



CERTIFICATE OF APPROPRIATENESS PLACARD

for Raleigh Historic Resources

Project Description:

Install solar panels on roof

*Beyond this expiration date, NC Session Law 2021-03 grants an extension to all valid development permits until 150-days after NC Executive Order 116 is rescinded.

1308 Filmore St

Address

Glenwood-Brooklyn

Historic District

Historic Property

COA-0050-2022

Certificate Number

4/29/2022

Date of Issue

10/29/2022*

Expiration Date

This card must be kept posted in a location within public view until all phases of the described project are complete. The work must conform with the code of the City of Raleigh and laws of the state of North Carolina. When your project is complete, you are required to ask for a final zoning inspection in a historic district area. Telephone the RHDC office at 832-7238 and commission staff will coordinate the inspection with the inspections Department. If you do not call for this final inspection, your Certificate of Appropriateness is null and void.

Signature, _____

Ein Morton

Raleigh Historic Development Commission

Pending the resolution of appeals, commencement of work is at your own risk.

Type or print the following:

Applicant name: JILL (& PAUL) MERTENS

Mailing address: 1308 FILMORE ST.

City: RALEIGH

State: NC

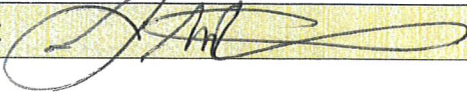
Zip code: 27605

Date:

Daytime phone #: (919) 673-9643

Email address: JILLMERTENS@GMAIL.COM

Applicant signature:



X

Minor work (staff review) – one copy

Major work (COA committee review) – ten copies

Additions > 25% of building sq. footage

New buildings

Demolition of building or structure

All other

Post approval re-review of conditions of approval

Office Use Only

Transaction #: _____

File #: COA-0050-2022

Fee: _____

Amount paid: _____

Received date: _____

Received by: _____

Property street address: 1308 FILMORE ST.

Historic district: GLENWOOD - BROOKLYN

Historic property/Landmark name (if applicable): N/A

Owner name: JILL (& PAUL) MERTENS

Owner mailing address: 1308 FILMORE ST, RALEIGH 27605

For applications that require review by the COA Committee (major work), provide addressed and stamped envelopes for owners for all properties with 100 feet on all sides of the property, as well as the property owner.

Property Owner Name & Address

Property Owner Name & Address

I understand that all major work applications that require review by the Raleigh Historic Development Commission's COA Committee must be submitted by 4 p.m. on the date of the application deadline; otherwise, consideration will be delayed until the following committee meeting. An incomplete application will not be accepted.

Will you be applying for rehabilitation tax credits for this project? <input checked="" type="radio"/> Yes <input type="radio"/> No	Office Use Only Type of work: <u>50</u>
Did you consult with staff prior to filing the application? <input checked="" type="radio"/> Yes <input type="radio"/> No	_____

Design Guidelines: please cite the applicable sections of the design guidelines (www.rhdc.org).		
Section/Page	Topic	Brief description of work (attach additional sheets as needed).
Pg. 14	SUSTAINABILITY	ADD SOLAR PANELS TO BACK SIDE OF ROOF ON NON-CONTRIBUTING HOME

Minor Work Approval (office use only)	
Upon being signed and dated below by the Planning Director or designee, this application becomes the Minor Work Certificate of Appropriateness. It is valid until <u>10/29/2022</u> .	
Please post the enclosed placard form of the certificate as indicated at the bottom of the card. Issuance of a Minor Work Certificate shall not relieve the applicant, contractor, tenant, or property owner from obtaining any other permit required by City Code or any law. Minor Works are subject to an appeals period of 30 days from the date of approval.	
Signature (City of Raleigh) <u>Erin Martin</u>	Date <u>04/29/2022</u>

Mertens Solar Project April 2022

My husband and I would like to reduce our impact on the environment by adding solar panels to our home.

I sent a message to the RHDC and they informed me that a solar installation with panels located on the front of our roof would not likely be approved. (Their email response is attached to this application.) With this in mind, our design was changed to eliminate any panels on the front of the home. A picture of the site design is also attached.

