



HISTORIC PRESERVATION COMMISSION

Marc Elrich
County Executive

Robert Sutton
Chairman

Date: January 18, 2024

MEMORANDUM

TO: Rabbiah Sabbakhan
Department of Permitting Services

FROM: Dan Breuchert
Historic Preservation Section
Maryland-National Capital Park & Planning Commission

SUBJECT: Historic Area Work Permit #1051115 - Solar Installation

The Montgomery County Historic Preservation Commission (HPC) has reviewed the attached application for a Historic Area Work Permit (HAWP). This application was Approved at the December 20, 2023 HPC meeting.

The HPC staff has reviewed and stamped the attached construction drawings.

THE BUILDING PERMIT FOR THIS PROJECT SHALL BE ISSUED CONDITIONAL UPON ADHERENCE TO THE ABOVE APPROVED HAWP CONDITIONS AND MAY REQUIRE APPROVAL BY DPS OR ANOTHER LOCAL OFFICE BEFORE WORK CAN BEGIN.

Applicant: Jared Hughes
Address: 101 Elm Ave., Takoma Park

This HAWP approval is subject to the general condition that the applicant will obtain all other applicable Montgomery County or local government agency permits. After the issuance of these permits, the applicant must contact this Historic Preservation Office if any changes to the approved plan are made. Once work is complete the applicant will contact Dan Bruechert at 301.563.3408 or dan.bruechert@montgomeryplanning.org to schedule a follow-up site visit.



MR & MRS JARED B HUGHES / JARED HUGHES

PHOTOVOLTAIC SYSTEM
101 ELM AVE
TAKOMA PARK, MD, 20912



2137 Route 35
Holmdel, NJ 07733
Tel: (732) 979-2400
Fax: (732) 979-2401

PROJECT NAME & ADDRESS

MR & MRS JARED B HUGHES /
JARED HUGHES
101 ELM AVE
TAKOMA PARK, MD, 20912
(Lat, Long: 38.973207, -77.008447)

PROPOSED SYSTEM SPECIFICATION	
SYSTEM SIZE DC	8.4 KWP
SYSTEM SIZE AC	300 VA PEAK POWER = 6.3 KWP
SYSTEM SIZE AC	290 VA MAX. CONT. POWER = 6.09 KWP
MODULES USED	(21) HYPERION HY-DH108P8 400B
INVERTER USED	(21) ENPHASE IQ8PLUS-72-2-US
BRANCH CIRCUIT	1 CIRCUIT OF 11 MODULES 1 CIRCUIT OF 10 MODULES
RACKING	ECOFASTEN ROCKIT

ELECTRICAL SPECIFICATION	
SERVICE PANEL	200A MCB WITH 225A BUSBAR
INTERCONNECTION	PV BACKFEED BREAKER
PV OCPD	40A BREAKER

REFERENCE CODES	IBC 2018
ELECTRICAL CODE	NEC-2017
BUILDING USAGE	R - RESIDENTIAL
CONSTRUCTION	5-B UNPROTECTED

WIND EXPOSURE CATEGORY	B
WIND SPEED	115 MPH
SNOW LOAD	30 LB/SQ.FT.

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A005	ELEVATION
S001	STRUCTURAL
E001	ELECTRICAL LINE DIAGRAM
E002	ELECTRICAL CALCULATIONS
E003	LABELS
001-003	DATASHEETS

APPROVED
Montgomery County
Historic Preservation Commission

REVIEWED

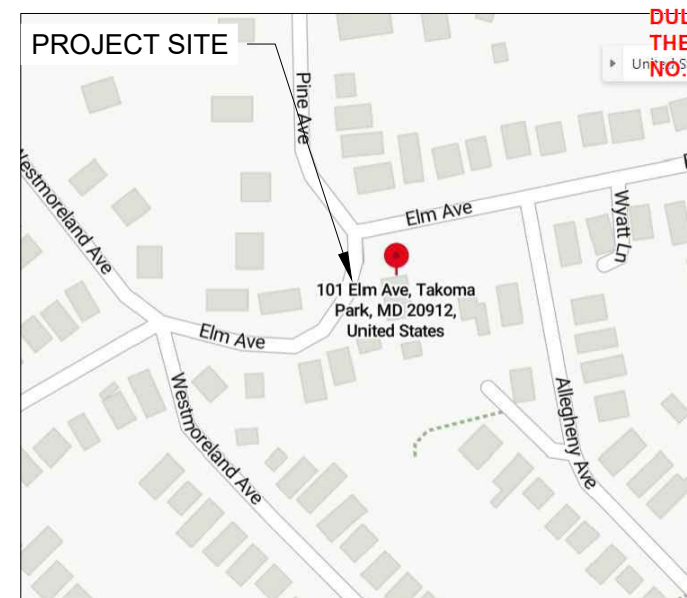
By Dan.Bruechert at 11:32 am, Jan 18, 2024



Wyssling Consulting, PLLC
76 N. Meadowbrook Drive, Alpine UT
Maryland COA # 58509

SITE MAP

SCALE: NTS



VICINITY MAP

SCALE: NTS

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: 43466, EXPIRATION DATE: 4/11/2025.

Signature with Seal

REV	DESCRIPTION	DATE	DRW BY	REV BY

DATE DRAWN	07-26-2023
DRAWN BY	FAISAL
REVIEWED BY	HARSH
SHEET NAME	COVER PAGE
SHEET NO.	A001

I prepared or approved the construction documents for the mounting equipment, rack system and roof structure for this project.

43466
 Maryland PE License Number
 Date 7/27/2023

Signature *Scott E. Wyss*

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. 43466, expiration date:



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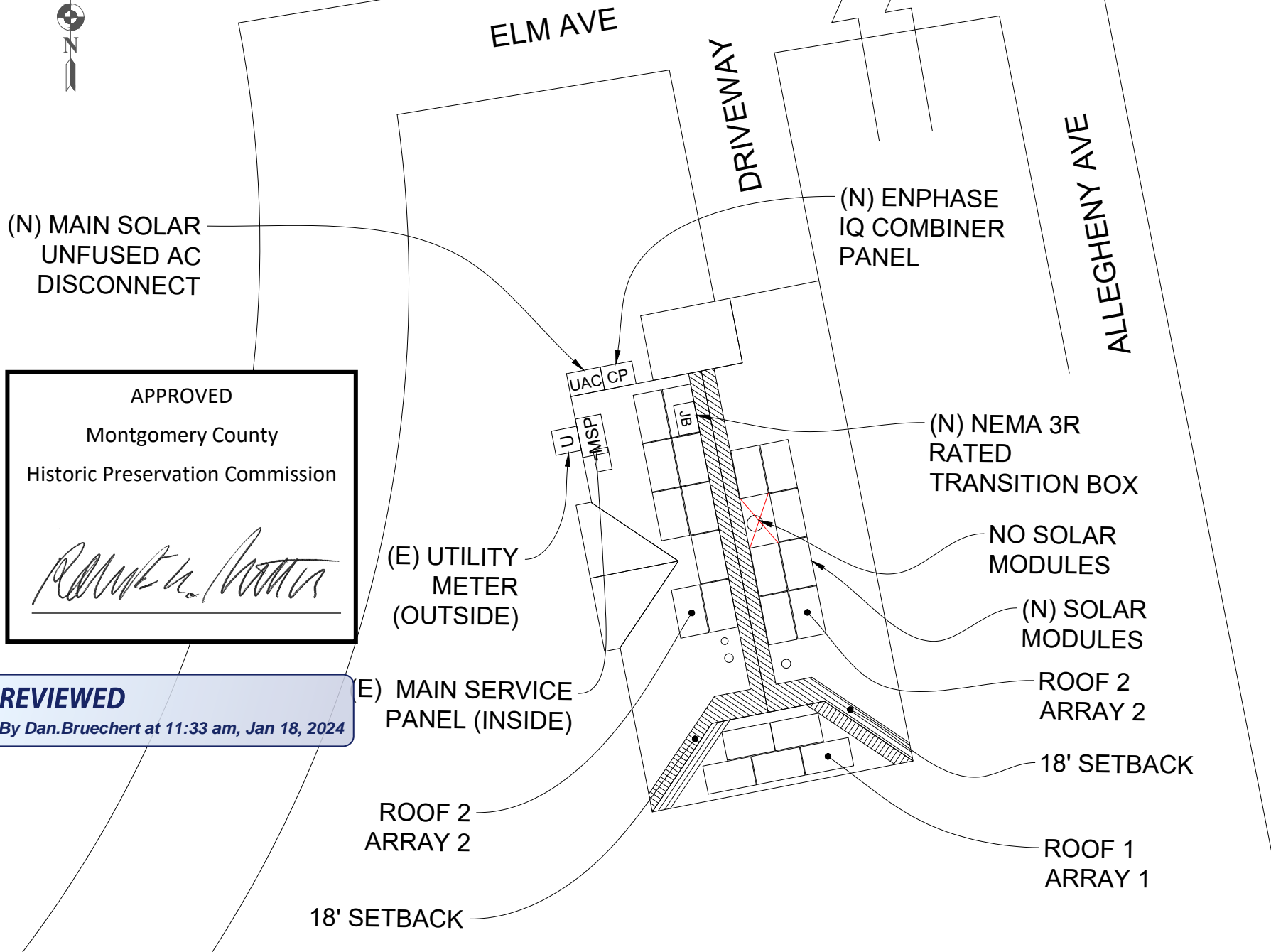
ELECTRICAL SPECIFICATION	
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INTERCONNECTION	PV BACKFEED BREAKER
PV OCPD	40A BREAKER

ROOF SPECIFICATION	
ROOF TYPE	COMPOSITE SHINGLE
ROOF CONDITION	GOOD
FRAMING	TRUSSES: 2"x 4" @ 24" O.C.
SHEATHING	WOODEN PLANKS

ARRAY SPECIFICATION			
ROOF NO.	TILT	AZIMUTH	QTY
1	27°	169°	5
2	27°	259°	9
3	27°	79°	7
TOTAL			21

ROOF COVERAGE AREA CALCULATION	
TOTAL AREA OF ROOF	1898.64 SQ. FT
TOTAL AREA OF ARRAY	441.4 SQ. FT
PERCENTAGE OF TOTAL ARRAY AREA OCCUPIED ON ROOF	23.25 %

NOTE : PROVIDING ARRAYS TAKE LESS THAN 33% OF TOTAL ROOF AREA, WHEN THE ARRAYS TAKE LESS THAN 33% WE CAN JUSTIFY 18" SETBACKS FROM RIDGE



SITE PLAN

SCALE: NTS



SITE MAP

SCALE: NTS



2137 Route 35
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 Fax: (732) 979-2401

PROJECT NAME & ADDRESS

MR & MRS JARED B HUGHES /
 JARED HUGHES
 101 ELM AVE
 TAKOMA PARK, MD, 20912
 (Lat, Long: 38.973207, -77.008447)

