

**MONTGOMERY COUNTY HISTORIC PRESERVATION COMMISSION**  
**STAFF REPORT**

<b>Address:</b>	3905 Prospect St., Kensington	<b>Meeting Date:</b>	4/14/2021
<b>Resource:</b>	Secondary Resource <b>Kensington Historic District</b>	<b>Report Date:</b>	4/7/2021
<b>Applicant:</b>	Elihu Miles	<b>Public Notice:</b>	3/31/2021
<b>Review:</b>	HAWP	<b>Tax Credit:</b>	No
<b>Case No.:</b>	942700	<b>Staff:</b>	Dan Bruechert
<b>PROPOSAL:</b>	Solar Panel Installation		

---

**STAFF RECOMMENDATION**

Staff recommends the HPC **approve** with one (1) condition the HAWP:

1. The approval does not extend to the seven solar panels in the southeast corner of the house (AR-04 and AR-01) or the four panels in the southwest corner of the house (AR-02 and AR-03). Revised drawings showing this condition has been met need to be submitted to Staff for review and final approval.

**ARCHITECTURAL DESCRIPTION**

**SIGNIFICANCE:** Secondary Resource within the Kensington Historic District  
**STYLE:** Colonial Revival  
**DATE:** 2016



*Figure 1: 3905 Prospect Street is located off of Connecticut Ave.*

## **PROPOSAL**

The applicant proposes to install 36 (thirty-six) flush-mounted solar panels on all of the roof surfaces.

## **APPLICABLE GUIDELINES**

### ***Kensington Historic District Guidelines***

When reviewing alterations and new construction within the Kensington Historic District several documents are to be utilized as guidelines to assist the Commission in developing their decision. These documents include the *Approved & Adopted Amendment to the Master Plan for Historic Preservation: Kensington Historic District, Atlas #31/6 (Amendment)*, *Vision of Kensington: A Long-Range Preservation Plan (Vision)*, *Montgomery County Code Chapter 24A (Chapter 24A)*, and the *Secretary of the Interior's Standards for Rehabilitation (Standards)*. The pertinent information in these documents is outlined below. The work proposed is additionally covered by the adopted policy on solar panels, *Historic Preservation Commission Policy No. 20-01: ADDRESSING EMERGENCY CLIMATE MOBILIZATION THROUGH THE INSTALLATION OF ROOF-MOUNTED SOLAR PANELS*. The pertinent information in these documents is outlined below.

### ***Approved & Adopted Amendment to the Master Plan for Historic Preservation: Kensington Historic District, Atlas #31/6***

"In regard to the properties identified as secondary resources--that is visually contributing, but non-historic structures or vacant land within the Kensington District--the Ordinance requires the Preservation Commission to be lenient in its judgment of plans for contemporary structures or for plans involving new construction unless such plans would seriously impair the historic or architectural value of surrounding resources or impair the character of the district."

### ***Vision of Kensington: A Long-Range Preservation Plan***

The HPC formally adopted the planning study, *Vision of Kensington: A Long-Range Preservation Plan*, and is directed by the Executive Regulations, which were approved by the County Council, to use this plan when considering changes and alterations to the Kensington Historic District. The goal of this preservation plan "was to establish a sound database of information from, which to produce a document that would serve the HPC, M-NCPPC, their staff and the community in wrestling with the protection of historic districts amidst the pressures of life in the 21st century." (page 1). The plan provides a specific physical description of the district as it is; an analysis of character-defining features of the district; a discussion of the challenges facing the district; and a discussion of proposed strategies for maintaining the character of the district while allowing for appropriate growth and change.

### ***Montgomery County Code; Chapter 24A-8***

- (b) The commission shall instruct the director to issue a permit, or issue a permit subject to such conditions as are found to be necessary to ensure conformity with the purposes and requirements of this chapter, if it finds that:
  - (1) The proposal will not substantially alter the exterior features of an historic site or historic resource within an historic district; or
  - (2) The proposal is compatible in character and nature with the historical, archeological, architectural or cultural features of the historic site or the historic district in which an historic resource is located and would not be detrimental thereto or to the achievement of the purposes of this chapter; or

- (d) In the case of an application for work on an historic resource located within an historic district, the commission shall be lenient in its judgment of plans for structures of little historical or design significance or for plans involving new construction, unless such plans would seriously impair the historic or architectural value of surrounding historic resources or would impair the character of the historic district. (Ord. No. 9-4, § 1; Ord. No. 11-59.)

***Secretary of the Interior's Standards for Rehabilitation:***

The Secretary of the Interior defines rehabilitation as “the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features, which convey its historical, cultural, or architectural values.” The *Standards* are as follows:

2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.

***Historic Preservation Commission Policy No. 20-01: ADDRESSING EMERGENCY CLIMATE MOBILIZATION THROUGH THE INSTALLATION OF ROOF-MOUNTED SOLAR PANELS***

Now, THEREFORE:

WHEREAS, Historic Area Work Permit decisions are guided by the criteria in Section 24A, The Secretary of the Interior's Standards for Rehabilitation, and pertinent guidance from applicable master plan amendments and/or site or district-specific studies;

WHEREAS, The Secretary of the Interior's Standards for Rehabilitation as interpreted by the National Park Service limit the placement of rooftop solar panels under Standards 2, 9, and 10 to less conspicuous locations;

WHEREAS, the County Council has established a Climate Emergency;

WHEREAS, the Historic Preservation is a body established by the County Executive and County Council;

WHEREAS, Section 24-8(b)(6) states, “In balancing the interest of the public in preserving the historic site or historic resource located within an historic district, with the interests of the public from the use and benefit of the alternative proposal, the general public welfare is better served by granting the permit;”

WHEREAS, the widespread use of solar panels, both for hot water and for electricity production, will reduce greenhouse gases in the county, in accordance with the aims of the Emergency Climate Mobilization resolution (Resolution No.: 18-974), it shall be the policy of the Historic Preservation Commission that:

1. The preferred locations for solar panel installation(s) on a designated historic site or an historic resource located within an historic district is a) on the rear of the property, b) on non-historic building additions, c) on accessory structures, or d) in ground-mounted arrays;
2. If it is not feasible to install solar panels in one of the identified preferred locations due to resource orientation or other site limitations; and,
3. The roof is determined to be neither architecturally significant, nor a character-defining feature of the resource, nor is it a slate or tile roof, that unless it can be demonstrated that the solar array will be installed without damaging the historic character of the resource or historic fabric; then



4. The public welfare is better served by approving a Historic Area Work Permit for solar panels on all visible side or front roof slopes under Section 24A-8(b)(6).
5. A Historic Area Work Permit (HAWP) is required for all work referenced in this policy.

### **STAFF DISCUSSION**

The subject property is a large two-story, south-facing house constructed in 2016. Because of its proximity to Connecticut Avenue, the subject property is highly visible from around the historic district.

The applicant proposes installing 36 (thirty-six) flush-mounted solar panels in ten groups. Staff finds that the proposed arrays on the detached garage and rear gable section of the house are preferred locations for solar panels on houses within historic districts. The arrays in these two locations account for 19 (nineteen) of the proposed solar panels and even though they may be visible from the public right-of-way, these elevations do not have the same degree of architectural embellishment found on the larger cross gable section of the house. Staff additionally finds that the two arrays on the sections to the rear of the house are also appropriate as they are on a preferred roof location, even though they are visible from the public right-of-way. These two arrays include a total of seven panels.

Staff finds the remaining eleven panels are less compatible. The panels on the two south arrays on the southeast side are highly visible from the right-of-way. The visibility of these arrays is compounded by the fact that the property is next to Connecticut Avenue and because Prospect street rises from Connecticut Ave.



*Figure 2: Seven solar panels in two arrays are proposed for the southeast corner of the house.*

Staff finds that even though the subject property is a non-historic construction, these seven solar panels



(labeled Array AR-04 and AR-01 on the submitted plan) will detract from the surrounding historic district and should not be supported under 24A-8(b)(1) and Standard 2. Connecticut Ave. is a major thoroughfare that cuts through the middle of the historic district and the views of the district from this perspective should be given additional consideration. Staff recommends the HPC add a condition for approval that the seven panels in the southeast corner of the house (AR-01 and AR-04) be eliminated from the proposal.

The remaining four solar panels are proposed in two arrays in the southwest corner of the house (see the photo below). These panels will not be visible from Connecticut Ave. In considering the appropriateness of these solar panels, Staff first considers the impact to the historic and architectural significance of the resource. This house was constructed in 2016 and does not have any historical significance, and its architectural importance is to reinforce building patterns found in the surrounding district. The next consideration is the visual impact on the surrounding district. The subject property is surrounded by both Primary and Secondary resources which contribute to the character of the surrounding district, defined as a “Victorian garden suburb.” Staff finds that the panels in the southwest corner identified as AR-2 and AR-3 detract from the character of the district, and the applicant has not provided supplemental information that demonstrates the project as infeasible without these panels. Staff recommends the HPC add a condition that these four panels in the southwest corner be eliminated from the proposal.



*Figure 3: Two arrays with two panels each are proposed in the southwest corner.*

The adopted solar policy, cited above, identifies the preferred location for solar arrays to historic properties and properties in historic districts. It is intended to provide added flexibility to residents to install solar panels for electricity generation. Staff finds that under this policy, the applicant has not demonstrated that the proposed solar project is not feasible absent the identified eleven panels. Staff supports 25 (twenty-five) of the 36 (thirty-six) panels (70% of the total proposed) and finds no support for approving the south-facing panels without the applicant demonstrating that the project is infeasible without them.