When the assessment of Glenwood-Brooklyn was completed, our home was denoted as a non-contributing structure. With this in mind- along with the design created to minimize visibility of the panels, we hope that you will approve this project to help us help the environment.

Jill and Paul Mertens







← **Kinane, Collette**

Apr 1, 2022, 4:58 PM (12 days ago)



to me, Erin ▾

Hi, Jill –

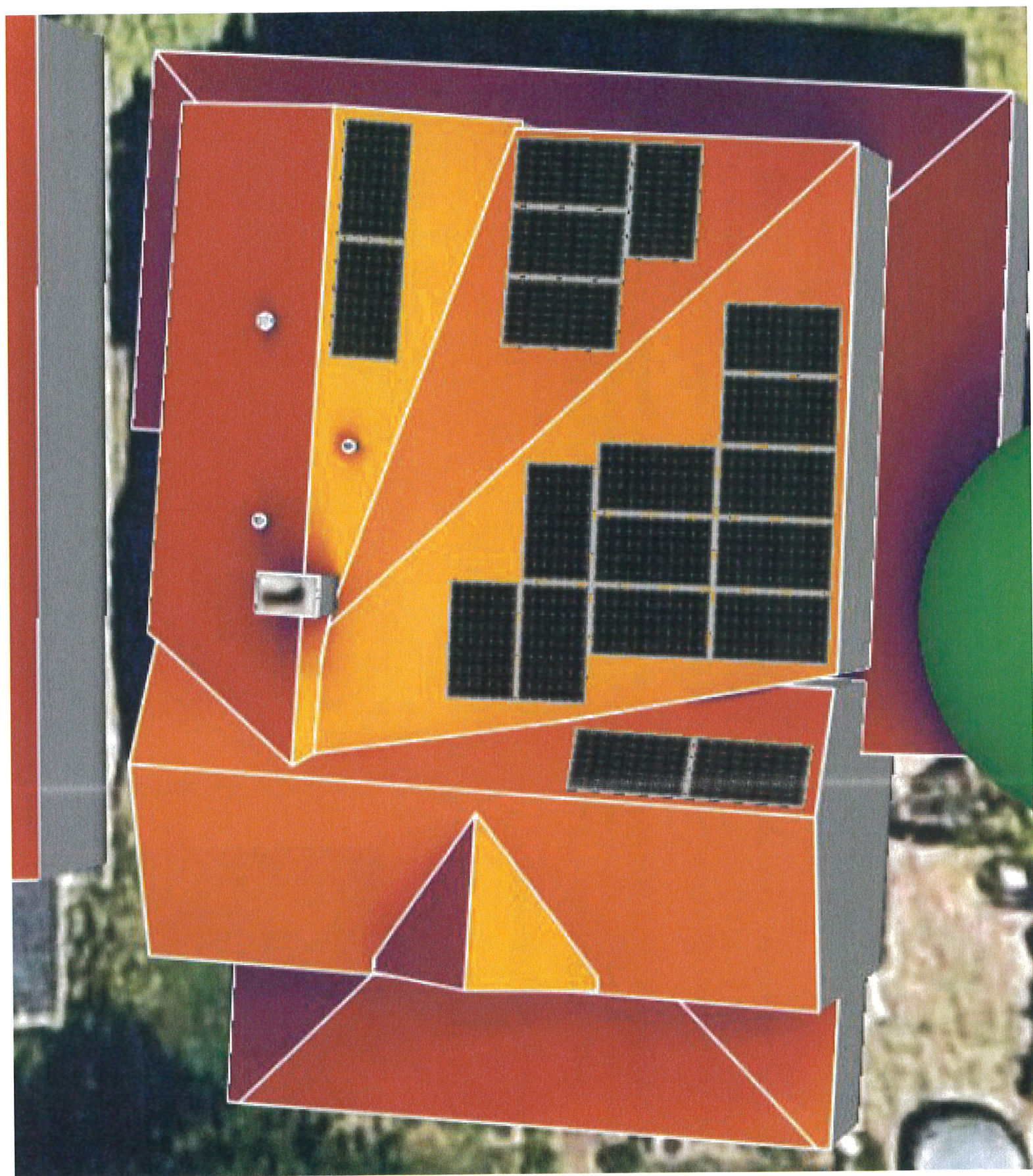
Thanks for your email. Installing solar panels would require a COA application if they were installed on the 50% of the roof nearest the street. I've included a very rough estimate of the 50% line below (the purple line). [Note that the line I've drawn may be inaccurate, the 50% line should be measured between the front wall of the house and the rear wall. I couldn't tell if the rear portion was a covered porch or an addition.]

