

Approved
KTC
4/8/2026

Record Detail * (This section is required.)

Permit Type Building/Residential/Misc/Solar Panel Permit Number B26000250 Opened Date 01/24/2026
Description of Work SFD/ INSTALL (91) GROUND MOUNT SOLAR PANELS**SUBJECT TO FIELD ISNPECTION**

Online BP.

g/L 1/29/26

[check spelling](#)

Address * (This section is required.)

Search Reset Clear Get Parcel & Owner

Street # 5553 Street Name BROADWATER Street Type LN
Unit Type --Select-- Unit # X Coordinate -76.96574 Y Coordinate 39.22031
City CLARKSVILLE State MD Zip Code 21029 Primary Yes

Parcel * (This section is required.)

Search Reset Clear Get Address & Owner

GIS ID * 878104 Parcel 395 Parcel Area 3.37 Land Value 285000 Improved Value 1176600 Exemption Value 891600 Plan Area RURAL
Legal Description IMPSLOT 1 3.372 A[]5553 BROADWATER LN[]ADAMS REACH SEC 1

[check spelling](#)

Block 1 Lot 1 Census Tract 605101 Council Dist 5 Inspection Dist Supervisor Dist Map # DAP Zone
Plan Area State Tax Id 1405411327 Subdivision Name ADAMS REACH
Section Area Tax Map 28
Grid Zoning District RC-DEO ADC Map 4933-F5
SDP No. Final Plan No. WP File No.
Record Plat No. 8749 WS Contract No. FDP No. Primary Yes
Owner Occupied Year Built 1995 Historic District Yes No
Historic District Registry No. Stat Area 5-02A Flood Plain Yes No
Building No

Owner * (This section is required.)

Search Reset Clear

Name * HELMI
Address Line 1 5553 BROADWATER LN
Address Line 2
Address Line 3
Mail City

CLARKSVILLE

Mail State

MD

Mail Zip Code

21029

Phone

916-960-7460

Primary

Yes

E-mail

Cell Number

Fax Number

Professionals * (This section is required.)

License # *

08010046217

License Type *

MHIC Ind

Primary

No

Business Name

NARA HOME IMPROVEMENT

First Name

Middle Name

Last Name

AREF

RAMADAN

Address Line 1

14124 SCHAEFFER ROAD

Address Line 2

City

GERMANTOWN

State

MD

ZIP Code

20874-0000

Phone 1

Phone 2

Fax

3016748294

0000000000

E-mail

AREFRAMADAN@GMAIL.COM

Applicant * (This section is required.)

Search

As Owner

As Lic. Prof

As Contact

Type *

Applicant

First Name

MI

Last Name

AREF

RAMADAN

Relationship

Full Name

-Select-

Primary

Yes

Organization Name

NARA HOME IMPROVEMENT

Street Address

14124 SCHAEFFER ROAD

Address Line 2

City

GERMANTOWN

State

MD

Zip Code

20874-0000

Phone

Cell

Fax

3016748294

0000000000

E-mail *

AREFRAMADAN@GMAIL.COM

Addtl Info

Est Construction Cost *

120000

Housing Units *

0

Number of Buildings * Public Owned

0

No

Construction Type

-Select-

RESIDENTIAL SOLAR PANEL INFO

SOLAR PANEL INFORMATION

Capital Project-No Fee

☐ Yes ☐ No

Type of Installation *

Solar Collector - Ground Mount

Number of Panels *

91

(Number)

