZIMUTH	5°	185°

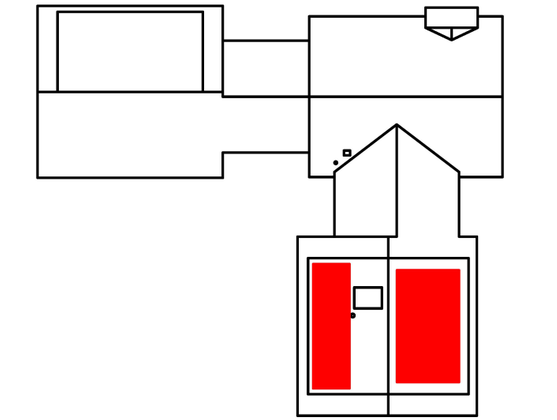
S2.2

ELEVATION
PLAN

230413052 4PM



B-B' SECTION



FRONT OF HOUSE

KEY MAP
N.T.S.

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CARTWRIGHT RESIDENCE

4 DEEP HOLLOW CLOSE
IRVINGTON, NY 10533

SECTION 2.170 BLK 77 LOT 6

DATE	VER.	BY	CHK	REMARKS
2/10/2023	R0	CC		BUILDING PERMIT
3/27/2023	R5	CC		BUILDING PERMIT

JOB #22-0191

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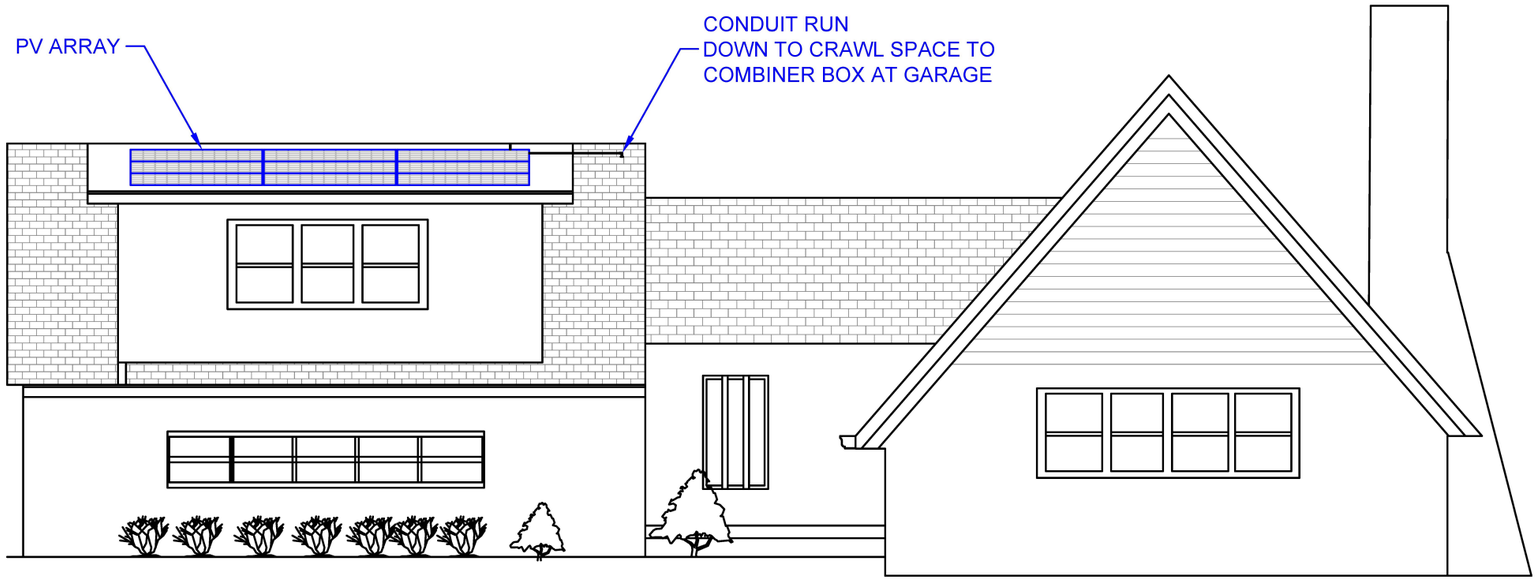
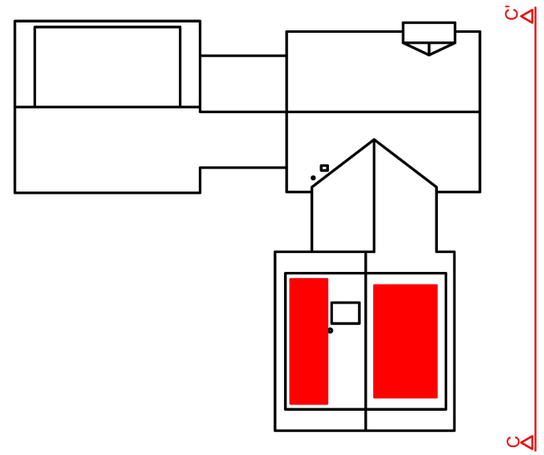
STATE OF NEW YORK
MATTHEW JOSEPH BOYCE
098208
LICENSED PROFESSIONAL ENGINEER