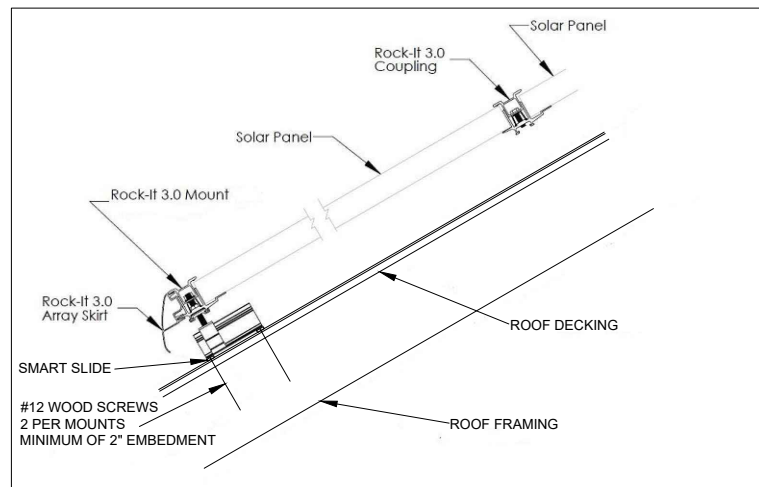
Signature with Seal

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DATE DRAWN	07-26-2023
DRAWN BY	FAISAL
REVIEWED BY	HARSH

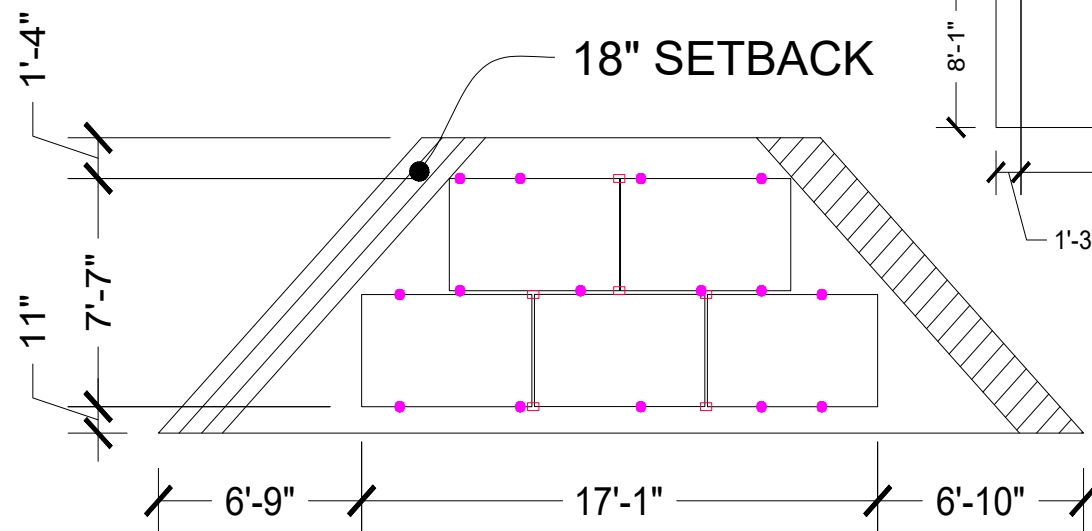
SHEET NAME SITE PLAN

SHEET NO. A002

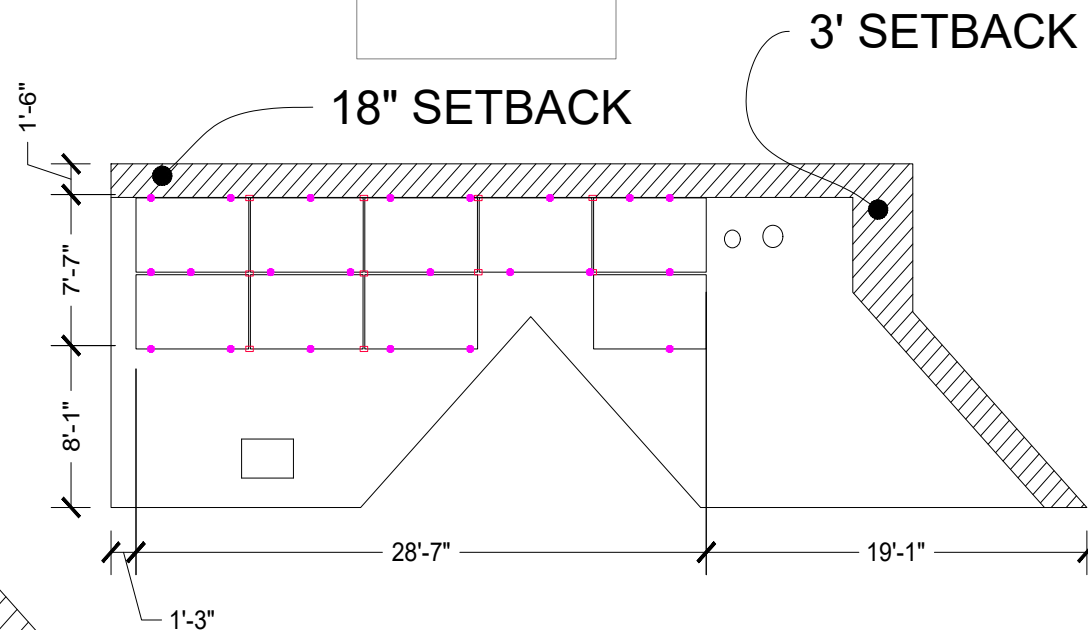


ATTACHMENT DETAILS

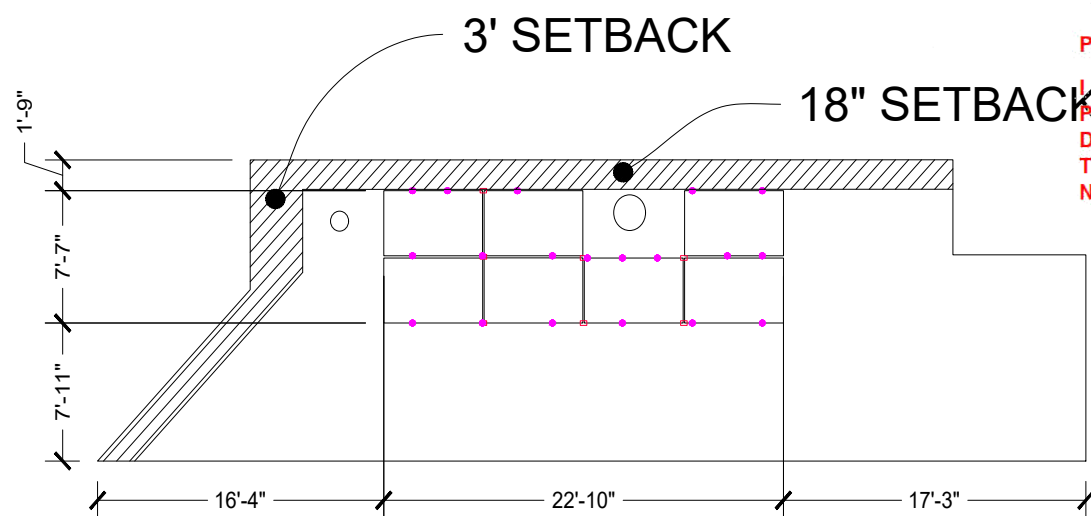
SCALE: NTS



ROOF - 1



ROOF - 2



ROOF - 3

ARRAY LAYOUT

SCALE: NTS

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SHEATHING	WOODEN PLANKS

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APPROVED
Montgomery County
Historic Preservation Commission



REVIEWED

By Dan.Bruechert at 11:33 am, Jan 18, 2024

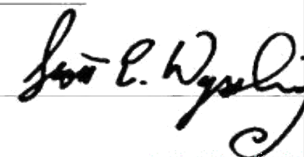
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43466

Maryland PE License Number

Date 7/27/2023

Signature



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Wyssling Consulting, PLLC
6 N. Meadowbrook Drive, Alpine UT
Maryland COA # 58509

SIDE ELEVATION

SCALE: NTS

LEGEND	
○ □	- VENT, ATTIC FAN (ROOF OBSTRUCTION)
●	- MOUNTS
□	- COUPLING
▨	- ROOF SETBACK



2137 Route 35
Holmdel, NJ 07733
Tel: (732) 979-2400
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PROJECT NAME & ADDRESS