Based on the roof slope and visibility, it is possible that a COA application to install solar panels located on the roof slope behind the main ridge that is parallel to the street (the yellow area) could be approved, but it is unlikely that solar panels would be approved if proposed on the slope of the roof facing the street. The section of roof beyond the purple line towards the rear yard would not require COA review.

Please let me know if you have any questions.

Thanks,
Collette







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

Solaria PowerXT-		400R-PM-AC
Max Power (P _{max})	[W]	400
Efficiency	[%]	20.2
Open Circuit Voltage (V _{oc})	[V]	51.1
Short Circuit Current (I _{sc})	[A]	9.82
Max Power Voltage (V _{mp})	[V]	42.4
Max Power Current (I _{mp})	[A]	9.41
Power Tolerance	[%]	-0/+3

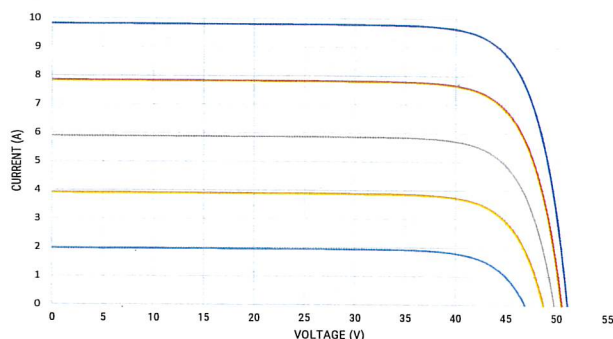
AC Output Data: Enphase IQ7A Microinverter

Peak Output Power	[VA]	366
Max Continuous Power	[VA]	349
Nominal Voltage	[V]	240
Max Continuous Current	[A]	1.45
Nominal Frequency	[Hz]	60
Extended Frequency Range	[Hz]	47-68
Peak Efficiency	[%]	97
Power Factor / Adjustable	[#]	0.85 leading...0.85 lagging
Max Branch Circuit	[A]	20
Max Panels/Circuit	[#]	11
Operating Temperature	[C]	-40 to +60

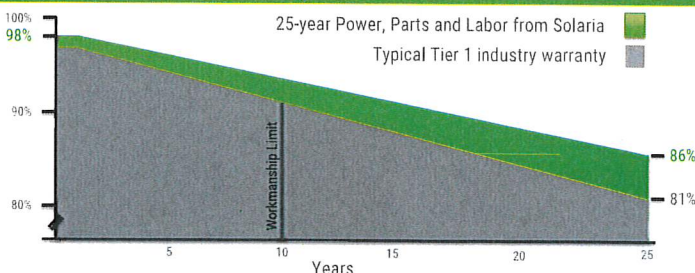
Features

Communication	Power Line Communication (PLC)
Monitoring	Enlighten Manager and MyEnlighten options
	Compatible with Enphase IQ Envoy
Disconnecting Means	Approved by UL for AC and DC load break as required by NEC Article 690
Rapid Shutdown	Compliant per NEC-2014 & 2017

IV Curves vs. Irradiance (400W Panel)



Comprehensive 25-Year Warranty



Mechanical Characteristics

Cell Type	Monocrystalline Silicon
Dimensions (L x W x H)	64.72" x 47.4" x 1.57"
	1644mm x 1204mm x 40mm
Weight	22 kg / 48 lbs
Glass Type / Thickness	AR Coated, Tempered / 2.84mm
Frame Type	Black Anodized Aluminum
DC Cable Type / Length	Q DC / 900(+), 850mm(-)
AC Cable Type / Length	Q AC / 2000mm
Junction Box	IP67 / 4 diodes
Front Load	5400 Pa / 113 psf*
Rear Load	2400 Pa / 50 psf*