Water Supply *

Private

Sewage Disposal *

Private

Expiration Date

7/27/2026

Existing Use *

SFD

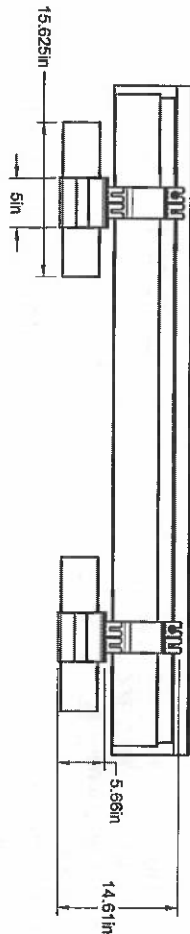
Sprinkler System *

☐ Yes ☒ No

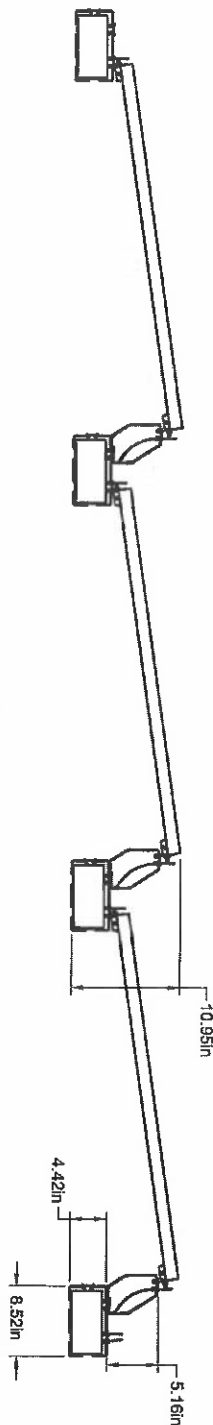
Energy Storage System *

☐ Yes ☒ No

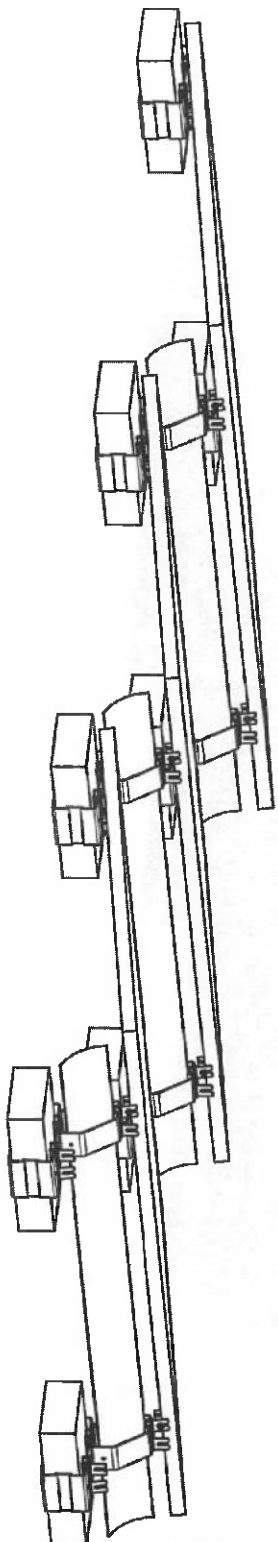
Submit Cancel



Front View



Side View



Isometric View

DISCLAIMER: If any Errors, Discrepancies or Omissions appear in these drawings, specifications or other contract documents, The Owner or General Contractor shall notify the Designer, in writing, of such error or omission. In the event that the Owner or General Contractor fails to give such notice, before construction and/or fabrication of the work, the Owner or General Contractor will be held responsible to the result of any errors, discrepancies or omissions and the cost of rectifying them.

CONTRACTOR

BROADWATER LN,
RESIDENCE
5553 BROADWATER LN,
CLARKSVILLE, MD 21029

OWNER / ADDRESS

BROADWATER LN RESIDENCE
5553 BROADWATER LN,
CLARKSVILLE, MD 21029
(39.220430, -76.965728)
OCCUPANCY R3 /
TYPE 5 STRU.
APN#: 05411327

SYSTEM SIZE

45.729 KW-AC
50.050 KW-DC
MODULES :
(9) JAY ENERGY EFFICIENT TIGARET VE
SANAHI ANONIM SIRKETI,
CIVT50 144PWH 580W
INVERTERS :
(1) SMA AMERICA
S85E11-LUS-20 (740V)
11.5 kW UTILITY INTERACTIVE INVERTER

DATE: 01/08/26

REVISION :