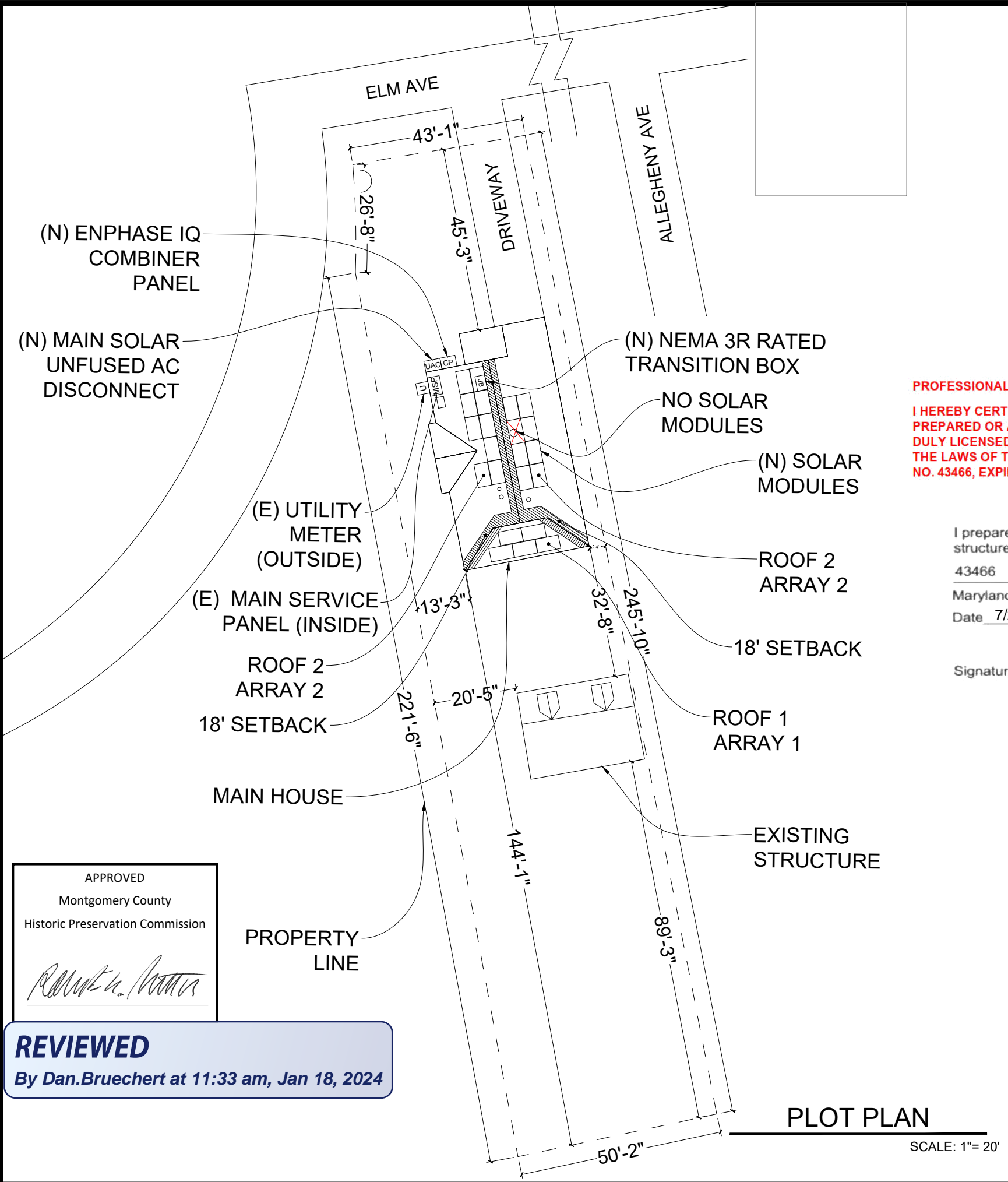
MR & MRS JARED B HUGHES /
JARED HUGHES

101 ELM AVE
TAKOMA PARK, MD, 20912
(Lat, Long: 38.973207, -77.008447)

Signature with Seal

REV	DESCRIPTION	DATE	DRW BY	REV BY

DATE DRAWN	07-26-2023
DRAWN BY	FAISAL
REVIEWED BY	HARSH
SHEET NAME	ARRAY LAYOUT
SHEET NO.	A003



PROPOSED SYSTEM SPECIFICATION	
SYSTEM SIZE DC	8.4 KWP
SYSTEM SIZE AC	300 VA PEAK POWER = 6.3 KWP
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PV OCPD	40A BREAKER

ROOF SPECIFICATION	
ROOF TYPE	COMPOSITE SHINGLE
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 Date 7/27/2023

Signature *Scott E. Wyssling*

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Wyssling Consulting, PLLC
 76 N. Meadowbrook Drive, Alpine UT
 Maryland COA # 58509

APPROVED
 Montgomery County
 Historic Preservation Commission
[Signature]

REVIEWED
 By Dan.Bruechert at 11:33 am, Jan 18, 2024

PLOT PLAN
 SCALE: 1"= 20'

2137 Route 35
 Holmdel, NJ 07733
 Tel: (732) 979-2400
 Fax: (732) 979-2401

PROJECT NAME & ADDRESS
 MR & MRS JARED B HUGHES / JARED HUGHES
 101 ELM AVE
 TAKOMA PARK, MD, 20912
 (Lat, Long: 38.973207, -77.008447)

Signature with Seal

REV	DESCRIPTION	DATE	DRWN BY	REV BY

DATE DRAWN	07-26-2023
DRAWN BY	FAISAL
REVIEWED BY	HARSH
SHEET NAME	SITE PLAN
SHEET NO.	A004

APPROVED
 Montgomery County
 Historic Preservation Commission



REVIEWED
 By Dan.Bruechert at 11:33 am, Jan 18, 2024

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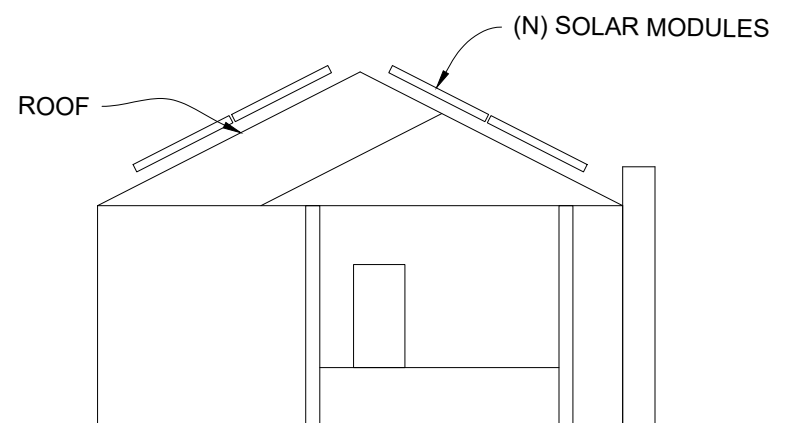
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PV OCPD	40A BREAKER

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ROOF TYPE	COMPOSITE SHINGLE
ROOF CONDITION	GOOD
FRAMING	TRUSSES: 2"x 4" @ 24" O.C.
SHEATHING	WOODEN PLANKS

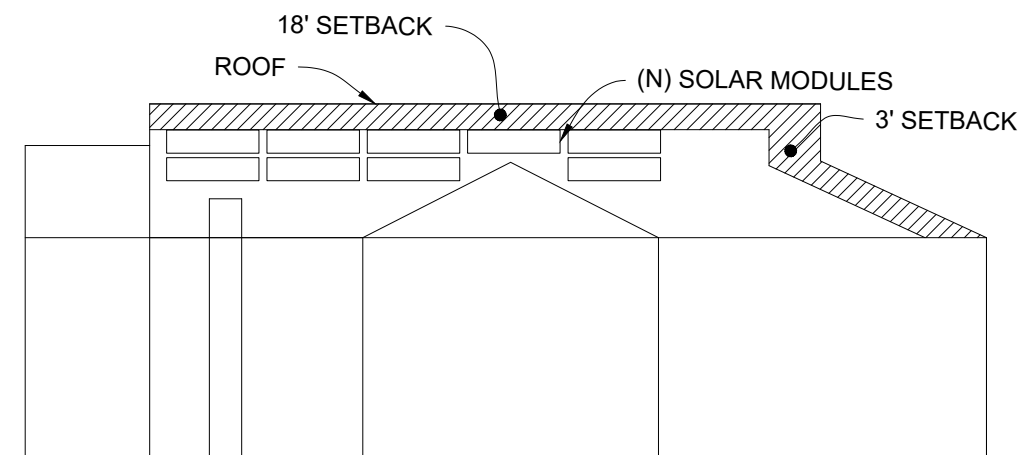
ARRAY SPECIFICATION			
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 MR & MRS JARED B HUGHES /
 JARED HUGHES
 101 ELM AVE
 TAKOMA PARK, MD, 20912
 (Lat, Long: 38.973207, -77.008447)



ELEVATION FROM FRONT OF THE HOUSE



ELEVATION LEFT SIDE OF THE HOUSE

I prepared or approved the construction documents for the mounting equipment, rack system and roof structure for this project.