* Refer to Solaria Installation Manual for details

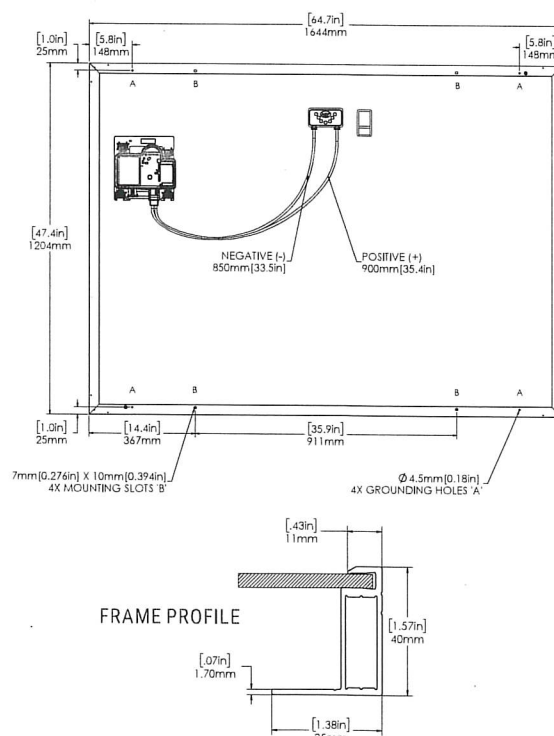
Certifications / Warranty

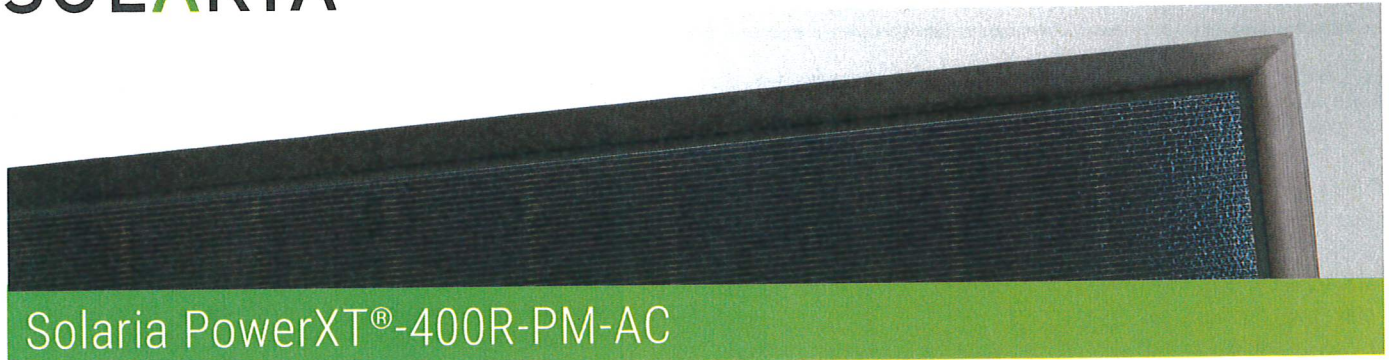
Certifications	UL 61730/UL1741/CEC CAN/CSA-C22.2
NEMA	3R
Fire Type	Type 1
Warranty	25 years*

* Warranty details at www.solaria.com

Packaging

Stacking Method	Horizontal / Palletized
Panels / Pallet	25
Pallet Dims (L x H x W)	66.57" x 48.7" x 48.4"
	1691mm x 1238mm x 1230 mm
Pallet Weight	615 kg / 1360 lbs
Pallets / 40-ft Container	18
Panels / 40-ft Container	450





Solaria PowerXT®-400R-PM-AC

The Solaria PowerXT AC Panel combines the latest cutting-edge microinverter technology from Enphase with the premium high-efficiency and superior aesthetics of the Solaria PowerXT Panel. Utilizing the latest Enphase IQ7A platform the PowerXT AC Panel combines aesthetics and performance into an elegant product that reduces installation time by combining the inverter, panel and monitoring.