PAGE INFORMATION

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SPECS

PV-08

GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE LATEST CALIFORNIA CODE OF REGULATIONS (CCR), NATIONAL ELECTRICAL CODE EDITION AND ALL APPLICABLE LOCAL CODES AND REGULATIONS. (CONSTRUCTION SHALL COMPLY WITH 2022 CBC, CMC, CPC, CEC, CFC, CFC)
2. LOCAL UTILITY PROVIDER SHALL BE NOTIFIED PRIOR TO USE AND ACTIVATION OF ANY SOLAR PHOTOVOLTAIC INSTALLATION.
3. BACK-ED BREAKER MUST BE AT THE OPPOSITE END OF BUS BAR FROM THE MAIN BREAKER OR MAIN LUG SUPPLYING CURRENT FROM THE UTILITIES.
4. ALL CONDUCTORS EXPOSED TO SUNLIGHT ARE LISTED AS SUNLIGHT RESISTANT.
5. NO SHEET METAL OR TECH SCREWS SHALL BE USED TO GROUND DISCONNECT ENCLOSURE WITH THIN-PLATED ALUMINUM LUGS; PROPER GROUNDING/GROUND BARS MUST BE USED.
6. ALL EXTERIOR CONDUIT, FITTINGS, AND BOXES SHALL BE WITH RAIN TIGHT AND APPROVED FOR USE IN WET LOCATIONS.
7. DRAWINGS ARE DIAGRAMMATIC ONLY. THE LOCATION AND ROUTING OF RACEWAYS SHALL BE DETERMINED BY THE CONTRACTOR UNLESS OTHERWISE NOTED OR STANDARDIZED.
8. ALL EQUIPMENTS ACCOUNT FOR WORST CASE CONDITIONS.
9. INSTALLER TO FOLLOW ALL LOCAL JURISDICTION GUIDELINES.
10. GROUNDING BUSHINGS ARE REQUIRED AROUND PRE-PUNCHED CONCENTRIC KNOCKOUTS ON THE DC SIDE OF THE SYSTEM.
11. THE ELECTRICAL CONTRACTOR SHALL COMPLY WITH ANY AND ALL REQUIREMENTS GIVEN BY UTILITY COMPANIES.
12. ALL OUTDOOR EQUIPMENT SHALL BE MIN. NEMA 3R RATED.
13. IF A DISCREPANCY IN QUANTITY OR SIZE OF CONDUIT, WIRE, EQUIPMENT DEVICES, OVER CURRENT PROTECTION, GROUNDING SYSTEMS, ETC. (ALL EQUIPMENT AND MATERIALS) THE CONTRACTOR AND/OR HOME OWNER SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL MATERIALS AND SERVICES REQUIRED BY THE STRICTEST CONDITIONS IN THE SPECIFICATIONS OR NOTED ON THE PLANS TO ENSURE COMPLETE COMPLIANCE WITH ALL CODES AND TO ENSURE THE LONGEVITY AND SAFETY OF THE OPERABLE SYSTEM.
14. ALL LABELS AND MARKINGS SHALL BE ATTACHED ACCORDING TO REQUIREMENTS BY NEC AND ALL LOCAL APL. THE APL MAY HAVE SPECIAL LABEL REQUIREMENTS BEYOND THE SCOPE OF THIS DOCUMENT.
15. FOR ADDITIONAL EQUIPMENT SPECIFICATIONS, SEE PROVIDED OUT SHEETS.
16. ALL ELECTRICAL MATERIAL SHALL BE LISTED BY "UL" FOR THE TYPE OF APPLICATION AND "UL" LABEL SHALL APPEAR ON ALL ELECTRICAL EQUIPMENT.

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PROJECT DESCRIPTION

THIS GROUND-MOUNTED PHOTOVOLTAIC (PV) SYSTEM IS TO BE INSTALLED AT THE SINGLE FAMILY RESIDENTIAL IN CLARKSVILLE, MARYLAND. THE ENERGY PRODUCED BY THE PV SYSTEM SHALL BE INTERCONNECTED WITH THE UTILITY GRID THROUGH THE EXISTING ON-SITE ELECTRICAL EQUIPMENT VIA LINE SIDE TAP CONNECTION IN THE MAIN SERVICE PANEL.

SCOPE OF WORK

SYSTEM SIZE:
45.729 KW-AC
50.050 KW-DC

GROUND MOUNT ARRAY
ARRAY PITCH: 5°
AZIMUTH: 130°

MODULES:
(91)DCP ENERJII MOHENDISLIK
TTCARET VE SANAYI ANCHIRLIK SIKRETI,
CHT550 144P.M10 550W

INVERTER(S):
(4)SMA AMERICA
SSEST15-LUS-50 (240V)
11.5kW UTILITY INTERACTIVE INVERTER

MAIN PANEL/BUS-BAR: (E)225A
W/ MAIN BREAKER: (E)200A

PV MOUNT:
INTEGRA RACK
R-05 FLAT ROOF BALLAST SYSTEM

AERIAL VIEW



GOVERNING CODES

ALL MODULES AND RAIL ARE LISTED BY UNDERWRITERS LABORATORIES FOR ELECTRICAL AND FIRE SAFETY (CLASS A FIRE RATING)

NOTE:

- 1) NO DISCHARGE OF ANY POLLUTANTS TO ANY STORM DRAIN SYSTEM, REQUIREMENTS.
- 2) UL 4703 FOR MODULES & UL 1741 FOR INVERTERS PER CITY SOLAR REQUIREMENTS.
- THIS PROJECT SHALL COMPLY WITH THE FOLLOWING CODES AND REGULATIONS (AS ADOPTED AND AMENDED BY THE STATE OF MARYLAND AND THE CITY OF KINGSVILLE):
- 2021 INTERNATIONAL BUILDING CODE (IBC)
- 2021 INTERNATIONAL RESIDENTIAL CODE (IRC)
- 2021 INTERNATIONAL PLUMBING CODE (IPC)
- 2021 INTERNATIONAL MECHANICAL CODE (IMC)
- 2021 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
- 2021 INTERNATIONAL FIRE CODE (IFC)
- 2022 NATIONAL ELECTRICAL CODE (NEC)
- APPLICABLE ORDINANCES AND AMENDMENT OF HOWARD COUNTY, MARYLAND.

INDEX SHEET

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10. SPECS
11. SPECS
12. SPECS
13. SPECS
14. SPECS

CONTRACTOR

BROADWATER LN,
RESIDENCE
5553 BROADWATER LN,
CLARKSVILLE, MD 21029

OWNER / ADDRESS

BROADWATER LN RESIDENCE
5553 BROADWATER LN,
CLARKSVILLE, MD 21029
(301)224-0430, -78 (957)728
OCCUPANCY R3 /
TYPE 5 STRU.
APN#: 05411327

SYSTEM SIZE

45.729 KW-AC
50.050 KW-DC

MODULES:
(91)DCP ENERJII MOHENDISLIK TTCARET VE
SANAYI ANCHIRLIK SIKRETI,
CHT550 144P.M10 550W

INVERTER(S):
(4)SMA AMERICA
SSEST15-LUS-50 (240V)
11.5kW UTILITY INTERACTIVE INVERTER

DATE: 01/08/26
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COVER PAGE

PV-01



**Sunny Boy
Smart Energy-US**

The ideal solution for new and repowering installations

powered by
enxOS



- **Ultimate Flexibility**
 - 200% DC/AC design capability
 - PV and Hybrid use cases
 - 3 or 4 MPPT optimizing channels

Easy installation

- 2-in-1 solution screws in, wall space and electrical upgrades
- Rapid commissioning via built-in SunSpec Certified RSD transmitter

Complete reliability

- No need for complex microinverters or optimizers
- 10-year warranty, extendable to 25
- SMA Backup Secure provides energy security with or without a battery

New, modern design

- Curved, easy-open cover

Quick commissioning

- * Scan, log and connect multiple devices from your mobile devices or tablet

For over 40 years, SMA has been the leader in solar energy and the new SMA Home Energy Solution will continue this trajectory. Installers choose SMA for reliability, performance and innovation.

At the center of the SMA Home Energy Solution is the Sunny Boy solar energy inverter. The groundbreaking inverter combines the functions of PV and electrolytic inverters into a single unit, reducing the number of components and simplifying electrical upgrades to a minimum. The Sunny Boy Smart Energy features modular options such as the SMA Energy Storage, Battery Secure and Backup Select[®]. These enhancements improve the system's performance and provide homeowners with the option to meet their specific needs.

The Sunny Boy Smart Energy is loaded with new technology, including an integrated Energy Monitoring System, SmartGrid ED and SMA Shielder[®]. SMA Smart Connect and compatibility with both the SMA 3.0[®] and Energy App.

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CONTRACTOR
**BROADWATER LN,
RESIDENCE**
5553 BROADWATER LN,
CLARKSVILLE, MD 21029

OWNER / ADDRESS

BROADWATER LN RESIDENCE
5553 BROADWATER LN,
CLARKSVILLE, MD 21029
(39.220430, -76.965728)

APN#: 05411327

SYSTEM SIZE

(81)CİW ENERJİ MÜHENDİSLİK TİCARET VE
SANAYİ ANONİM ŞİRKETİ,
CİW7650 144PM10 550W
INVERTER(S):
(9)SMA AMERICA,

DATE: 01/08/26

REVISION :

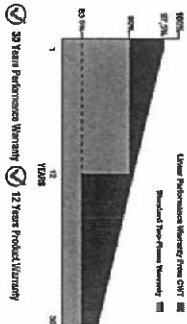
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PV-06