## **STAFF RECOMMENDATION**

Staff recommends that the Commission **approves** the HAWP application with one condition:

1. The approval does not extend to the seven solar panels in the southeast corner of the house (AR-04 and AR-01) or the four panels in the southwest corner of the house (AR-02 and AR-03). Revised drawings showing this condition has been met need to be submitted to Staff for review and final approval.

under the Criteria for Issuance in Chapter 24A-8(b)(2), (4), and (d), and the *Vision of Kensington*, and the *Kensington Historic District Designation*, having found that the proposal will not substantially alter the exterior features of the historic resource and is compatible in character with the district and the purposes of Chapter 24A; *Historic Preservation Commission Policy No. 20-01: ADDRESSING EMERGENCY CLIMATE MOBILIZATION THROUGH THE INSTALLATION OF ROOF-MOUNTED SOLAR PANELS*;

and with the *Secretary of the Interior's Standards for Rehabilitation* #2;

and with the general condition that the applicant shall present an electronic set of drawings, if applicable, to Historic Preservation Commission (HPC) staff for review and stamping prior to submission for the Montgomery County Department of Permitting Services (DPS) building permits;

and with the general condition that final project design details, not specifically delineated by the Commission, shall be approved by HPC staff or brought back to the Commission as a revised HAWP application at staff's discretion;

and with the general condition that the applicant shall notify the Historic Preservation Staff if they propose to make **any alterations** to the approved plans. Once the work is completed the applicant will contact the staff person assigned to this application at 301-563-3400 or [dan.bruechert@montgomeryplanning.org](mailto:dan.bruechert@montgomeryplanning.org) to schedule a follow-up site visit.



FOR STAFF ONLY:  
HAWP# 942700  
DATE ASSIGNED \_\_\_\_\_

**APPLICATION FOR  
HISTORIC AREA WORK PERMIT**  
HISTORIC PRESERVATION COMMISSION  
301.563.3400

**APPLICANT:**

Name: ELIHU MILES  
Address: 3905 PROSPECT ST  
Daytime Phone: 6463196680

E-mail: \_\_\_\_\_  
City: KENSINGTON Zip: 20895  
Tax Account No.: 13-03745737

**AGENT/CONTACT (if applicable):**

Name: Tuwaun Jefferson  
Address: 812 Oregon Ave, Ste J  
Daytime Phone: 410.530.8560

E-mail: mdpermitcoordination@sunrun.com  
City: Linthicum Zip: 21090  
Contractor Registration No.: MHIC# 115875

**LOCATION OF BUILDING/PREMISE:** MIHP # of Historic Property \_\_\_\_\_

Is the Property Located within an Historic District? ☒ Yes/District Name KENSINGTON PARK  
\_\_\_\_\_ No/Individual Site Name \_\_\_\_\_

Is there an Historic Preservation/Land Trust/Environmental Easement on the Property? If YES, include a map of the easement, and documentation from the Easement Holder supporting this application.

Are other Planning and/or Hearing Examiner Approvals /Reviews Required as part of this Application? (Conditional Use, Variance, Record Plat, etc.?) If YES, include information on these reviews as supplemental information.

Building Number: 3905 Street: PROSPECT ST  
Town/City: KENSINGTON Nearest Cross Street: \_\_\_\_\_  
Lot: 4 Block: 11 Subdivision: 0015 Parcel: \_\_\_\_\_

**TYPE OF WORK PROPOSED: See the checklist on Page 4 to verify that all supporting items for proposed work are submitted with this application. Incomplete Applications will not be accepted for review. Check all that apply:**

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> New Construction   | <input type="checkbox"/> Deck/Porch          | <input type="checkbox"/> Shed/Garage/Accessory Structure |
| <input type="checkbox"/> Addition           | <input type="checkbox"/> Fence               | <input checked="" type="checkbox"/> Solar                |
| <input type="checkbox"/> Demolition         | <input type="checkbox"/> Hardscape/Landscape | <input type="checkbox"/> Tree removal/planting           |
| <input type="checkbox"/> Grading/Excavation | <input type="checkbox"/> Roof                | <input type="checkbox"/> Window/Door                     |
|   |  | <input type="checkbox"/> Other: _____                    |

I hereby certify that I have the authority to make the foregoing application, that the application is correct and accurate and that the construction will comply with plans reviewed and approved by all necessary agencies and hereby acknowledge and accept this to be a condition for the issuance of this permit.

PLQ  
Signature of owner or authorized agent

2/19/2021

Date

Description of Property: Please describe the building and surrounding environment. Include information on significant structures, landscape features, or other significant features of the property:

SINGLE FAMILY HOME WITH DETACHED GARAGE AND DRIVEWAY.

Description of Work Proposed: Please give an overview of the work to be undertaken:

36 FLUSH-MOUNTED SOLAR PANELS TO BE INSTALLED ON ROOFS OF HOME AND GARAGE.  
TOTAL SYSTEM SIZE OF 12.96KW.  
ENERGY STORAGE UNIT TO BE INSTALLED ON INTERIOR WALL; (1) TESLA POWERWALL  
LITHIUM-ION BATTERY WITH BACKUP GATEWAY.  
NO ADDITIONAL STRUCTURES TO BE BUILT OR ALTERED.  
PLEASE SEE ATTACHED PLANS.



Work Item 1: <b>SOLAR PANELS</b>	
Description of Current Condition: <b>SINGLE FAMILY HOME</b>	Proposed Work: <b>SINGLE FAMILY HOME WITH ADDITION OF SOLAR PANELS ON ROOFS.</b>

Work Item 2: _____	
Description of Current Condition:	Proposed Work:

Work Item 3: _____	
Description of Current Condition:	Proposed Work:

# HISTORIC AREA WORK PERMIT CHECKLIST OF APPLICATION REQUIREMENTS

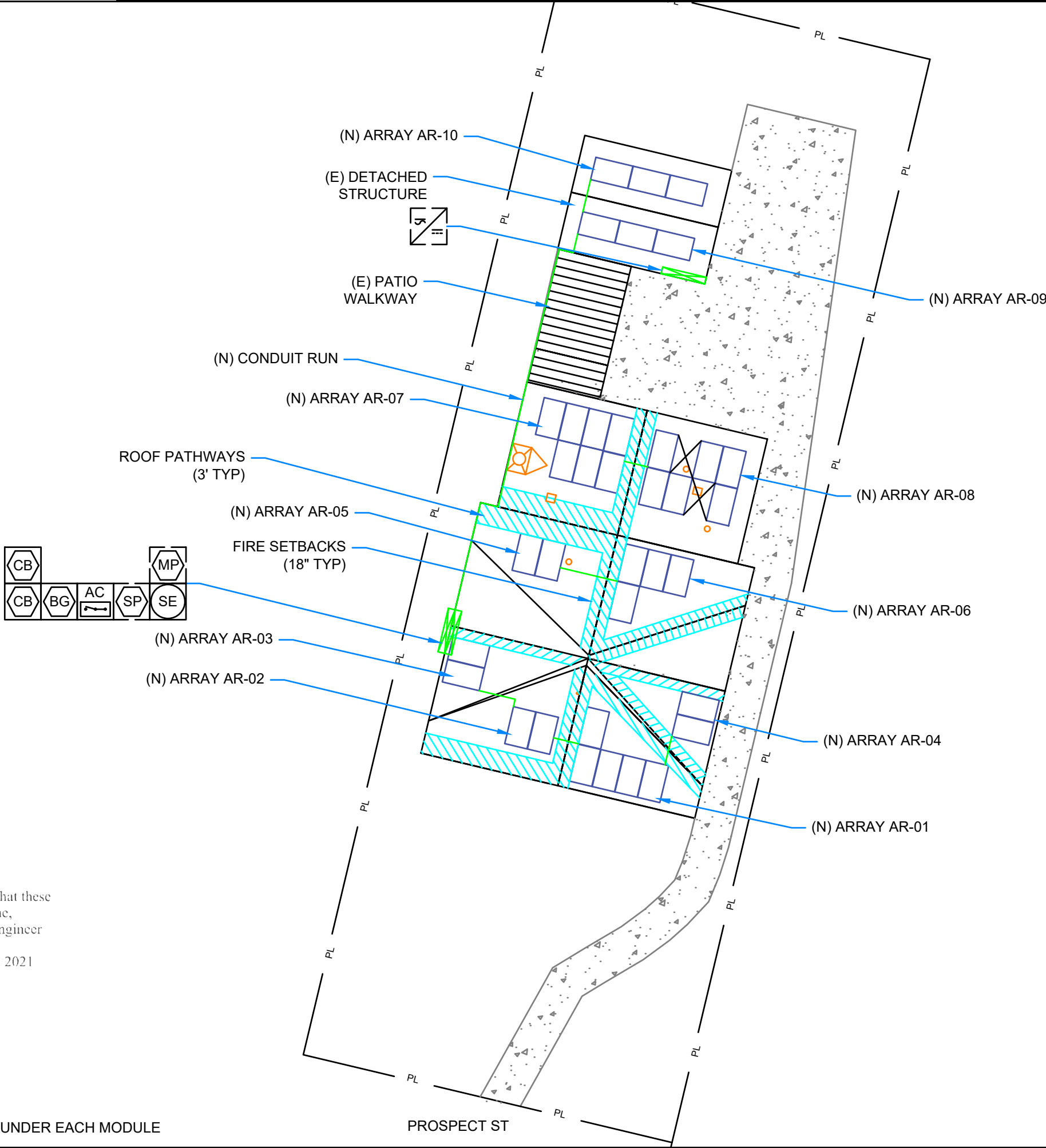
	Required Attachments						
Proposed Work	I. Written Description	2. Site Plan	3. Plans/ Elevations	4. Material Specifications	5. Photographs	6. Tree Survey	7. Property Owner Addresses
New Construction	*	*	*	*	*	*	*
Additions/ Alterations	*	*	*	*	*	*	*
Demolition	*	*	*		*		*
Deck/Porch	*	*	*	*	*	*	*
Fence/Wall	*	*	*	*	*	*	*
Driveway/ Parking Area	*	*		*	*	*	*
Grading/Excavation/ Landscaping	*	*		*	*	*	*
Tree Removal	*	*		*	*	*	*
Siding/ Roof Changes	*	*	*	*	*		*
Window/ Door Changes	*	*	*	*	*		*
Masonry Repair/ Repoint	*	*	*	*	*		*
Signs	*	*	*	*	*		*