Achieving 20% efficiency, Solaria PowerXT AC solar panels are one of the highest power AC panels in the residential solar market. Compared to conventional panels, Solaria PowerXT panels have fewer gaps between the solar cells; this leads to higher power and superior aesthetics.

Solaria PowerXT Pure Black™ residential panels are manufactured with black backsheet and frames, giving them a striking appearance.

Higher Efficiency, Higher Power

Solaria PowerXT AC panels achieve up to 20% efficiency; conventional panels achieve 15% – 17% efficiency. Combined with Enphase IQ7A microinverter, the Solaria PowerXT AC Panel is one of the highest power and most efficient AC panels available.

Easy to Install

The integrated Enphase IQ7A microinverter reduces installation costs due to fewer balance of system components, improved two-wire cabling and compliance with NEC 2014 & 2017 rapid shutdown requirements.

Smart Grid Ready

Meets CA Rule 21 and complies with advanced grid support, voltage and frequency ride-through requirements. Remotely updates to respond to changing grid requirements and is configurable for varying grid profiles.

Improved Aesthetics

Compared to conventional panels, the Solaria PowerXT AC Panel has a more uniform appearance and superior aesthetics.

Durability and Reliability

Industry leading 25 year warranty with a million hours of microinverter testing.



About Solaria

Established in 2000, The Solaria Corporation has created one of the industry's most respected IP portfolios, with over 250 issued and pending patents in PV solar cell and module technology. Headquartered in Oakland, California, Solaria has developed a technology platform that unlocks the potential of solar energy.





About Us

919.948.6474 | 1600 Heritage Commerce Ct, Ste 104 Wake Forest NC 27587 | www.8MSolar.com

8MSolar's unrivaled expertise and attention to detail sets us apart from other solar installers. We are the only company whose owners, NABCEP certified solar designers and professional engineers (licensed PE), are directly involved in **every** solar project we install.