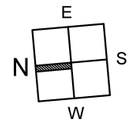
S2.3

ELEVATION PLAN



C-C' SECTION





FRONT OF HOUSE

KEY MAP
N.T.S.

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CARTWRIGHT RESIDENCE

4 DEEP HOLLOW CLOSE
IRVINGTON, NY 10533

SECTION 2.170 BLK 77 LOT 6

DATE	VER.	BY	CHK	REMARKS
2/10/2023	R0	CC		BUILDING PERMIT
3/27/2023	R5	CC		BUILDING PERMIT

JOB #22-0191

SYSTEM DESCRIPTION:

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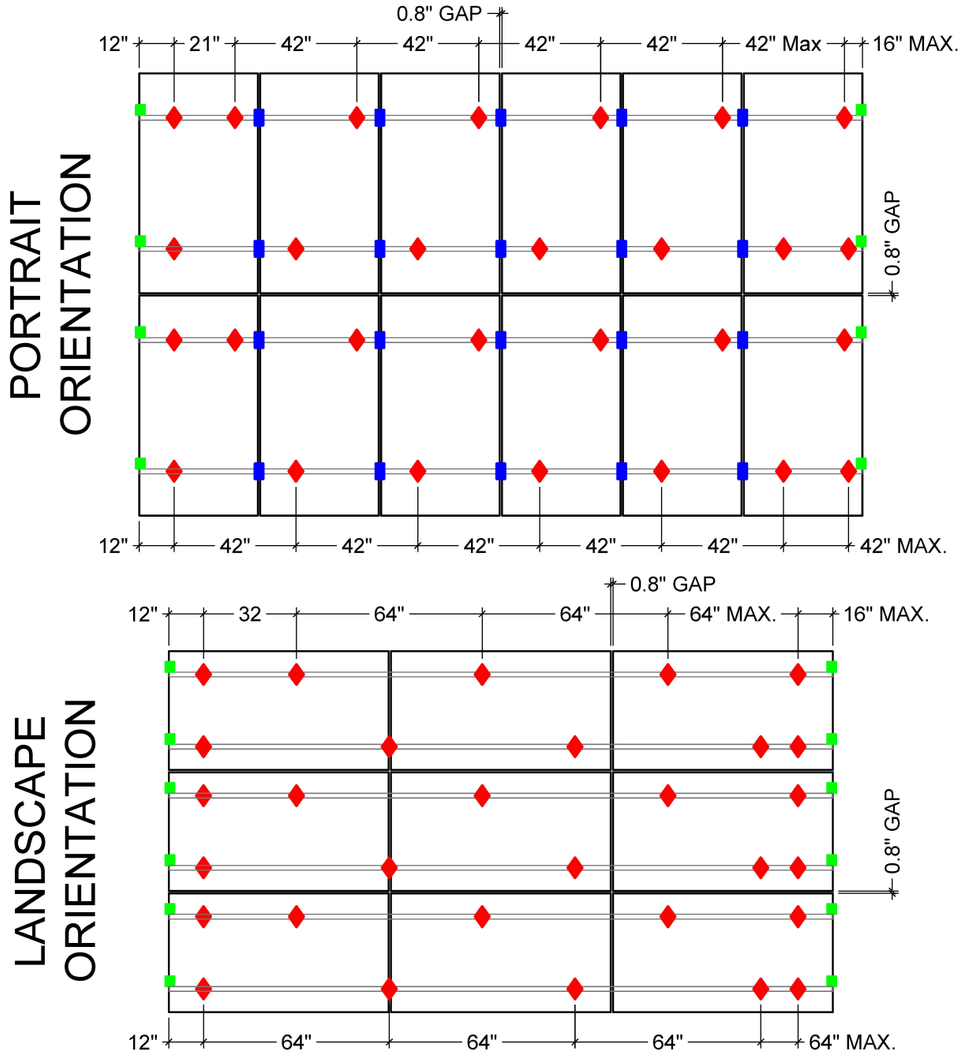
  5.76 kW AC