SCOPE OF WORK	GENERAL NOTES	LEGEND AND ABBREVIATIONS	TABLE OF CONTENTS																	
<ul style="list-style-type: none"><li>• SYSTEM SIZE: 12960W DC, 10440W AC</li><li>• MODULES: (36) LG ELECTRONICS: LG360Q1C-A5</li><li>• INVERTERS: (36) ENPHASE ENERGY: IQ7PLUS-72-2-US</li><li>• RACKING: SNAPNRACK RLU; RL UNIVERSAL, SPEEDSEAL TRACK ON COMP, SEE DETAIL SNR-DC-00436</li><li>• ENERGY STORAGE SYSTEM: (1) TESLA: POWERWALL, 13.5 KWh, 5KW INVERTER OUTPUT, LITHIUM-ION BATTERY (WEIGHT: 251.3LB EACH).</li><li>• BACKUP GATEWAY: (1) 200A TESLA POWERWALL CONTROL PANEL</li></ul>	<ul style="list-style-type: none"><li>• ALL WORK SHALL COMPLY WITH 2018 IRC/IBC/IEBC, MUNICIPAL CODE, AND ALL MANUFACTURERS' LISTINGS AND INSTALLATION INSTRUCTIONS.</li><li>• PHOTOVOLTAIC SYSTEM WILL COMPLY WITH NEC 2017.</li><li>• ELECTRICAL SYSTEM GROUNDING WILL COMPLY WITH NEC 2017.</li><li>• PHOTOVOLTAIC SYSTEM IS UNGROUNDED. NO CONDUCTORS ARE SOLIDLY GROUNDED IN THE INVERTER. SYSTEM COMPLIES WITH 690.35.</li><li>• MODULES CONFORM TO AND ARE LISTED UNDER UL 1703.</li><li>• INVERTER CONFORMS TO AND IS LISTED UNDER UL 1741.</li><li>• RACKING CONFORMS TO AND IS LISTED UNDER UL 2703.</li><li>• SNAPNRACK RACKING SYSTEMS, IN COMBINATION WITH TYPE I, OR TYPE II MODULES, ARE CLASS A FIRE RATED.</li><li>• RAPID SHUTDOWN REQUIREMENTS MET WHEN INVERTERS AND ALL CONDUCTORS ARE WITHIN ARRAY BOUNDARIES PER NEC 690.12(1).</li><li>• CONSTRUCTION FOREMAN TO PLACE CONDUIT RUN PER 690.31(G).</li><li>• ARRAY DC CONDUCTORS ARE SIZED FOR DERATED CURRENT.</li><li>• 10.79 AMPS MODULE SHORT CIRCUIT CURRENT.</li><li>• 16.85 AMPS DERATED SHORT CIRCUIT CURRENT [690.8 (a) &amp; 690.8 (b)].</li><li>• THE INSTALLATIONS AND ASSEMBLY OF THE ROOF TOP AND OR GROUND MOUNTED SOLAR PANELS SHALL BE IN COMPLIANCE WITH IRC 2018 SECTIONS R-324, R-907 AND NEC 2017 OR AS ENGINEERED PER IRC 2018 SECTION R-301.1.3. BUILDING INSPECTOR SHALL VERIFY INSTALLATIONS OF BOTH PANELS AND ELECTRICAL CONNECTIONS PER FULL COMPLIANCE WITH THE ABOVE CITED CODE SECTIONS AND IRC 2015 SECTION R-102.7.1.</li><li>• ENERGY STORAGE SYSTEM CONFORMS TO AND IS LISTED UNDER UL 9540.</li><li>• ENERGY STORAGE SYSTEM LIVE PARTS ARE NOT ACCESSIBLE DURING ROUTINE MAINTENANCE. SYSTEM VOLTAGE IN ACCORDANCE WITH NEC 706.30 AND EXCEPTION 1 NEC 706.30 (A).</li><li>• ADDITIONAL DISCONNECTING MEANS SHALL BE INSTALLED WHERE ENERGY STORAGE DEVICE INPUT AND OUTPUT TERMINALS ARE MORE THAN 5 FT FROM CONNECTED EQUIPMENT, OR WHERE THE CIRCUITS FROM THESE TERMINALS PASS THROUGH A WALL OR PARTITION PER 706.7(E).</li><li>• LISTED, COMBINATION TYPE AFCI SHALL BE INSTALLED WHERE BACKED UP CIRCUIT WIRING IS EXTENDED MORE THAN 6FT AND DOES NOT INCLUDE ANY ADDITIONAL OUTLETS OR DEVICES PER NEC 210.12(B).</li><li>• THE CAPACITY OF THE STANDALONE SYSTEM SUPPLY SHALL BE EQUAL TO OR GREATER THAN THE LOAD POSED BY THE SINGLE LARGEST UTILIZATION EQUIPMENT CONNECTED TO THE SYSTEM PER NEC ARTICLE 710.15(A)</li><li>• ALL PASS-THROUGH CONDUCTORS MUST COMPLY WITH NEC 312.8</li></ul>	<div><div><div><div>SE</div>SERVICE ENTRANCE</div><div><div>MP</div>MAIN PANEL</div><div><div>SP</div>SUB-PANEL</div><div><div>LC</div>PV LOAD CENTER</div><div><div>SM</div>SUNRUN METER</div><div><div>PM</div>DEDICATED PV METER</div><div><div>INV</div>INVERTER(S)</div><div><div>AC</div>AC DISCONNECT(S)</div><div><div>DC</div>DC DISCONNECT(S)</div><div><div>CB</div>IQ COMBINER BOX</div><div><div><div><div></div></div></div>POWERWALL ENERGY STORAGE SYSTEM (ESS)</div><div><div>BG</div>BACKUP GATEWAY</div><div><div>GP</div>GENERATION PANEL</div><div><div>1</div><div>←</div>COMMUNICATION WIRES</div></div><div><div><div><div><div></div><div>SOLAR MODULES</div></div><div><div></div><div>SNR MOUNT</div></div><div><div></div><div>SNR MOUNT &amp; SKIRT</div></div></div><div><div><div>CHIMNEY</div><div>ATTIC VENT</div><div>FLUSH ATTIC VENT</div><div>PVC PIPE VENT</div><div>METAL PIPE VENT</div><div>T-VENT</div><div>SATELLITE DISH</div><div>FIRE SETBACKS</div><div>HARDSCAPE</div><div>— PL —</div>PROPERTY LINE</div><div><div><div>INTERIOR EQUIPMENT SHOWN AS DASHED</div></div></div></div></div><div>SCALE: NTS</div></div></div>	PAGE #DESCRIPTION																	
			PV-1.0COVER SHEET																	
			PV-2.0SITE PLAN																	
			PV-3.0LAYOUT																	
			PV-3.1LAYOUT																	
PV-3.2MOUNTING DETAIL																				
PV-4.0ELECTRICAL																				
PV-5.0SIGNAGE																				
<div>VICINITY MAP</div>	<div><p>Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 54593, Expiration Date: 06/25/2021</p><p>Digitally Signed: 11/18/2021</p><div><div>DocuSigned by:</div><div>Jason Brown</div><div>3486735A926F482...</div></div></div>	<div><div><div><div>A</div>AMPERE</div><div><div>AC</div>ALTERNATING CURRENT</div><div><div>AFCI</div>ARC FAULT CIRCUIT INTERRUPTER</div><div><div>AZIM</div>AZIMUTH</div><div><div>COMP</div>COMPOSITION</div><div><div>DC</div>DIRECT CURRENT</div><div><div>(E)</div>EXISTING</div><div><div>ESS</div>ENERGY STORAGE SYSTEM</div><div><div>EXT</div>EXTERIOR</div><div><div>INT</div>INTERIOR</div><div><div>MAG</div>MAGNETIC</div><div><div>MSP</div>MAIN SERVICE PANEL</div><div><div>(N)</div>NEW</div><div><div>NTS</div>NOT TO SCALE</div><div><div>OC</div>ON CENTER</div><div><div>PRE-FAB</div>PRE-FABRICATED</div><div><div>PSF</div>POUNDS PER SQUARE FOOT</div><div><div>PV</div>PHOTOVOLTAIC</div><div><div>RSD</div>RAPID SHUTDOWN DEVICE</div><div><div>TL</div>TRANSFORMERLESS</div><div><div>TYP</div>TYPICAL</div><div><div>V</div>VOLTS</div><div><div>W</div>WATTS</div></div><table><tr><th>REV</th><th>NAME</th><th>DATE</th><th>COMMENTS</th></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table></div>	REV	NAME	DATE	COMMENTS													MHIC #132591	
			REV	NAME	DATE	COMMENTS														
			812 OREGON AVE, STE J, LINTHICUM HEIGHTS, MD 21090 PHONE 443-457-5012 FAX 0																	
			CUSTOMER RESIDENCE: ELIHU MILES 3905 PROSPECT ST, KENSINGTON, MD, 20895																	
			TEL. (646) 319-6680 APN #: 13-03745737																	
			PROJECT NUMBER: 251R-905MILE																	
			DESIGNER: (415) 580-6920 ex3 JAKE TAYLOR																	
			SHEET	COVER SHEET																
				REV: A 11/18/2020																
			PAGE	PV-1.01																

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 54593, Expiration Date: 06/25/2021  
Digitally Signed: 11/18/2020

DocuSigned by:  
*Jason Brown*  
3486735A926F482...