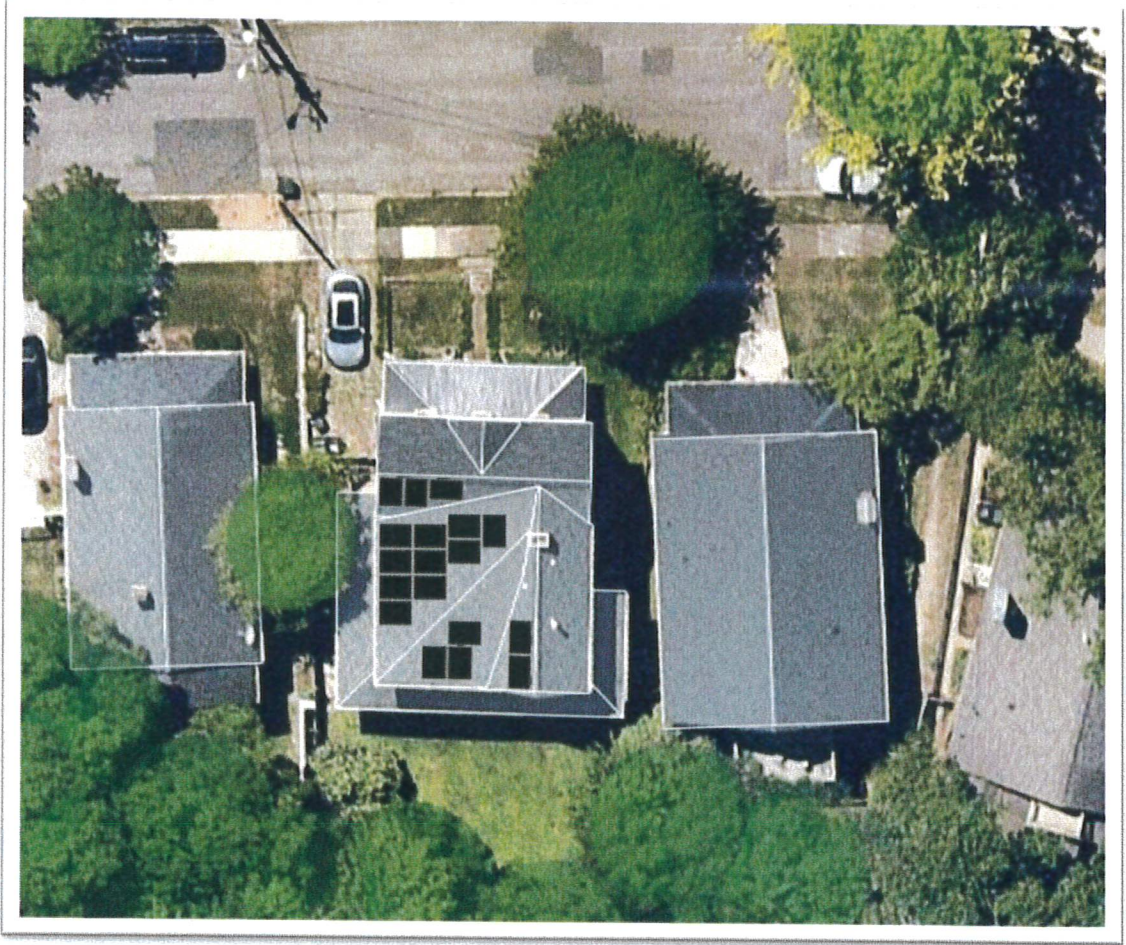
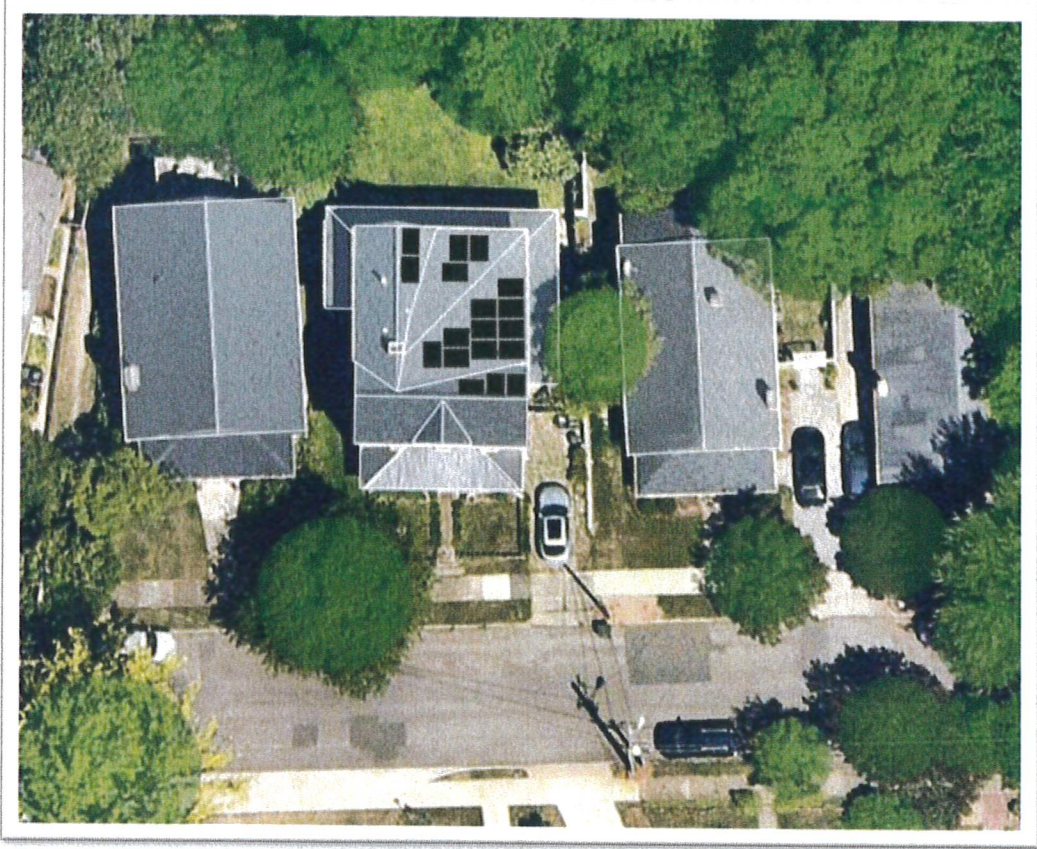
Headquartered in Cary, North Carolina, we are locally owned and operated - providing expert installation services throughout the state of NC. With over 10 years of experience designing and installing solar energy systems, we have installed nearly 700 residential and commercial solar projects – including dozens of HOA-approved projects.