ARRAY	1	2
TILT	9°	9°
AZIMUTH	5°	185°

S2.4

ELEVATION
PLAN



ARRAY LAYOUT

NTS

LEGEND

- MID CLAMP
- END CLAMP
- ROOF ATTACHMENT (MAX SPACING: 64")
- INVISIMOUNT RAILS (2 PER MODULE)
- MODULE
- RAIL LOCATION, LANDSCAPE ORIENTATION
- RAIL LOCATION, PORTRAIT ORIENTATION

ATTACHMENT NOTES

- ATTACHMENTS NOT TO EXCEED 42" O.C. HORIZONTALLY
- MAXIMUM RAIL CANTILEVER: 16"
- MINIMUM 2 ATTACHMENT PER MODULE (GLOBALLY)
- STAGGER ATTACHMENTS

CLAMPS NOTES

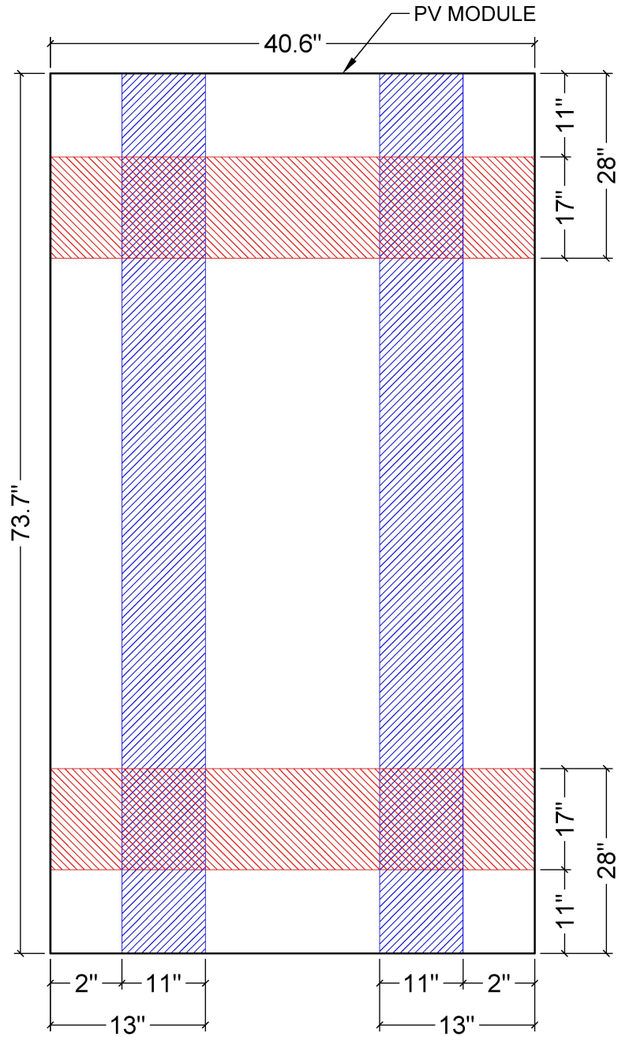
- FOR SUNPOWER U-SERIES MODULE USE UNIVERSAL MID CLAMP AND UNIVERSAL END CLAMP
- FOR SUNPOWER A, M, X & E SERIES USE CLASSIC MID CLAMP AND CLASSIC END CLAMP