SITE PLAN - SCALE = 1/16" = 1'-0"



	ARRAY PITCH	TRUE AZIM	MAG AZIM	PV AREA (SQFT)
AR-01	34°	105°	116°	93
AR-02	34°	285°	296°	37.2
AR-03	39°	195°	206°	37.2
AR-04	39°	195°	206°	37.2
AR-05	34°	285°	296°	37.2
AR-06	34°	105°	116°	74.4
AR-07	34°	285°	296°	130.1
AR-08	34°	105°	116°	111.6
AR-09	36°	195°	206°	55.8
AR-010	36°	15°	26°	55.8

- NOTES:**
- RESIDENCE DOES NOT CONTAIN ACTIVE FIRE SPRINKLERS.
- ARRAY DETAILS:**
- TOTAL ROOF SURFACE AREA: 2387 SQFT.
  - TOTAL PV ARRAY AREA: 669.5 SQ FT.
  - PERCENTAGE PV COVERAGE: (TOTAL PV ARRAY AREA/TOTAL ROOF SURFACE AREA) \* 100 = 28.0%

SUNRUN

MHIC #132591

812 OREGON AVE, STE J, LINTHICUM HEIGHTS, MD 21090  
PHONE 443-457-5012  
FAX 0

CUSTOMER RESIDENCE:  
ELIHU MILES  
3905 PROSPECT ST,  
KENSINGTON, MD, 20895

TEL. (646) 319-6680  
APN #: 13-03745737

PROJECT NUMBER:  
251R-905MILE

DESIGNER: (415) 580-6920 ex3  
JAKE TAYLOR

SHEET  
SITE PLAN

REV: A 11/18/2020

PAGE  
PV-2.0<sub>2</sub>

DocuSigned by:

Jason Brown

3486735A926F482...



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 54593, Expiration Date: 06/25/2021

Digitally Signed: 11/18/20

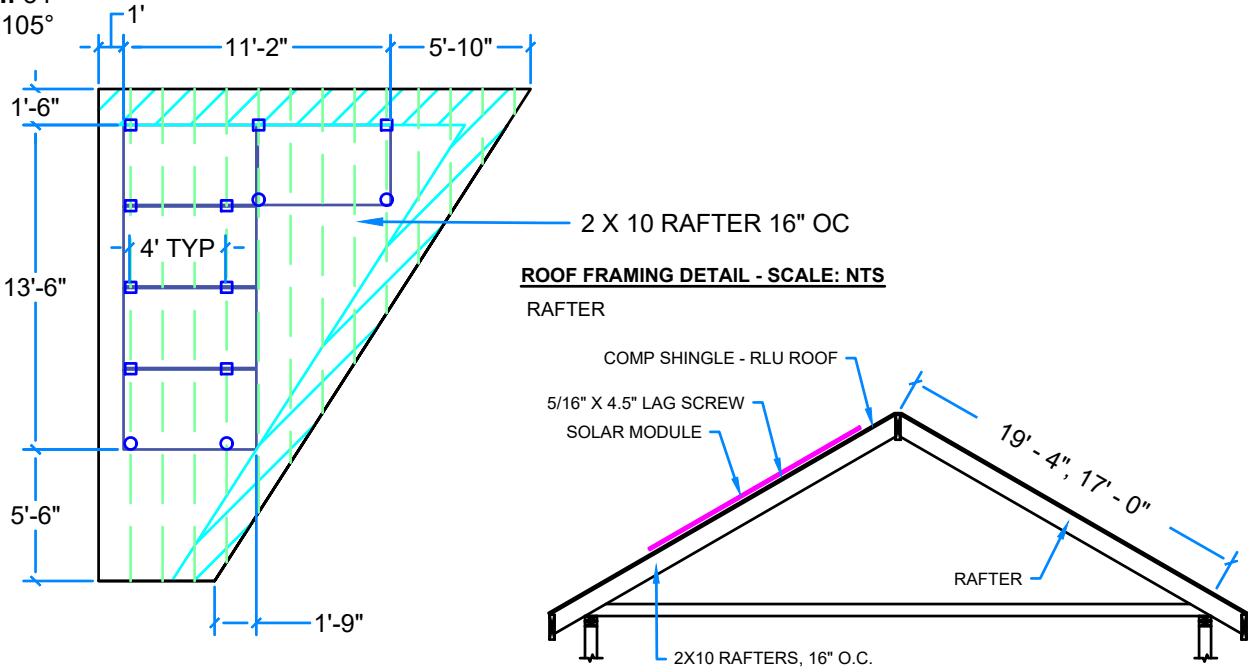
**NOTE:** MICRO-INVERTERS INSTALLED UNDER EACH MODULE



ROOF INFO			FRAMING INFO			ATTACHMENT INFORMATION					
Name	Type	Height	Type	Max Span	OC Spacing	Detail	Max Landscape OC Spacing	Max Landscape Overhang	Max Portrait OC Spacing	Max Portrait Overhang	Configuration
AR-01	COMP SHINGLE - RLU	2-Story	2X10 RAFTERS	19' - 4"	16"	RL UNIVERSAL, SPEEDSEAL TRACK ON COMP, SEE DETAIL SNR-DC-00436	5' - 4"	1' - 6"	4' - 0"	1' - 0"	STAGGERED
AR-02	COMP SHINGLE - RLU	2-Story	2X10 RAFTERS	19' - 4"	16"	RL UNIVERSAL, SPEEDSEAL TRACK ON COMP, SEE DETAIL SNR-DC-00436	5' - 4"	1' - 6"	4' - 0"	1' - 0"	STAGGERED
AR-03	COMP SHINGLE - RLU	2-Story	2X10 RAFTERS	17' - 0"	16"	RL UNIVERSAL, SPEEDSEAL TRACK ON COMP, SEE DETAIL SNR-DC-00436	5' - 4"	1' - 6"	4' - 0"	1' - 0"	STAGGERED
AR-04	COMP SHINGLE - RLU	2-Story	2X10 RAFTERS	19' - 4"	16"	RL UNIVERSAL, SPEEDSEAL TRACK ON COMP, SEE DETAIL SNR-DC-00436	5' - 4"	1' - 6"	4' - 0"	1' - 0"	STAGGERED
AR-05	COMP SHINGLE - RLU	2-Story	2X10 RAFTERS	19' - 4"	16"	RL UNIVERSAL, SPEEDSEAL TRACK ON COMP, SEE DETAIL SNR-DC-00436	5' - 4"	1' - 6"	4' - 0"	1' - 0"	STAGGERED

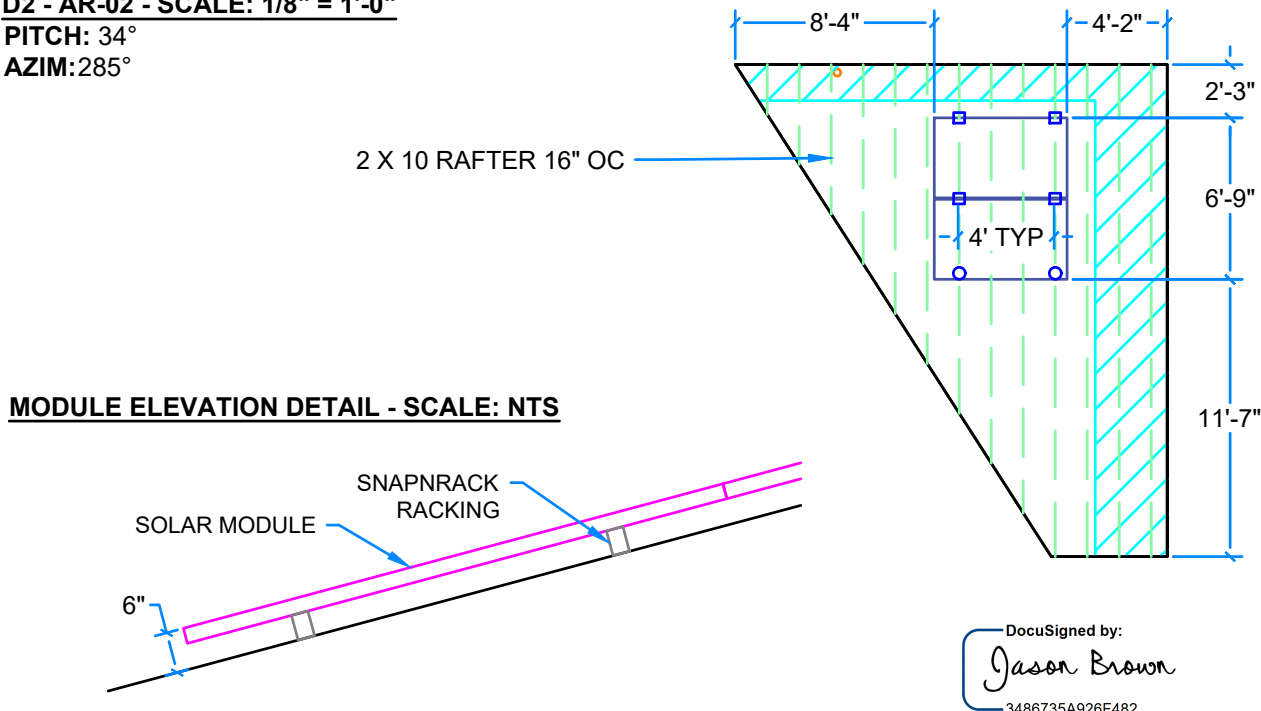
D1 - AR-01 - SCALE: 1/8" = 1'-0"