Previous Projects (utilizing premium all-black panels)



Proposed Array Layout (to scale)



**Description of Proposed Project:**

1308 Filmore St Raleigh, NC 27605

We are seeking approval to install a solar energy system at 1308 Filmore St in Raleigh. The system will be comprised of (18) ultra-premium, Solaria Power XT 400W completely all-black solar panels. Below (attached to this application) is a rendering showing the exact location of the panels (to scale), along with pictures of previous projects 8MSolar have installed using similar all-black panels for aesthetic reference.

Premium all-black panels were selected at additional cost to integrate seamlessly into the existing aesthetics of the home. The panels will sit flush with the existing plane of the roof, and no pieces of the underlying racking / mounting system (also all-black) will be visible.

Please feel free to reach out to me with any questions, and/or requests for additional information. Thank you!

Respectfully,


Paul Mertens

Homeowner

Utility Meter




Module Dimension		
Roofs	Pitch	Azimuth
A	40°	98°
B	9°	188°
C	9°	98°
D	40°	188°



Conduit Run



Sola Deck will be installed under the Modules

SYSTEM DETAILS

NUMBER OF PANELS : 18
PANELS MODEL : SOLARIA POWERXT 400R-PM
DC SIZE : 7.2 kW
AC SIZE : 7.6 kVA

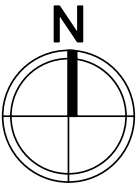
Roof A
03 Modules

Roof B
10 Modules

Roof C
03 Modules

Roof D
02 Modules

Equipment Location and
Conduit Routing



SCALE: NTS

Paul Mertens

1308 Filmore St
Raleigh, NC 27605

**NABCEP
CERTIFIED**
PV Installation
Professional

Ali Buttar
PVIP #031310-32

1	04/04/2022	A

Customer's Signature

JOB NUMBER

22-126-JM00

PROJECT STATUS

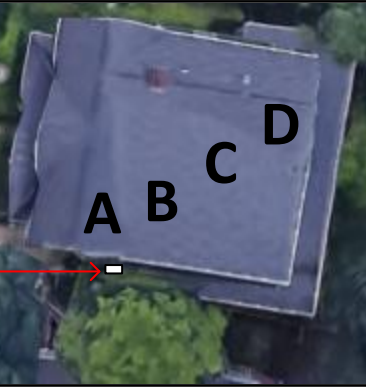
DESIGN REVIEW

SHEET

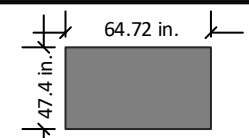
PAGE 1

Staff Note: New exposed conduit to be painted to match existing siding and conduit in this area

Utility
Meter



Module
Dimension



Roofs

Pitch

Azimuth

A

40°

98°

B

9°

188°

C

9°

98°

D

40°

188°



1600 Heritage Commerce Ct Ste 104,
Wake Forest NC 27587
O: 919.948.6474
E: info@8msolar.com

Paul Mertens
1308 Filmore St
Raleigh, NC 27605

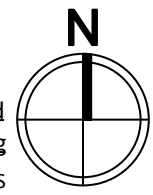
Equipment Dimensions

1	Inverter SE7600H-US (RGM)	H x W x D (in) 17.7 x 14.6 x 6.8
2	AC Disconnect	H x W x D (in) 14.88 x 7.45 x 4.87



Equipment Location and
Conduit Routing

SCALE: NTS



1	04/04/2022	A

Customer's Signature

JOB NUMBER
22-126-JM00

PROJECT STATUS
DESIGN REVIEW

SHEET
PAGE 2

JM
22126JM00