43466
 Maryland PE License Number
 Date 7/27/2023

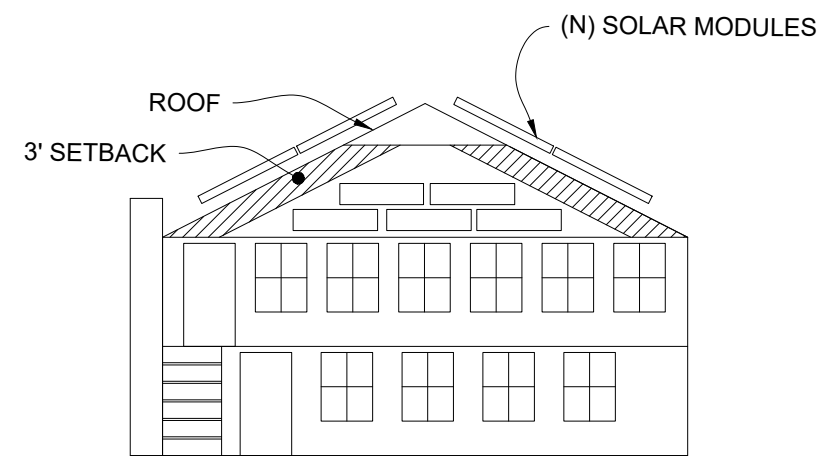
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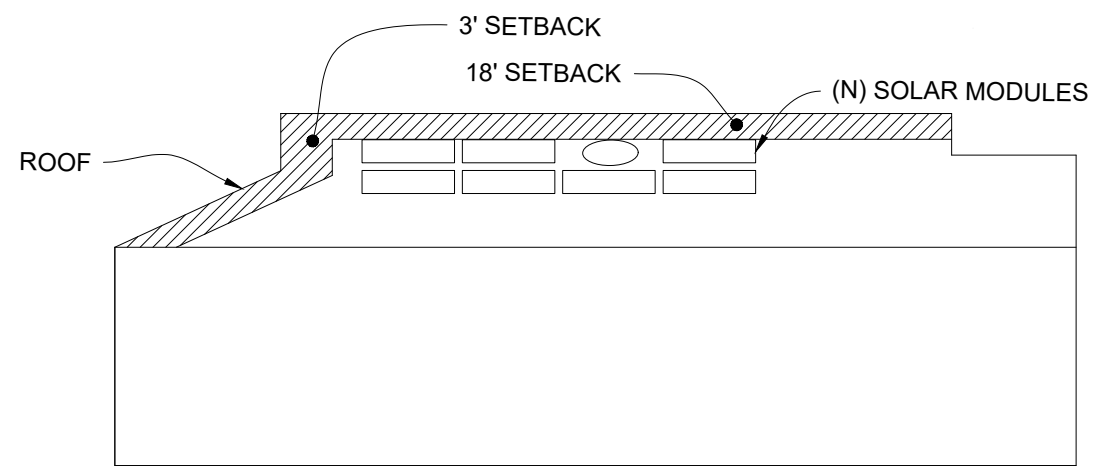


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Wyssling Consulting, PLLC
 76 N. Meadowbrook Drive, Alpine UT
 Maryland COA # 58509



ELEVATION FROM REAR OF THE HOUSE



ELEVATION RIGHT SIDE OF THE HOUSE

REV	DATE	DESCRIPTION	DRW BY	REV BY

DATE DRAWN 07-26-2023
 DRAWN BY FAISAL
 REVIEWED BY HARSH

SHEET NAME ELEVATION
 SHEET NO. A005

ELEVATION

SCALE: NTS

APPROVED
Montgomery County
Historic Preservation Commission



REVIEWED

By Dan.Bruechert at 11:33 am, Jan 18, 2024

INVERTER DATASHEET: ENPHASE IQ8PLUS-72-2-US

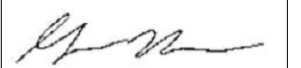


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JARED HUGHES
101 ELM AVE
TAKOMA PARK, MD, 20912
(Lat, Long: 38.973207, -77.008447)

Signature with Seal



NAME : GREG MARTIN
LICENSE NO : 14168

REV	DESCRIPTION	DATE	DRAWN BY	REV BY					
					REV	DESCRIPTION	DATE	DRAWN BY	REV BY



DATA SHEET



IQ8 and IQ8+ Microinverters

Our newest IQ8 Microinverters are the industry's first microgrid-forming, software-defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently. The brain of the semiconductor-based microinverter is our proprietary application-specific integrated circuit (ASIC) which enables the microinverter to operate in grid-tied or off-grid modes. This chip is built in advanced 55nm technology with high speed digital logic and has super-fast response times to changing loads and grid events, alleviating constraints on battery sizing for home energy systems.



Part of the Enphase Energy System, IQ8 Series Microinverters integrate with the Enphase IQ Battery, Enphase IQ Gateway, and the Enphase App monitoring and analysis software.



IQ8 Series Microinverters redefine reliability standards with more than one million cumulative hours of power-on testing, enabling an industry-leading limited warranty of up to 25 years.



Connect PV modules quickly and easily to IQ8 Series Microinverters using the included Q-DCC-2 adapter cable with plug-n-play MC4 connectors.



IQ8 Series Microinverters are UL Listed as PV Rapid Shut Down Equipment and conform with various regulations, when installed according to manufacturer's instructions.

© 2022 Enphase Energy. All rights reserved. Enphase, the Enphase logo, IQ8 Microinverters, and other names are trademarks of Enphase Energy, Inc. Data subject to change.

IQ8SP-DS-0002-01-EN-US-2022-03-17

Easy to install

- Lightweight and compact with plug-n-play connectors
- Power Line Communication (PLC) between components
- Faster installation with simple two-wire cabling

High productivity and reliability

- Produce power even when the grid is down*
- More than one million cumulative hours of testing
- Class II double-insulated enclosure
- Optimized for the latest high-powered PV modules

Microgrid-forming

- Complies with the latest advanced grid support**
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA) requirements

* Only when installed with IQ System Controller 2, meets UL 1741.

** IQ8 and IQ8Plus supports split phase, 240V installations only.

IQ8 and IQ8+ Microinverters

INPUT DATA (DC)		IQ8-60-2-US	IQ8PLUS-72-2-US
Commonly used module pairings ¹	W	235 – 350	235 – 440
Module compatibility		60-cell/120 half-cell	60-cell/120 half-cell, 66-cell/132 half-cell and 72-cell/144 half-cell
MPPT voltage range	V	27 – 37	29 – 45
Operating range	V	25 – 48	25 – 58
Min/max start voltage	V	30 / 48	30 / 58
Max input DC voltage	V	50	60
Max DC current ² [module Isc]	A		15
Overvoltage class DC port			II
DC port backfeed current	mA		0
PV array configuration		1x1 Ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit	
OUTPUT DATA (AC)		IQ8-60-2-US	IQ8PLUS-72-2-US
Peak output power	VA	245	300
Max continuous output power	VA	240	290
Nominal (L-L) voltage/range ³	V	240 / 211 – 264	
Max continuous output current	A	1.0	1.21
Nominal frequency	Hz	60	
Extended frequency range	Hz	50 – 68	
AC short circuit fault current over 3 cycles	A _{rms}	2	
Max units per 20 A (L-L) branch circuit ⁴		16	13
Total harmonic distortion		<5%	
Overvoltage class AC port		III	
AC port backfeed current	mA	30	
Power factor setting		1.0	
Grid-tied power factor (adjustable)		0.85 leading – 0.85 lagging	
Peak efficiency	%	97.5	97.6
CEC weighted efficiency	%	97	97
Night-time power consumption	mW	60	
MECHANICAL DATA			
Ambient temperature range		-40°C to +60°C (-40°F to +140°F)	
Relative humidity range		4% to 100% (condensing)	
DC Connector type		MC4	
Dimensions (HxWxD)		212 mm (8.3") x 175 mm (6.9") x 30.2 mm (1.2")	
Weight		1.08 kg (2.38 lbs)	
Cooling		Natural convection – no fans	
Approved for wet locations		Yes	
Pollution degree		PD3	
Enclosure		Class II double-insulated, corrosion resistant polymeric enclosure	
Environ. category / UV exposure rating		NEMA Type 6 / outdoor	
COMPLIANCE			
Certifications		CA Rule 21 (UL 1741-SA), UL 62109-1, UL1741/IEE1547, FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 1071-01	

(1) No enforced DC/AC ratio. See the compatibility calculator at <https://link.enphase.com/module-compatibility>
(2) Maximum continuous input DC current is 10.6A (3) Nominal voltage range can be extended beyond nominal if required by the utility. (4) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