PITCH: 34°  
AZIM:105°



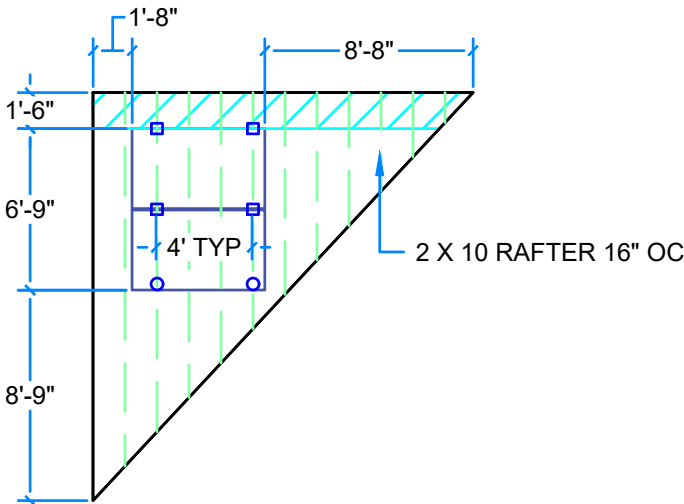
D2 - AR-02 - SCALE: 1/8" = 1'-0"

PITCH: 34°  
AZIM:285°



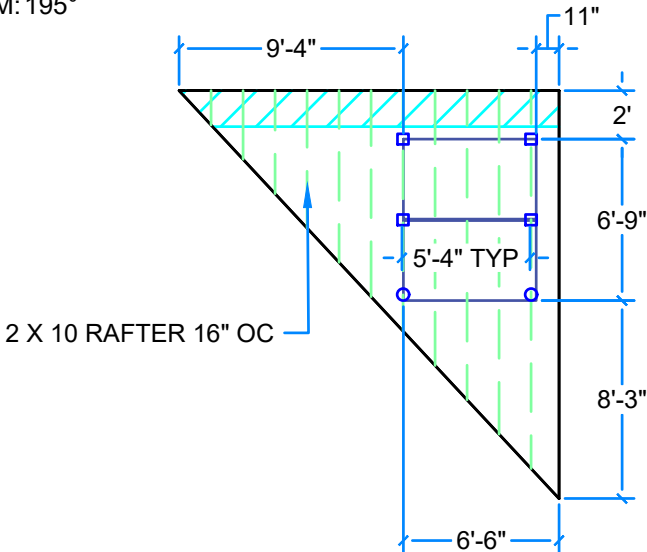
D3 - AR-03 - SCALE: 1/8" = 1'-0"

PITCH: 39°  
AZIM:195°



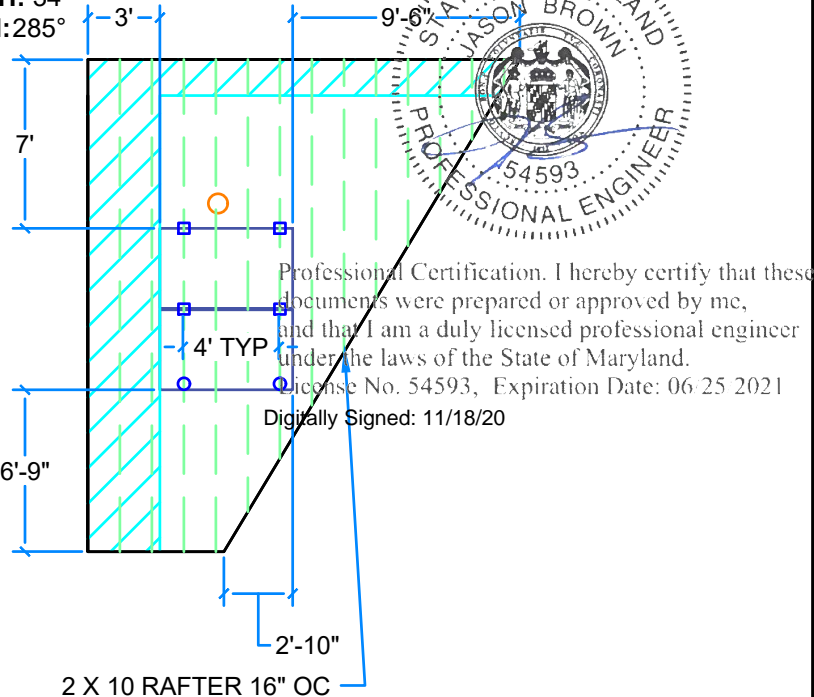
D4 - AR-04 - SCALE: 1/8" = 1'-0"

PITCH: 39°  
AZIM:195°



D5 - AR-05 - SCALE: 1/8" = 1'-0"

PITCH: 34°  
AZIM:285°



DESIGN CRITERIA

**MAX DISTRIBUTED LOAD:** 3 PSF  
**SNOW LOAD:** 30 PSF  
**WIND SPEED:** 111 MPH 3-SEC GUST.  
**S.S. LAG SCREWS:** 5/16": 2.5" MIN EMBEDMENT  
**STRUCTURAL NOTES:**

- INSTALLERS TO VERIFY RAFTER SIZE, SPACING AND SLOPED SPANS, AND NOTIFY E.O.R. OF ANY DISCREPANCIES BEFORE PROCEEDING.
- IF ARRAY (EXCLUDING SKIRT) IS WITHIN 12" BOUNDARY REGION OF ANY ROOF PLANE EDGES (EXCEPT VALLEYS), THEN ATTACHMENTS NEED TO BE ADDED AND OVERHANG REDUCED WITHIN THE 12" BOUNDARY REGION ONLY AS FOLLOWS:
  - ALLOWABLE ATTACHMENT SPACING INDICATED ON PLANS TO BE REDUCED BY 50%
  - ALLOWABLE OVERHANG INDICATED ON PLANS TO BE 1/5TH OF ALLOWABLE ATTACHMENT SPACING INDICATED ON PLANS

SUNRUN

MHIC #132591

812 OREGON AVE, STE J, LINTHICUM HEIGHTS, MD 21090  
PHONE 443-457-5012  
FAX 0

CUSTOMER RESIDENCE:  
ELIHU MILES  
3905 PROSPECT ST,  
KENSINGTON, MD, 20895

TEL. (646) 319-6680  
APN #: 13-03745737

PROJECT NUMBER:  
251R-905MILE

DESIGNER: (415) 580-6920 ex3  
JAKE TAYLOR

SHEET  
LAYOUT

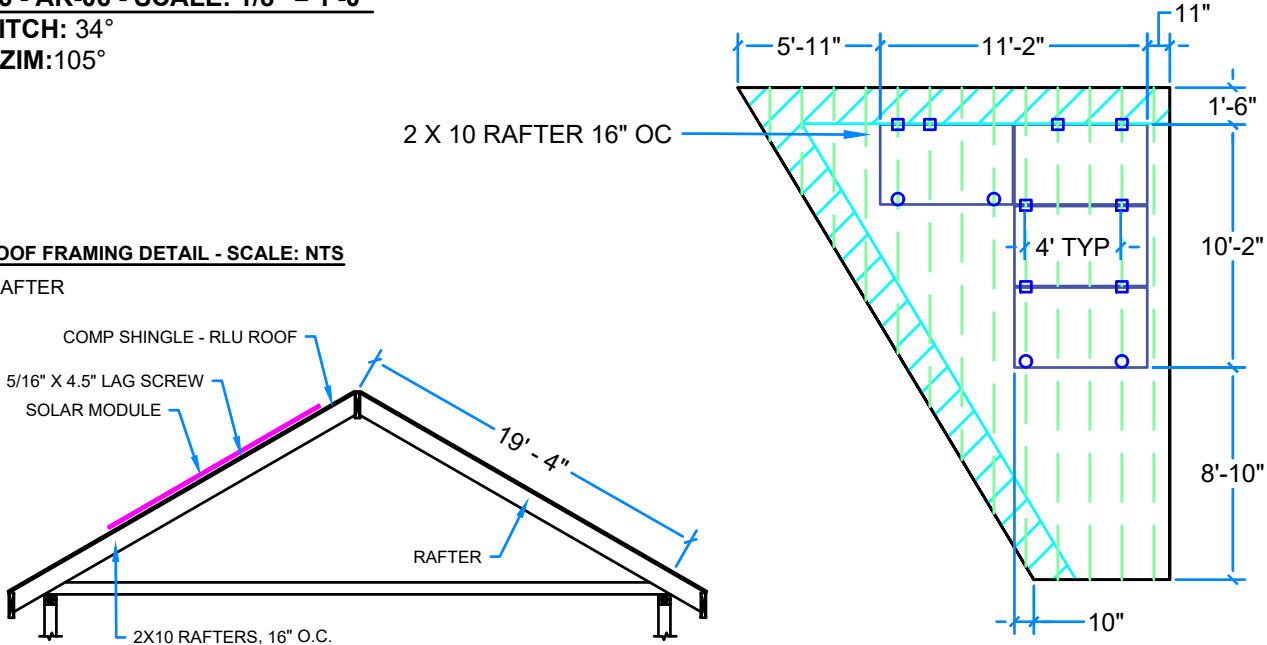
REV: A 11/18/2020

PAGE  
PV-3.93

ROOF INFO			FRAMING INFO			ATTACHMENT INFORMATION					
Name	Type	Height	Type	Max Span	OC Spacing	Detail	Max Landscape OC Spacing	Max Landscape Overhang	Max Portrait OC Spacing	Max Portrait Overhang	Configuration
AR-06	COMP SHINGLE - RLU	2-Story	2X10 RAFTERS	19' - 4"	16"	RL UNIVERSAL, SPEEDSEAL TRACK ON COMP, SEE DETAIL SNR-DC-00436	5' - 4"	1' - 6"	4' - 0"	1' - 0"	STAGGERED
AR-07	COMP SHINGLE - RLU	2-Story	2X6 RAFTERS	16' - 10"	16"	RL UNIVERSAL, SPEEDSEAL TRACK ON COMP, SEE DETAIL SNR-DC-00436	5' - 4"	1' - 6"	4' - 0"	1' - 0"	STAGGERED
AR-08	COMP SHINGLE - RLU	2-Story	2X6 RAFTERS	16' - 10"	16"	RL UNIVERSAL, SPEEDSEAL TRACK ON COMP, SEE DETAIL SNR-DC-00436	5' - 4"	1' - 6"	4' - 0"	1' - 0"	STAGGERED
AR-09	COMP SHINGLE - RLU	1-Story	2X4 TRUSS	4' - 7"	24"	RL UNIVERSAL, SPEEDSEAL TRACK ON COMP, SEE DETAIL SNR-DC-00436	6' - 0"	1' - 6"	4' - 0"	1' - 0"	STAGGERED
AR-10	COMP SHINGLE - RLU	1-Story	2X4 TRUSS	4' - 7"	24"	RL UNIVERSAL, SPEEDSEAL TRACK ON COMP, SEE DETAIL SNR-DC-00436	6' - 0"	1' - 6"	4' - 0"	1' - 0"	STAGGERED