RAIL NOTES

- RAILS SHALL BE POSITIONED IN THE HATCHED REGION

MODULE NOTES

- WARNING! DO NOT STEP ON, STAND ON, OR WALK ON THE MODULES OR THE MODULE FRAMES, AND DO NOT PLACE ANYTHING ON THEM--EVEN FOR A MOMENT.



CLAMP LOCATION

NTS

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CARTWRIGHT RESIDENCE

4 DEEP HOLLOW CLOSE
IRVINGTON, NY 10533

SECTION 2.170 BLK 77 LOT 6

DATE	VER.	BY	CHK	REMARKS
2/10/2023	R0	CC		BUILDING PERMIT
3/27/2023	R5	CC		BUILDING PERMIT

JOB #22-0191

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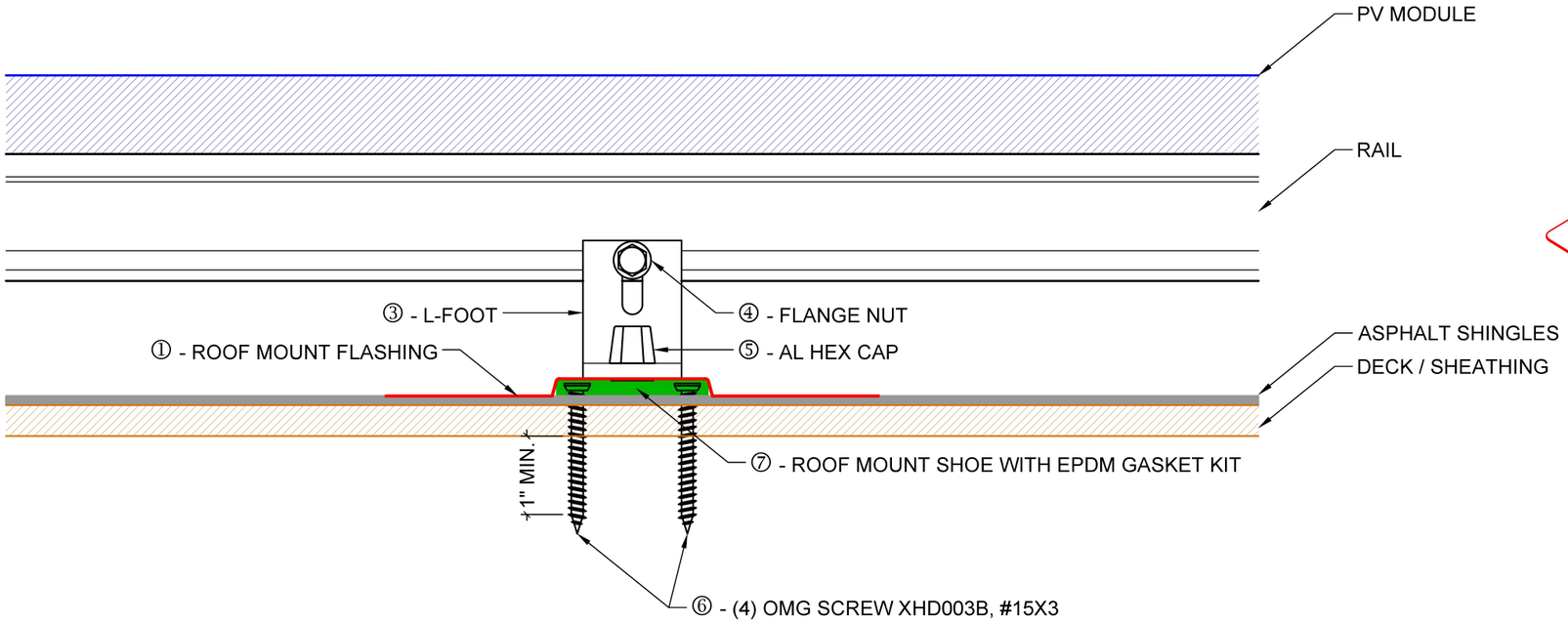
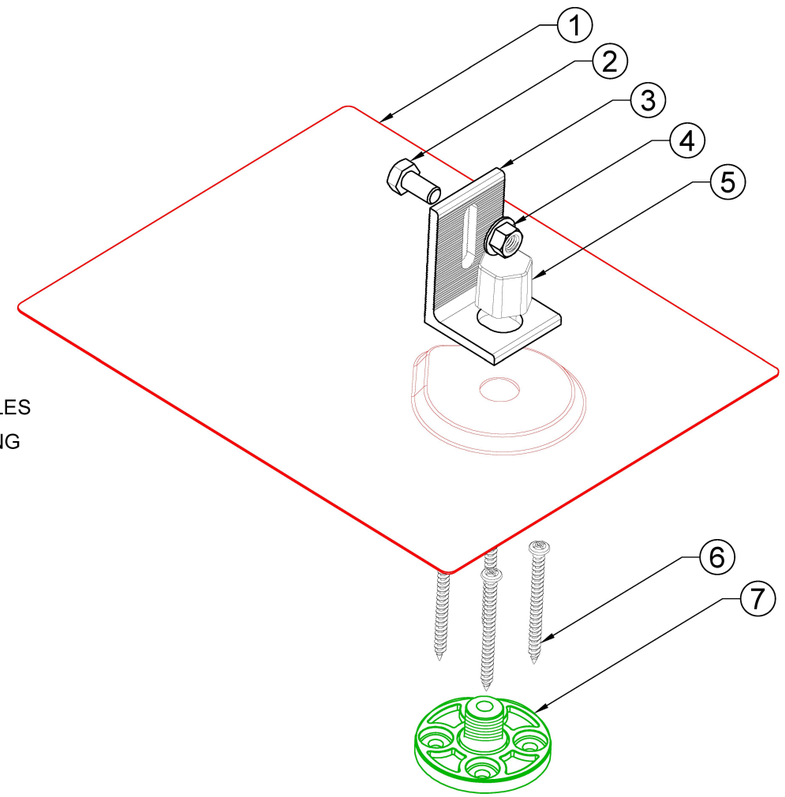
S3