IQ8SP-DS-0002-01-EN-US-2022-03-17


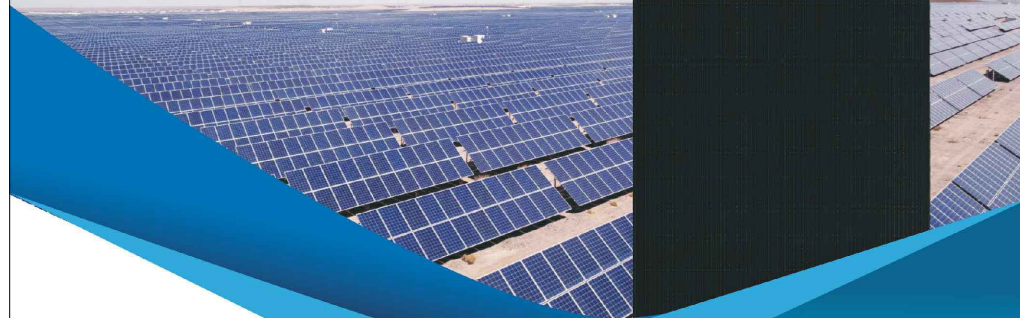
APPROVED
Montgomery County
Historic Preservation Commission



REVIEWED

By Dan.Bruechert at 11:33 am, Jan 18, 2024

MODULE DATASHEET: HYPERION HY-DH108P8 400WP

395-415W

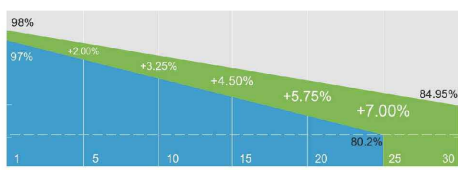
HY-DH108P8B
108 HALF-CELL BIFACIAL MODULE

High Conversion Efficiency
Module efficiency up to 21.3% through advanced cell technology and manufacturing process

Excellent Weak Light Performance
More power output in weak light condition, such as cloudy days, morning and sunset

Extended Mechanical Performance
Module certified to withstand extreme wind (2400 Pa) and snow loading (5400 Pa)

Quality Guarantee
High module quality ensures long-term reliability



■ Conventional Module ■ Hyperion Performance

12 Years warranty for materials and workmanship | 30 Years warranty for extra linear power output

Intertek | TÜV SÜD | DVE | CE | Warranty partner

IEC61215 / IEC61730 / UL61730
IEC61701 / IEC62716 / IEC60068
ISO9001

Munich RE

info@hyperion-usa.com
American Hyperion Solar LLC.
2880 Zanker Road, Suite 203, San Jose, CA 95134

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HY-DH108P8B-US-V1.7

BLACK DH108P8B

HY-DH108P8B-395/415

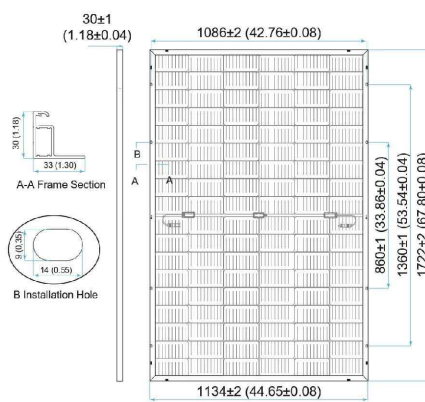
Mechanical Parameters

Solar Cell	Mono PERC 182mm
No. of Cells	108 (6 × 18)
Dimensions	1722 × 1134 × 30mm (67.80 × 44.65 × 1.18in.)
Weight	23.8kg (52.47lbs)
Junction Box	IP68 rated (3 bypass diodes)
Output Cables	4mm ² (IEC), 12 AWG(UL) (-/+1200mm (47.24in.) or customized)
Connector	QC4.10 or similar
Front Cover	2.0mm (0.079in.) semi-tempered AR glass
Back Cover	2.0mm (0.079in.) semi-tempered glass
Container	36 pcs/Pallet, 792 pcs/40' HC

Operating Parameters

Max. System Voltage	DC 1500V (IEC/UL)
Operating Temperature	-40°C ~ +85°C (-40°F ~ +185°F)
Max. Fuse Rating	30A
Frontside Max. Loading	5400Pa (112lb/ft ²)
Backside Max. Loading	2400Pa (50lb/ft ²)
Bifaciality	70%±10%
Fire Resistance	IEC Class A, UL Type 29

Engineering Drawing Unit: mm (inch)



Electrical Characteristics - STC Irradiance 1000 W/m², ambient temperature 25 °C, AM1.5.

Maximum Power at STC (Pmax/W)	415	410	405	400	395
Power Tolerance (W)	0 ~ +5				
Optimum Operating Voltage (Vmp/V)	31.61	31.45	31.21	31.01	30.84
Optimum Operating Current (Imp/A)	13.13	13.04	12.98	12.90	12.81
Open Circuit Voltage (Voc/V)	37.45	37.32	37.23	37.07	36.98
Short Circuit Current (Isc/A)	14.02	13.95	13.87	13.79	13.70
Module Efficiency	21.3%	21.0%	20.7%	20.5%	20.2%

Electrical Characteristics - NMOT Irradiance 800 W/m², ambient temperature 20 °C, AM1.5, wind speed 1 m/s.

Maximum Power at NMOT (Pmax/W)	313.9	310.2	306.4	302.5	298.8
Optimum Operating Voltage (Vmp/V)	29.88	29.82	29.60	29.41	29.25
Optimum Operating Current (Imp/A)	10.47	10.40	10.35	10.29	10.22
Open Circuit Voltage (Voc/V)	35.51	35.39	35.31	35.15	35.07
Short Circuit Current (Isc/A)	11.31	11.25	11.19	11.13	11.05

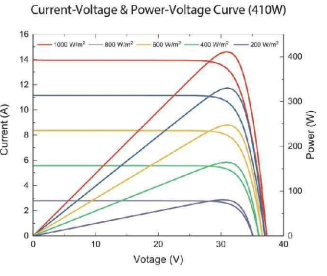
Rearside Power Gain (Reference to 415W Front)

Rearside Power Gain	5%	15%	25%
Maximum Power (Pmax/W)	436	477	519
Optimum Operating Voltage (Vmp/V)	31.61	31.71	31.71
Optimum Operating Current (Imp/A)	13.79	15.05	16.36
Open Circuit Voltage (Voc/V)	37.45	37.55	37.55
Short Circuit Current (Isc/A)	14.72	16.08	17.48
Module Efficiency	22.3%	24.4%	26.6%

Temperature Characteristics

Nominal Module Operating Temperature	42 ± 2 °C
Nominal Cell Operating Temperature	45 ± 2 °C
Temperature Coefficient of Pmax	-0.35%/°C
Temperature Coefficient of Voc	-0.27%/°C
Temperature Coefficient of Isc	0.05%/°C

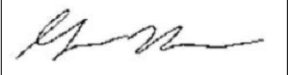
Current-Voltage & Power-Voltage Curve (410W)



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www.hyperion-solar.com

Suntuity.
2137 Route 35
Holmdel, NJ 07733
Tel: (732) 979-2400
Fax: (732) 979-2401

PROJECT NAME & ADDRESS
MR & MRS JARED B HUGHES / JARED HUGHES
101 ELM AVE
TAKOMA PARK, MD, 20912
(Lat, Long: 38.973207, -77.008447)