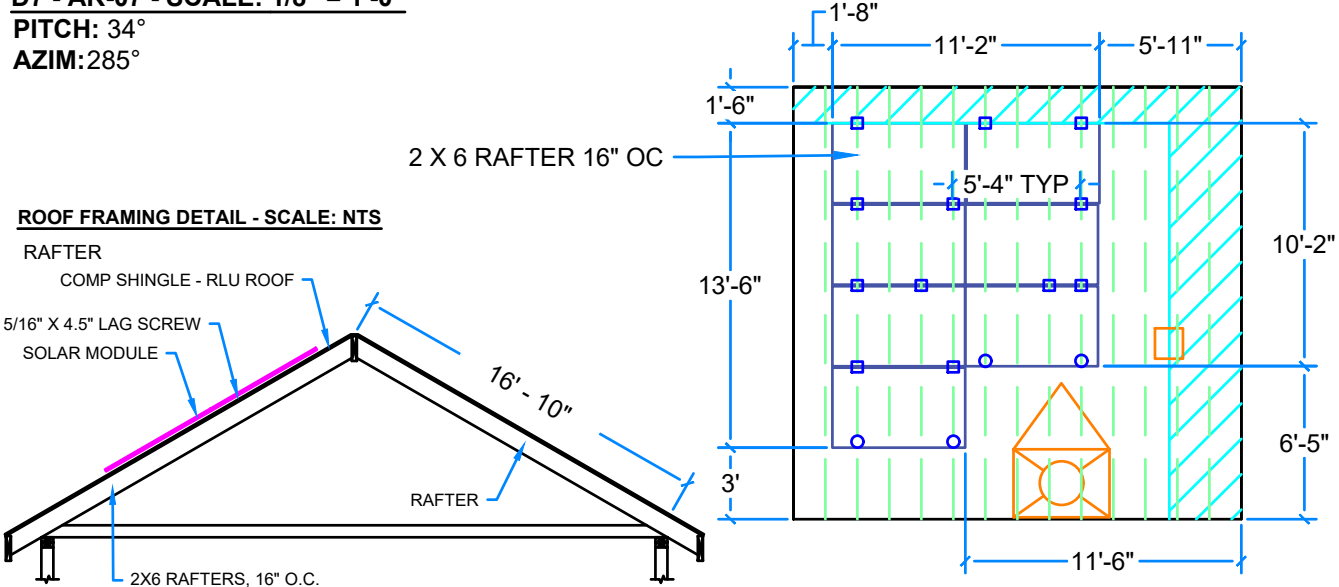
**D6 - AR-06 - SCALE: 1/8" = 1'-0"**  
**PITCH:** 34°  
**AZIM:**105°

**ROOF FRAMING DETAIL - SCALE: NTS**  
RAFTER

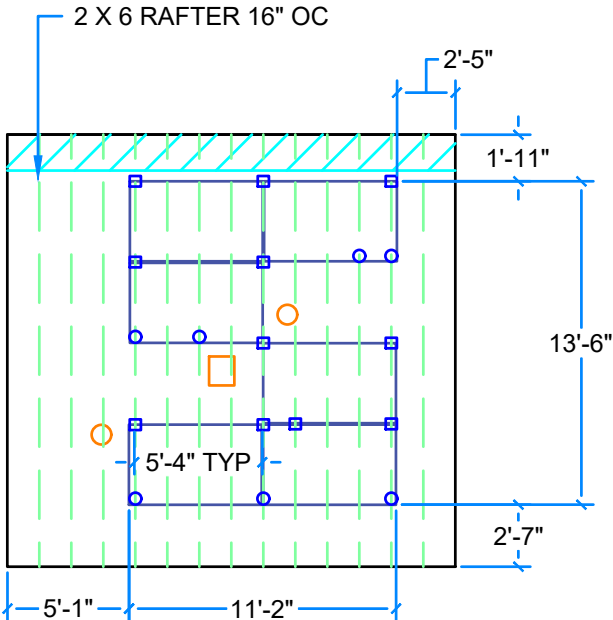


**D7 - AR-07 - SCALE: 1/8" = 1'-0"**  
**PITCH:** 34°  
**AZIM:**285°

**ROOF FRAMING DETAIL - SCALE: NTS**  
RAFTER  
COMP SHINGLE - RLU ROOF

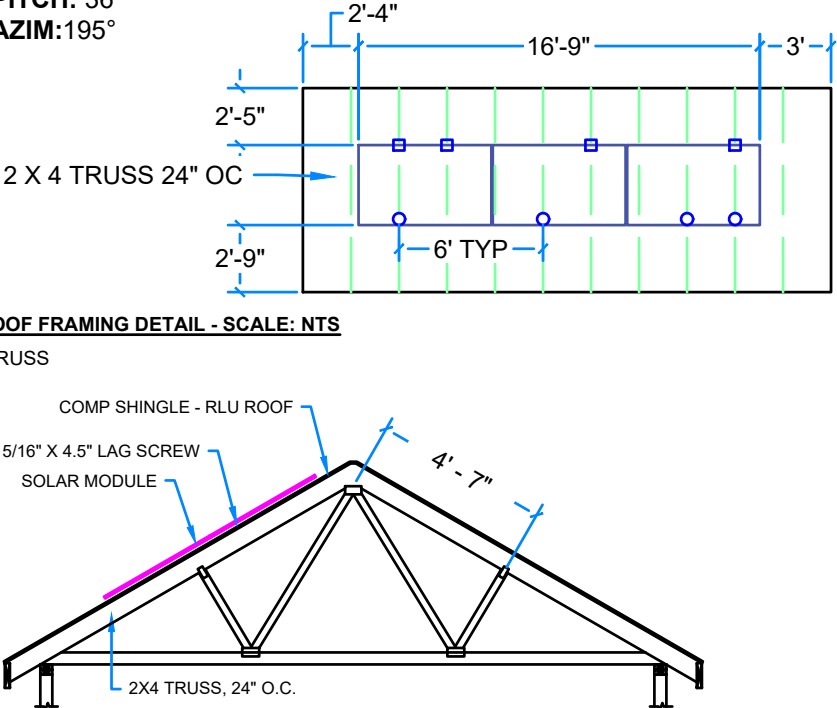


**D8 - AR-08 - SCALE: 1/8" = 1'-0"**  
**PITCH:** 34°  
**AZIM:**105°

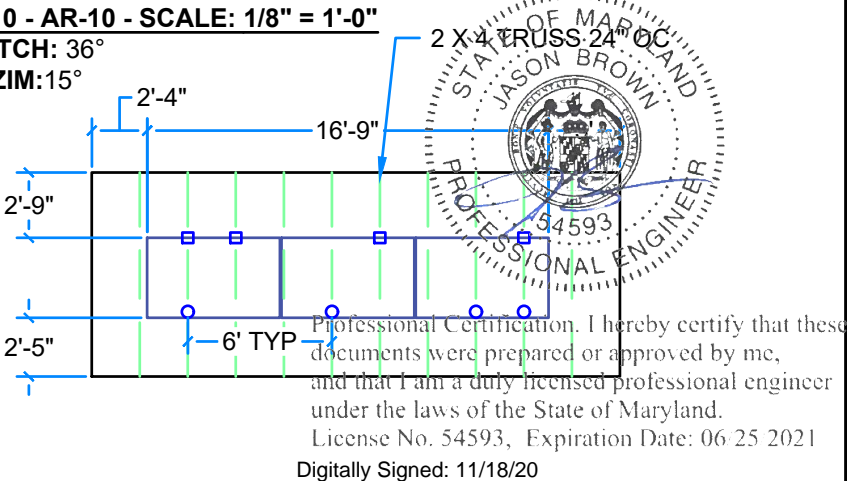


**D9 - AR-09 - SCALE: 1/8" = 1'-0"**  
**PITCH:** 36°  
**AZIM:**195°

**ROOF FRAMING DETAIL - SCALE: NTS**  
TRUSS



**D10 - AR-10 - SCALE: 1/8" = 1'-0"**  
**PITCH:** 36°  
**AZIM:**15°



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 54593, Expiration Date: 06/25/2021  
Digitally Signed: 11/18/20

DocuSigned by:  
*Jason Brown*  
3486735A926F482...