RACKING DETAILS





ITEM	PART NUMBER	DESCRIPTION	QTY
1	A20052-001	ROOF MOUNT FLASHING	1
2	B15018-001	HEX CAP SCREW 3/8-16 X 3/4	1
3	A20064-003	L-FOOT	1
4	B15003-001	FLANGE NUT 3/8-16	1
5	A20066-001	AL HEX CAP	1
6	B15040-001	OMG SCREW XHD003B,#15X3	4
7	K10291-001	ROOF MOUNT SHOE WITH EPDM GASKET KIT	1

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SECTION 2.170 BLK 77 LOT 6

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JOB #22-0191

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S4

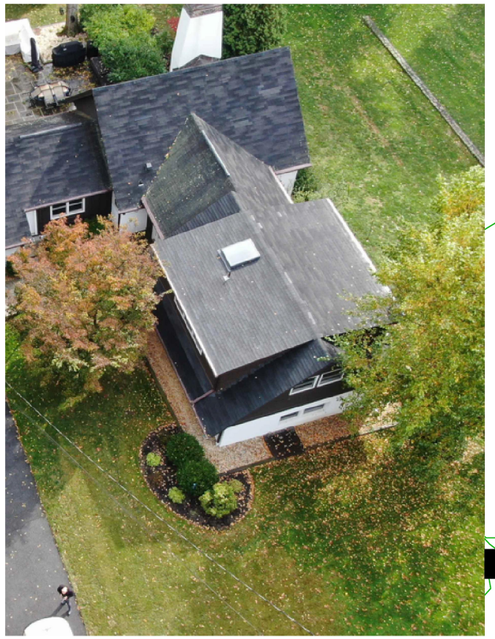
ATTACHMENT DETAILS

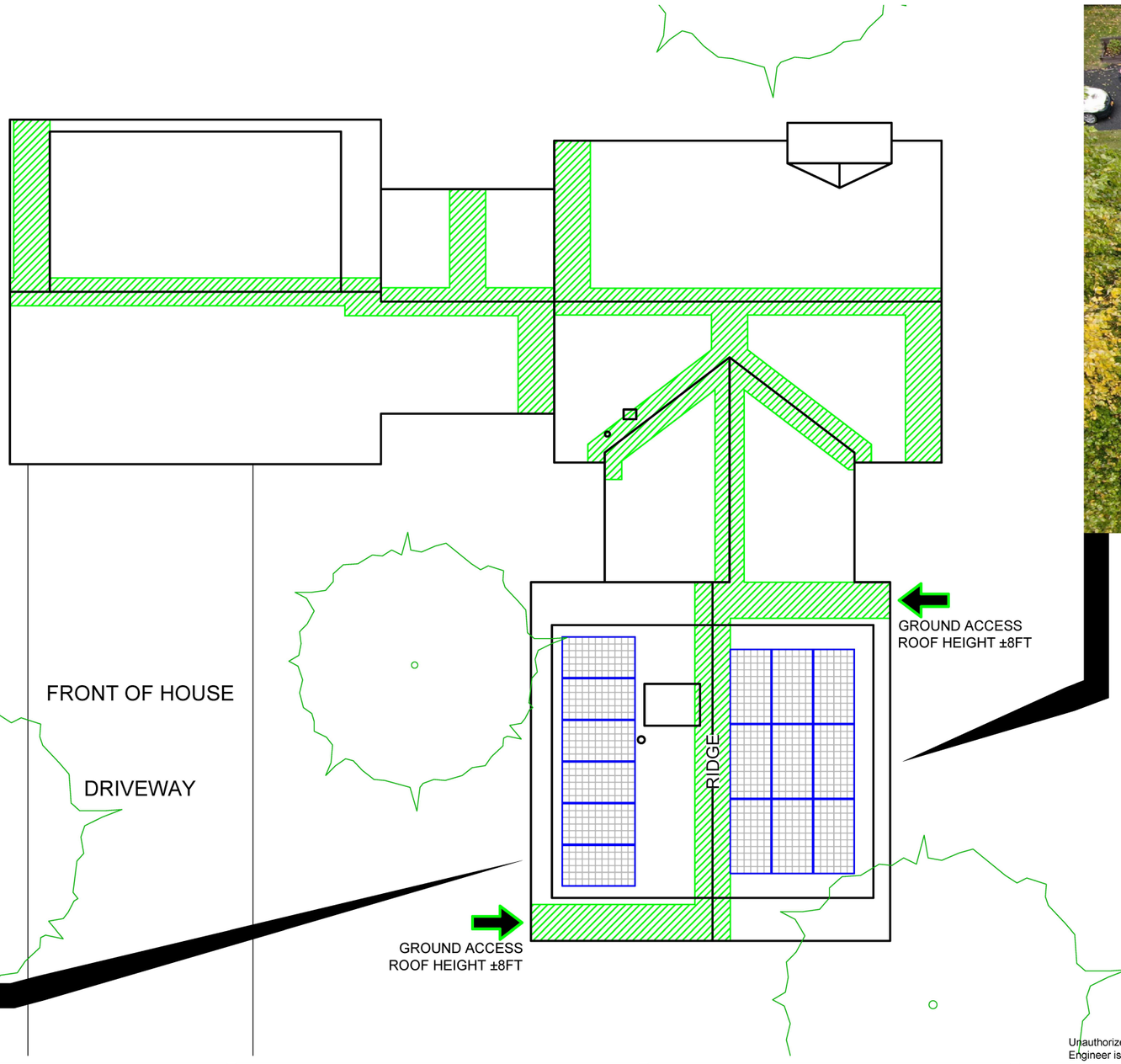
2304130349PM

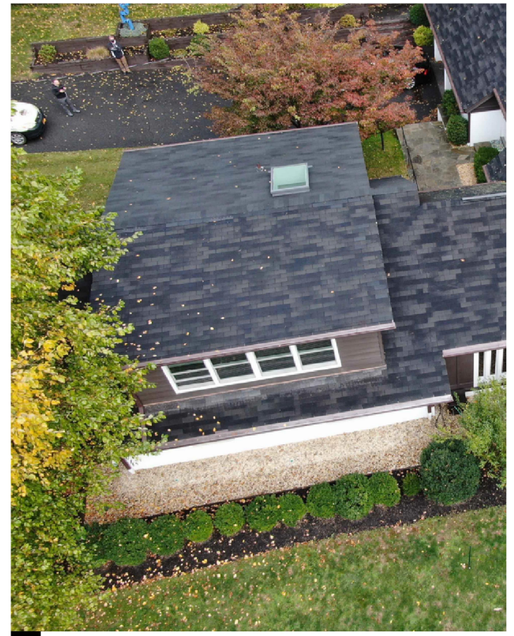
LEGEND

GROUND ACCESS

3FT WIDE ACCESS PATHWAY / VENT







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CARTWRIGHT RESIDENCE

4 DEEP HOLLOW CLOSE
IRVINGTON, NY 10533

SECTION 2.170 BLK 77 LOT 6

DATE	VER.	BY	CHK	REMARKS
2/10/2023	R0	CC		BUILDING PERMIT
3/27/2023	R5	CC		BUILDING PERMIT

JOB #22-0191

SYSTEM DESCRIPTION:

- 15 Photovoltaic Panels
- SUNPOWER
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- System Size: 6.23 kW DC
  5.76 kW AC

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STATE OF NEW YORK
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LICENSED PROFESSIONAL ENGINEER