Signature with Seal

NAME : GREG MARTIN
LICENSE NO : 14168

REV	DESCRIPTION	REVISIONS	
		DATE	REV BY

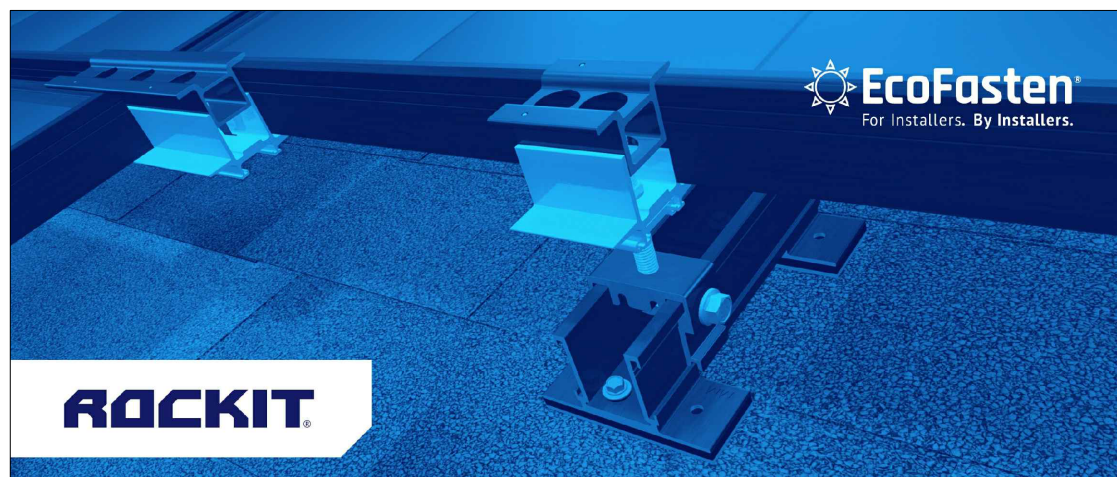
DATE DRAWN	07-26-2023
DRAWN BY	FAISAL
REVIEWED BY	HARSH
SHEET NAME	DATASHEET
SHEET NO.	001

APPROVED
 Montgomery County
 Historic Preservation Commission



REVIEWED
 By Dan.Bruechert at 11:33 am, Jan 18, 2024

RACKING DATASHEET: ECOFASTEN ROCKIT-3.0 + SMART SLIDE



INTRODUCING ROCKIT SMART SLIDE!

Introducing EcoFasten's patent pending Rockit Smart Slide, our simple solution for quickly installing the popular Rockit rail-less racking system to composition shingle roofs.

Features & Benefits

- Eliminates the need to pry up shingle courses and install a metal flashing
- Multiple opportunities to find the rafter
- Eliminates the need to drill pilot holes
- No need for additional material when architectural shingles are not level
- Longer 6.75" slide avoids overlaps in shingle courses
- Integrated flashing utilizes UltraGrip Technology™ to create a watertight seal



Required Components:

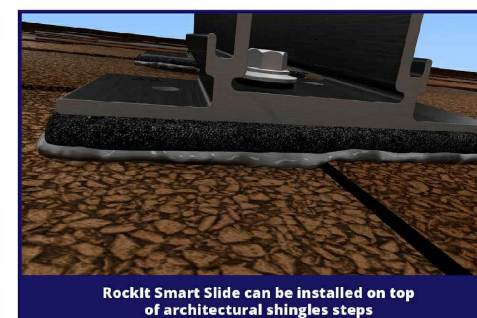
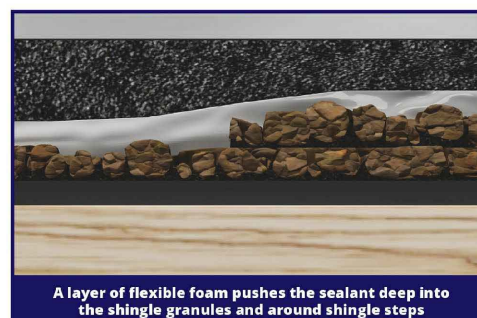
Part Number:	Description:
2011024	RI SMART SLIDE BLK 6.75"
2011025	RI SMART SCRW #12X3" W/BW

ECOFASTENSOLAR.COM

ROCKIT SMART SLIDE

Integrated UltraGrip Technology™

Pre-installed sealing pads are compatible with all composition shingle roofs and can be installed in ambient temperatures as low as 5 degrees. The compression achieved when fastened to the roof creates a super strong watertight seal. In most cases, Smart Slide can be installed to the roof without the need for sealant. A layer of flexible foam provides cushioning, which allows the super-sticky waterproofing sealant to embed deep into the granules of the shingle as well as to flexibly conform over the steps found on architectural-style shingles.



Testing & Documentation

- [UL441 Rain Report](#)
- [TAS 100 \(A\)-95 Wind and Wind Driven Rain Resistance](#)
- [Mechanical Load Test/Structural Capacity Certification](#)
- [Florida Product Approval](#)
- [Rockit Installation Manual](#)
- [Rockit CutSheets](#)



VERSION 1.2

EcoFasten
 An Esdec Solar Group Company

4141 W. VAN BUREN ST, SUITE 2, PHOENIX AZ 85009
 1-877-859-3947 | INFO@ECOFASTENSOLAR.COM



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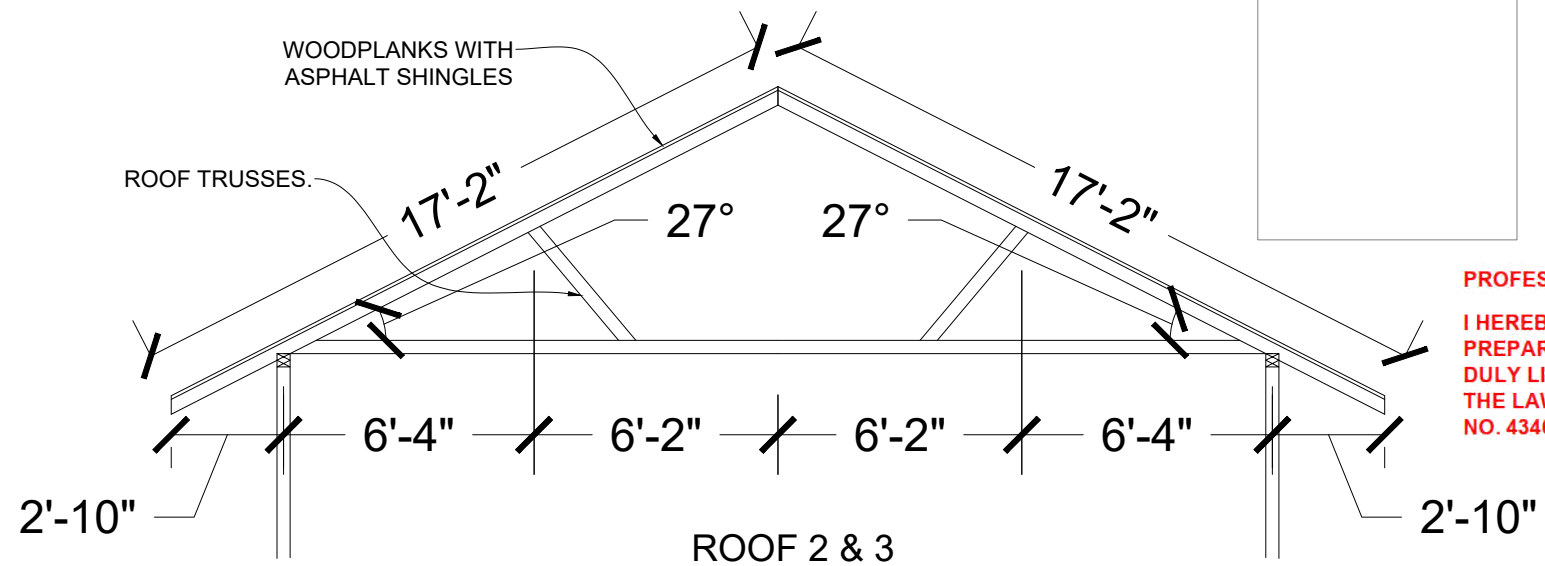
PROJECT NAME & ADDRESS

MR & MRS JARED B HUGHES /
 JARED HUGHES
 101 ELM AVE
 TAKOMA PARK, MD, 20912
 (Lat, Long: 38.973207, -77.008447)

Signature with Seal

REV	DESCRIPTION	DATE	DRAWN BY	REV BY

DATE DRAWN	07-26-2023
DRAWN BY	FAISAL
REVIEWED BY	HARSH
SHEET NAME	DATASHEET
SHEET NO.	003



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. 43466, EXPIRATION DATE: 4/11/2025.