**DESIGN CRITERIA**

**MAX DISTRIBUTED LOAD:** 3 PSF  
**SNOW LOAD:** 30 PSF  
**WIND SPEED:** 111 MPH 3-SEC GUST.  
**S.S. LAG SCREWS:** 5/16": 2.5" MIN EMBEDMENT  
**STRUCTURAL NOTES:**

- INSTALLERS TO VERIFY RAFTER SIZE, SPACING AND SLOPED SPANS, AND NOTIFY E.O.R. OF ANY DISCREPANCIES BEFORE PROCEEDING.
- IF ARRAY (EXCLUDING SKIRT) IS WITHIN 12" BOUNDARY REGION OF ANY ROOF PLANE EDGES (EXCEPT VALLEYS), THEN ATTACHMENTS NEED TO BE ADDED AND OVERHANG REDUCED WITHIN THE 12" BOUNDARY REGION ONLY AS FOLLOWS:
- ALLOWABLE ATTACHMENT SPACING INDICATED ON PLANS TO BE REDUCED BY 50%
- ALLOWABLE OVERHANG INDICATED ON PLANS TO BE 1/5TH OF ALLOWABLE ATTACHMENT SPACING INDICATED ON PLANS

**SUNRUN**

MHIC #132591

812 OREGON AVE, STE J, LINTHICUM HEIGHTS, MD 21090  
PHONE 443-457-5012  
FAX 0

CUSTOMER RESIDENCE:  
ELIHU MILES  
3905 PROSPECT ST,  
KENSINGTON, MD, 20895

TEL. (646) 319-6680  
APN #: 13-03745737

PROJECT NUMBER:  
251R-905MILE

DESIGNER: (415) 580-6920 ex3  
JAKE TAYLOR

SHEET  
LAYOUT

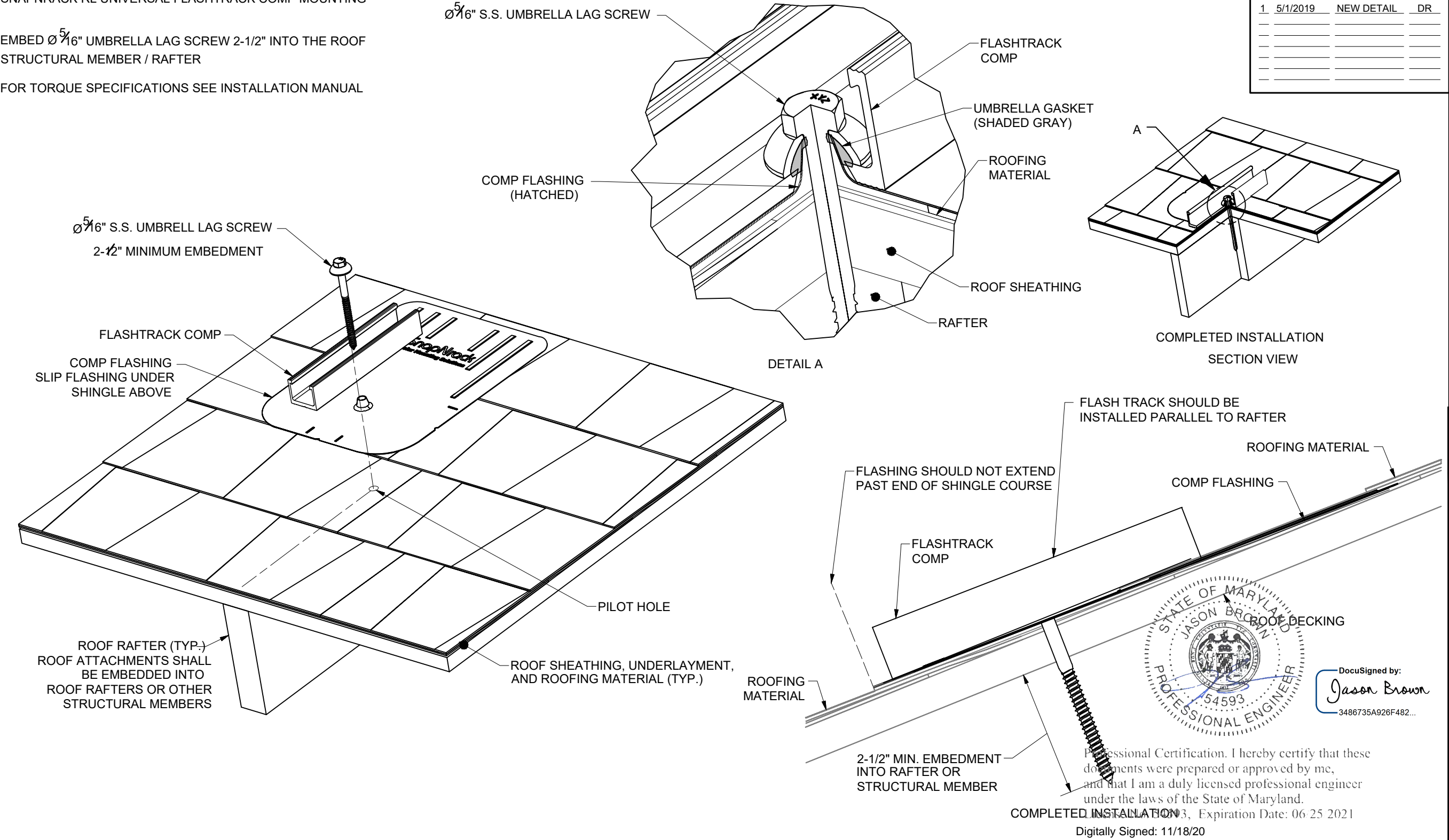
REV: A 11/18/2020

PAGE  
PV-3.94

SNAPNRACK RL UNIVERSAL FLASHTRACK COMP MOUNTING

EMBED  $\varnothing \frac{5}{16}$ " UMBRELLA LAG SCREW 2-1/2" INTO THE ROOF STRUCTURAL MEMBER / RAFTER

FOR TORQUE SPECIFICATIONS SEE INSTALLATION MANUAL



REVISION:			
1	5/1/2019	NEW DETAIL	DR



MHIC #132591

812 OREGON AVE, STE J, LINTHICUM HEIGHTS, MD 21090  
PHONE 443-457-5012  
FAX 0

CUSTOMER RESIDENCE:

ELIHU MILES  
3905 PROSPECT ST,  
KENSINGTON, MD, 20895

TEL. (646) 319-6680  
APN #: 13-03745737

PROJECT NUMBER:

251R-905MILE

DESIGNER: (415) 580-6920 ex3

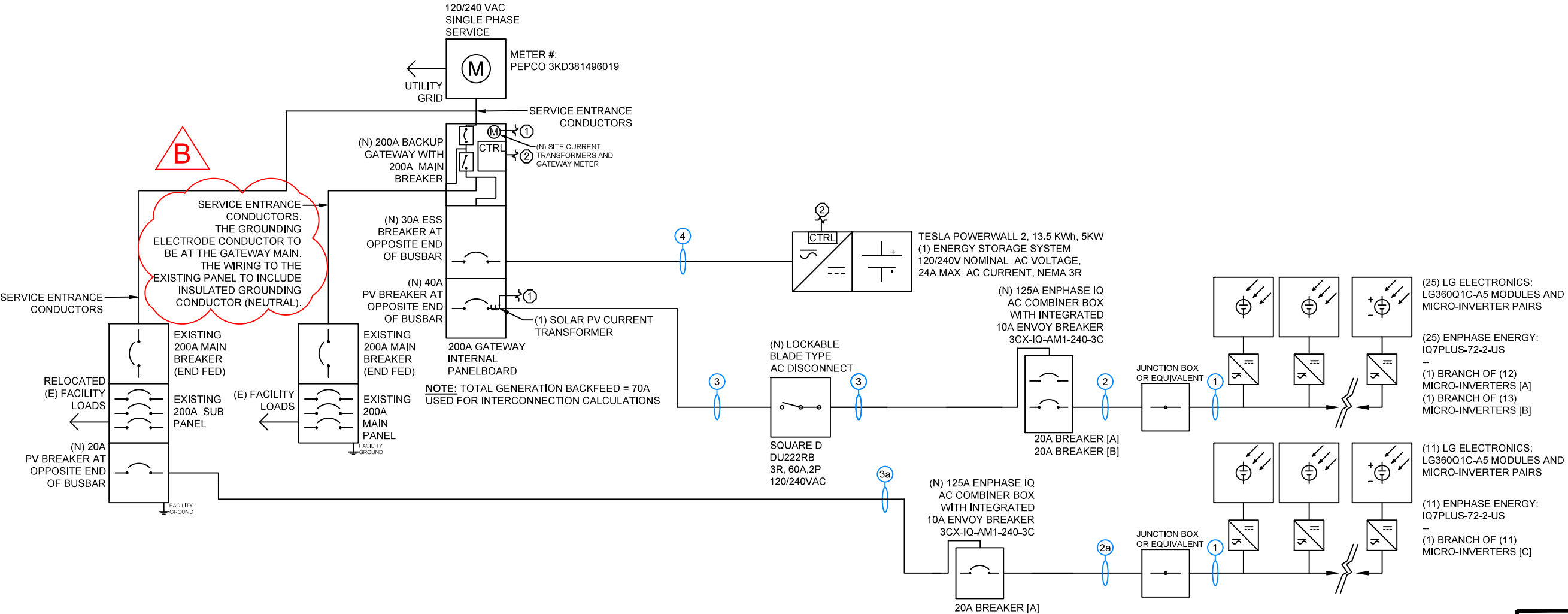
JAKE TAYLOR

SHEET

MOUNTING

REV: A 11/18/2020

PAGE PV-3.25



CONDUIT SCHEDULE				
#	CONDUIT	CONDUCTOR	NEUTRAL	GROUND
1	NONE	(2) 12 AWG PER ENPHASE Q CABLE BRANCH	NONE	(1) 10 AWG BARE COPPER
2	3/4" EMT OR EQUIV.	(4) 10 AWG THHN/THWN-2	NONE	(1) 8 AWG THHN/THWN-2
2a	3/4" EMT OR EQUIV.	(2) 10 AWG THHN/THWN-2	NONE	(1) 8 AWG THHN/THWN-2
3	3/4" EMT OR EQUIV.	(2) 8 AWG THHN/THWN-2	(1) 10 AWG THHN/THWN-2	(1) 8 AWG THHN/THWN-2
3a	3/4" EMT OR EQUIV.	(2) 10 AWG THHN/THWN-2	(1) 10 AWG THHN/THWN-2	(1) 8 AWG THHN/THWN-2
4	3/4" EMT OR EQUIV.	(2) 10 AWG THHN/THWN-2	(1) 10 AWG THHN/THWN-2	(1) 8 AWG THHN/THWN-2