S5

ROOF ACCESS PLAN

2304130401PM

GRID

SMART CONNECTDER

#6 THHN/THWN-2 CU with
#6 Gnd. CU in Conduit
or Aluminum equivalent

M

(E) UTILITY METER
120/V/240V 1Ø
METER NO.: 009543980
ACCT NO.: 51-1760-0145-0001-2

EXTERIOR

GARAGE
(INTERIOR)

2
4

200A

(E) 200A MSP
120/240V 1ϕ

(E) AUTOMATIC
TRANSFER
SWITCH

DEVICE 89L
(N) FIRE DEPARTMENT
AC DISCONNECT
60A FRAME
120V/240V 1ϕ

2P

N

GND.

2 7 10

#8 THHN/THWN-2 CU with
#8 Gnd. CU in Conduit
or Aluminum equivalent

(N) SOLAR AC
COMBINER
PANEL
60A FRAME
120V/240V 1ϕ

C1
20

C2
20

15

N

GND.

PV
SUPERVISOR

2 3 5 7 10

ROOF TOP

#10 THHN/THWN-2 CU or
#10/2 Romex CU
with
#10 Gnd. CU in EMT Conduit or
#6 Gnd. CU when exposed

For wiring runs over **100ft** in length:
#6 THHN/THWN-2 CU or
#6/2 Romex CU
with
#8 Gnd. CU in EMT Conduit or
#6 Gnd. CU when exposed

6

6

AC Module

AC Module

AC Module

Circuit 1 - 9 SPR-M415-BLK-H-AC Modules

Circuit 2 - 6 SPR-M415-BLK-H-AC Modules

TOTAL - 15 SPR-M415-BLK-H-AC Modules

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LEGEND

X SEE PAGE E.2 FOR CORRESPONDING LABLE

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CARTWRIGHT RESIDENCE
4 DEEP HOLLOW CLOSE
IRVINGTON, NY 10533
Sect. 2.170, Block 77, Lot 6