I prepared or approved the construction documents for the mounting equipment, rack system and roof structure for this project.

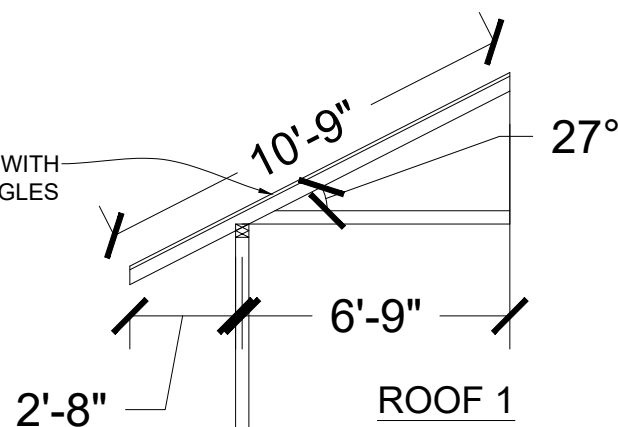
43466
 Maryland PE License Number
 Date 7/27/2023
 Signature *Scott E. Wyssling*

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. 43466, expiration date:



Wyssling Consulting, PLLC
 76 N. Meadowbrook Drive, Alpine UT
 Maryland COA # 58509

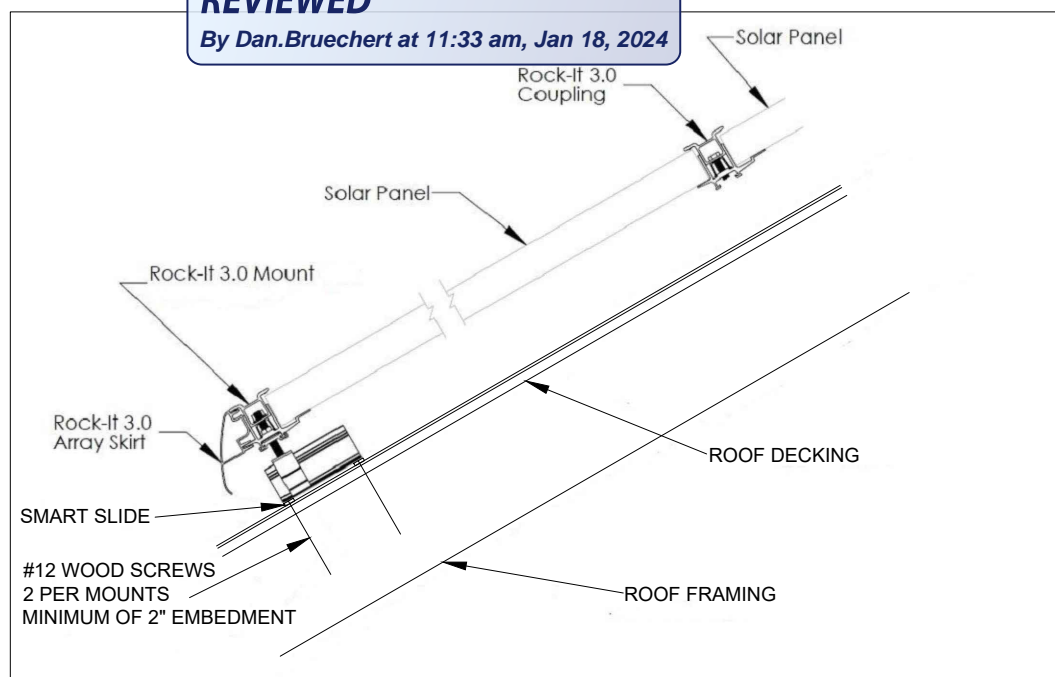
SCALE: NTS



APPROVED
 Montgomery County
 Historic Preservation Commission
Robert A. ...

REVIEWED

By Dan.Bruechert at 11:33 am, Jan 18, 2024



ATTACHMENT DETAILS

SCALE: NTS



KEY PLAN

SCALE: NTS

PROPOSED SYSTEM SPECIFICATION	
SYSTEM SIZE DC	8.4 KWP
SYSTEM SIZE AC	300 VA PEAK POWER = 6.3 KWP
SYSTEM SIZE AC	290 VA MAX. CONT. POWER = 6.09 KWP
MODULES USED	(21) HYPERION HY-DH108P8 400B
INVERTER USED	(21) ENPHASE IQ8PLUS-72-2-US
BRANCH CIRCUIT	1 CIRCUIT OF 11 MODULES
	1 CIRCUIT OF 10 MODULES
RACKING	ECOFASTEN ROCKIT + SMART SLIDE

ROOF SPECIFICATION	
ROOF TYPE	COMPOSITE SHINGLE
ROOF CONDITION	GOOD
FRAMING	TRUSSES: 2"x 4" @ 24" O.C.
SHEATHING	WOODEN PLANKS

ARRAY SPECIFICATION			
ROOF NO.	TILT	AZIMUTH	QTY
1	27°	169°	5
2	27°	259°	9
3	27°	79°	7
TOTAL			21

RACKING SPECIFICATION	
MIN/MAX ROOF SLOPE	1/2:12 / 12:12
MAX ANCHOR SPACING (35MM/40MM)	48"
MAX ANCHOR SPACING (32MM)	
MAX MODULE SIZE	67.79" X 44.64" X 1.18"
MODULE CANTILEVER	MAXIMUM CANTILEVER IS 1/3 BRACKET SPACING

MODULE SPECIFICATION	
MODEL	HY-DH108P8 400B
FORMAT	67.79" ~ 44.64" ~ 1.18" (INCLUDING FRAME)
WEIGHT	52.48 LBS

GENERAL NOTES

- SOLAR PANELS SHALL NOT EXCEED ANY PART OF ROOF EDGE OR PEAK.

PV MODULE

WEIGHT = 52.48 LBS.
 AREA = 67.79" x 44.64" NOMINAL (21.015 SQ.FT.)

MODULE = 52.48 LBS. OVER 21.015 SQ.FT. = 2.497 LBS/SQ.FT.
 FOOT SPACING IS 48" O.C. ACROSS PANEL WIDTH WITH 2 ROWS PER MODULE

TYPICAL LAYOUT PROVIDES AN AVERAGE OF 1.6 FEET PER MODULE.

MODULE WEIGHT DISTRIBUTED PER MOUNTING FOOT =
 52.48 LBS./1.6 FEET = 32.8 LBS./MTG. FOOT.

MOUNTING LOAD CALCULATION



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REV	DESCRIPTION	DATE	DRAWN BY	REV BY

DATE DRAWN	07-26-2023
DRAWN BY	FAISAL
REVIEWED BY	HARSH
SHEET NAME	STRUCTURAL
SHEET NO.	S001