**MODULE CHARACTERISTICS**  
LG ELECTRONICS: LG360Q1C-A5: 360 W  
OPEN CIRCUIT VOLTAGE: 42.7 V  
MAX POWER VOLTAGE: 36.5 V  
SHORT CIRCUIT CURRENT: 10.79 A

MHIC #132591

812 OREGON AVE, STE J, LINTHICUM HEIGHTS, MD 21090  
PHONE 443-457-5012  
FAX 0

CUSTOMER RESIDENCE:  
ELIHU MILES  
3905 PROSPECT ST,  
KENSINGTON, MD, 20895

TEL. (646) 319-6680  
APN #: 13-03745737

PROJECT NUMBER:  
251R-905MILE


DESIGNER: (415) 580-6920 ex3  
JAKE TAYLOR

SHEET  
ELECTRICAL

REV: B 1/29/2021

PAGE  
PV-4.96



**WARNING**

ELECTRICAL SHOCK HAZARD

TERMINALS ON LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

LABEL LOCATION:  
INVERTER(S), AC DISCONNECT(S), AC COMBINER PANEL (IF APPLICABLE).  
PER CODE(S): NEC 2020: 690.13(B), NEC 2017: 690.13(B), NEC 2014: 690.17(E), NEC 2011: 690.17(4)

**WARNING**

PHOTOVOLTAIC SYSTEM  
COMBINER PANEL

DO NOT ADD LOADS

LABEL LOCATION:  
PHOTOVOLTAIC AC COMBINER (IF APPLICABLE).  
PER CODE(S): CEC 2019: 705.12(B)(2)(3)(c), NEC 2017: 705.12(B)(2)(3)(c), NEC 2014: 705.12(D)(2)(3)(c), NEC 2011: 705.12(D)(4)

**WARNING**

THIS EQUIPMENT IS FED BY  
MULTIPLE SOURCES. TOTAL RATING  
OF ALL OVERCURRENT DEVICES  
EXCLUDING MAIN SUPPLY  
OVERCURRENT DEVICE SHALL NOT  
EXCEED AMPACITY OF BUSBAR

LABEL LOCATION:  
UTILITY SERVICE METER AND MAIN SERVICE PANEL.  
PER CODE(S): NEC 2020: 705.12(B)(3)(3), NEC 2017: 705.12(B)(2)(3)(C)

- NOTES AND SPECIFICATIONS:
- SIGNS AND LABELS SHALL MEET THE REQUIREMENTS OF THE NEC 2017 ARTICLE 110.21(B), UNLESS SPECIFIC INSTRUCTIONS ARE REQUIRED BY SECTION 690, OR IF REQUESTED BY THE LOCAL AHJ.
  - SIGNS AND LABELS SHALL ADEQUATELY WARN OF HAZARDS USING EFFECTIVE WORDS, COLORS AND SYMBOLS.
  - LABELS SHALL BE PERMANENTLY AFFIXED TO THE EQUIPMENT OR WIRING METHOD AND SHALL NOT BE HAND WRITTEN.
  - LABEL SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.
  - SIGNS AND LABELS SHALL COMPLY WITH ANSI Z535.4-2011, PRODUCT SAFETY SIGNS AND LABELS, UNLESS OTHERWISE SPECIFIED.
  - DO NOT COVER EXISTING MANUFACTURER LABELS.

**RAPID SHUTDOWN SWITCH  
FOR SOLAR PV SYSTEM**

LABEL LOCATION:  
UTILITY SERVICE ENTRANCE/METER, INVERTER/DC DISCONNECT IF REQUIRED BY LOCAL AHJ, OR OTHER LOCATIONS AS REQUIRED BY LOCAL AHJ.  
PER CODE(S): CEC 2019: 690.56(C)(3), NEC 2017: 690.56(C)(3), NEC 2014: 690.12, NEC 690.56, IFC 2012: 605.11.1, IFC 2018: 1204.5.3, CFC 2019: 1204.5.3

**WARNING**

POWER SOURCE OUTPUT CONNECTION

DO NOT RELOCATE THIS  
OVERCURRENT DEVICE

LABEL LOCATION:  
ADJACENT TO PV BREAKER AND ESS OCPD (IF APPLICABLE).  
PER CODE(S): NEC 2020: 705.12(B)(3)(2), CEC 2019: 705.12(B)(2)(3)(b), NEC 2017: 705.12(B)(2)(3)(b), CEC 2019: 705.12(B)(3), NEC 2017: 705.12(B)(3), NEC 2014: 705.12(B)(3), NEC 2011: 705.12(D)(7)

**WARNING: PHOTOVOLTAIC  
POWER SOURCE**

LABEL LOCATION:  
INTERIOR AND EXTERIOR DC CONDUIT EVERY 10 FT, AT EACH TURN, ABOVE AND BELOW PENETRATIONS, ON EVERY JB/PULL BOX CONTAINING DC CIRCUITS.  
PER CODE(S): CEC 2019: 690.31(G)(3), 690.31(G)(4), NEC 2017: 690.31(G)(3), 690.31(G)(4), NEC 2014: 690.31(G)(3), 690.31(G)(4), NEC 2011: 690.31(E)(3), 690.31(E)(4), IFC 2012: 605.11.1.4

**PHOTOVOLTAIC AC DISCONNECT**  
MAXIMUM AC OPERATING CURRENT: 43.50 AMPS  
NOMINAL OPERATING AC VOLTAGE: 240 VAC

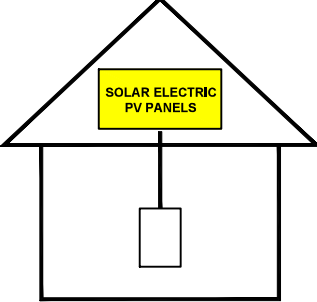
LABEL LOCATION:  
AC DISCONNECT(S), PHOTOVOLTAIC SYSTEM POINT OF INTERCONNECTION.  
PER CODE(S): CEC 2019: 690.54, NEC 2017: 690.54, NEC 2014: 690.54, NEC 2011: 690.54

4"

3"

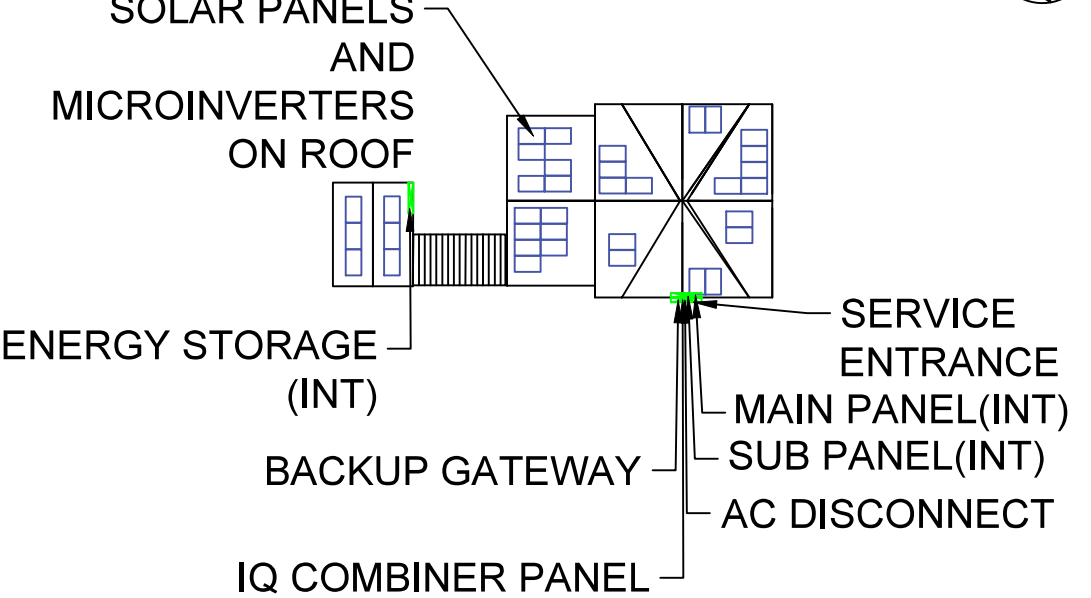
**SOLAR PV SYSTEM EQUIPPED  
WITH RAPID SHUTDOWN**

TURN RAPID SHUTDOWN  
SWITCH TO THE "OFF"  
POSITION TO SHUT DOWN  
PV SYSTEM AND REDUCE  
SHOCK HAZARD IN THE  
ARRAY.



LABEL LOCATION:  
ON OR NO MORE THAT 1 M (3 FT) FROM THE SERVICE DISCONNECTING MEANS TO WHICH THE PV SYSTEMS ARE CONNECTED.  
PER CODE(S): CEC 2019: 690.56(C)(1)(a), NEC 2017: 690.56(C)(1)(a)

**CAUTION:**  
POWER TO THIS BUILDING IS  
ALSO SUPPLIED FROM THE  
FOLLOWING SOURCES WITH  
DISCONNECTS AS SHOWN



3905 PROSPECT ST, KENSINGTON, MD, 20895

**sunrun**

MHIC #132591

812 OREGON AVE, STE J, LINTHICUM HEIGHTS, MD 21090  
PHONE 443-457-5012  
FAX 0

CUSTOMER RESIDENCE:  
ELIHU MILES  
3905 PROSPECT ST,  
KENSINGTON, MD, 20895

TEL. (646) 319-6680  
APN #: 13-03745737

PROJECT NUMBER:  
251R-905MILE

DESIGNER: (415) 580-6920 ex3  
JAKE TAYLOR

SHEET  
SIGNAGE

REV: B 1/29/2021

PAGE  
PV-5.q7