DATE	VER.	BY	CHK	REMARKS
CC	R0			12321

JOB #22-0191

Circuit Calculation:

Max. no. of Inverter per circuit = 10
(1.25 x 10 x 384W) ÷ 240V = 20.00A, **Use 20A OCPD**
Total no. of Inverter = 15
(1.25 x 15 x 384W) ÷ 240V = 30.00A, **Use 30A OCPD**

System Specifications:

Total System:
15 Mod x 415W = 6.2kW DC STC
15 Inv x 384W = 5.8kW AC

Nominal AC Voltage = 240V
Max AC Current = 24.0A

E1.1

LINE DIAGRAM

NOTES:

1. LABELS TO COMPLY WITH NEC REQUIREMENTS.
2. ALL WIRING TO COMPLY WITH NEC.
3. GROUND TO BE CONTINUOUS
4. GROUND WIRE CONNECTIONS TO BE "IRREVERSIBLE"
5. METER PAN TO BE GROUNDED ONLY.
6. NEUTRAL TO PASS THROUGH METER PAN
7. NO LINE SIDE TAP CONNECTION IN UTILITY METER PAN
8. ALL EQUIPMENT TO BE BONDED WITH GROUND LUG PER NEC CODE.
9. NO ADDITIONAL BREAKERS TO BE ADDED TO SPARE SPACES
10. INVERTER SHALL BE SET FOR THE FOLLOWING SETTINGS

INVERTER SETTINGS:

IEEE1547 Protective Settings

FREQUENCY DISTURBANCE TRIP		
Trip Function	Voltage (p.u.)	Clearing Time (s)
OF2	62.0	0.16
OF1	61.2	300
UF1	58.5	300
UF2	56.5	0.16

VOLTAGE DISTURBANCE TRIP		
Trip Function	Voltage (p.u.)	Clearing Time (s)
OV2	1.20	0.16
OV1	1.10	2.00
UV1	0.80	3.00
UV2	0.50	1.10

LABELS

1

PHOTOVOLTAIC DC DISCONNECT
WARNING ELECTRIC SHOCK HAZARD!

Voc	V
Vmp	V
Isc	A
Imp	A

2

WARNING- Dual Power Sources
Second source is photovoltaic system

3

WARNING- Electric Shock Hazard
No user serviceable parts inside
Contact authorized services for assistance

4

PHOTOVOLTAIC POINT OF INTERCONNECTION
WARNING ELECTRIC SHOCK HAZARD!
DO NOT TOUCH TERMINALS ON BOTH THE LINE AND LOAD SIDE MAY BE ENERGIZED

PV POWER SOURCE	
MAXIMUM AC CIRCUIT OUTPUT OPERATING CURRENT	A
OPERATING AC VOLTAGE	V

5

PV COMBINER BOX
WARNING:
ELECTRIC SHOCK HAZARD

6

CAUTION: SOLAR CIRCUIT

7

Solar Disconnect

WARNING - Electric Shock Hazard
DO NOT TOUCH TERMINALS
Terminals open both line and Load sides may be energized in the Open position

8

DC DISCONNECT

WARNING - Electric Shock Hazard
DO NOT TOUCH TERMINALS
Terminals open both line and Load sides may be energized in the Open position

DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR MODULES ARE EXPOSED TO SUNLIGHT

9

WARNING:
INVERTER OUTPUT CONNECTION DO NOT RELOCATE THIS OVERCURRENT DEVICE

10

PHOTOVOLTAIC DISCONNECT
WARNING ELECTRIC SHOCK HAZARD!

OPERATING AC VOLTAGE	V
MAXIMUM OPERATING CURRENT	A

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CARTWRIGHT RESIDENCE
4 DEEP HOLLOW CLOSE
IRVINGTON, NY 10533
Sect. 2.170, Block 77, Lot 6

DATE	VER.	BY	CHK	REMARKS
CC	R0			12321

JOB #22-0191

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15 Inv x 384W = 5.8kW AC

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E1.2

LINE DIAGRAM