Half Cut

-  **High Conversion Efficiency**
High panel efficiency to generate high power output
 -  **Sulf-Cleaning and Anti-Reflection Glass**
Cleaning glass for self-cleaning reduces soiling that
 -  **Outstanding Low Irradiation Glass**
Outstanding panel performance even in weak light conditions
 -  **Excellent Durability**
Wind load up to 2400 Pa, Snow load up to 5400 Pa
 -  **0-+5W Positive Power Tolerance**
 -  **Easy Installation**



CWT550-144PM10 550 Wp
CWT545-144PM10 545 Wp
CWT540-144PM10 540 Wp
CWT535-144PM10 535 Wp
CWT530-144PM10 530 Wp



www.cw-energy.com

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PERC MONOCRYSTALLINE • 144PM10 Half-Cut

ELECTRICAL CHARACTERISTICS

[illegible]

MECHANICAL SPECIFICATIONS

Cable Reinforcement (mm)	182,261.6
Cells per Module (pcs)	144 (2x6)
Weight (kg)	20.0
Panel Dimensions (mm)	2,276x1,544x5
Max. Wind Speed (km/h)	240/6/400
Inverter Size	IP68
Junction Box Cable Length (mm)	300-1200

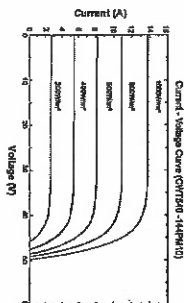
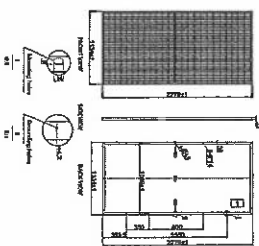
TEMPERATURE CHARACTERISTICS

Temp. Coeff. of (ln)	0.050%/°C
Temp. Coeff. of (P _∞)	-0.270%/°C
Temp. Coeff. of (P _{max})	-0.350%/°C

PACKING CONFIGURATION

Containers	4x 30"
Plates per Pallet	31
Plates Per Container	630
Pallet Per Container	20

PHYSICAL CHARACTERISTICS



The significance was not evident for the individual and combined (1000000 and 10000000) comparisons of treatment (1st and 2nd) vs. 3rd vs. 4th. In the combined analysis, however, there was a significant difference between the 1st and 2nd treatment groups in the combined comparison of treatment (1st and 2nd) vs. 3rd vs. 4th. The significance was not evident for the individual and combined (1000000 and 10000000) comparisons of treatment (1st and 2nd) vs. 3rd vs. 4th. The significance was not evident for the individual and combined (1000000 and 10000000) comparisons of treatment (1st and 2nd) vs. 3rd vs. 4th.

WATERBURY

CW Energy

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CONTRACTOR

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RESIDENCE
5553 BROADWATER LN,
CLARKSVILLE, MD 21029**

OWNER / ADDRESS

BROADWATER LN RESIDENCE
5553 BROADWATER LN,
CLARKSVILLE, MD 21029
(39.220430, -76.965728)

OCCUPANCY 1 RD
TYPE 5STRU.

APN#: 05411327

SYSTEM SIZE

45.729 KW-AC
50.050 KW-DC

MODULES :

191/CW ENERJİ İNŞAATLARI İÇİREK VE
SANYAİ ANONİM ŞİRKETİ,
CWT550 144PM10 B30W

INVERTER(S)

(4)SMA AMERICA,
SBSE11.5-US-60 [240V]
11.5 kW UTILITY INTERACTIVE INVERTER

DATE: 01/08/26

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SPECS

PV-05



WIND SPEED: 113MPH
WIND EXPOSURE: B
SNOW LOAD: 69PSF

CONTRACTOR
BROADWATER LN,
RESIDENCE
5553 BROADWATER LN,
CLARKSVILLE, MD 21029

OWNER / ADDRESS
BROADWATER LN RESIDENCE
5553 BROADWATER LN

OCCUPANCY R3/
TYPE 5 STRU.
APN#: 05411327

SYSTEM SIZE

45.729 KW-AC
50.050 KW-DC

MODULES:

(9)1CJW EMERJI MİHENDİSLİK TİCARET VE
SANAYİ ANONİM ŞİRKETİ,
CİFTESOL 144PHT0 550W

INVERTER(S):

(4)SİMA AMERICA
SİBSEET 1.5-4JS-50 PZAJ

11.3 KW UTILITY INTERACTIVE INVERTER

DATE: 01/08/26

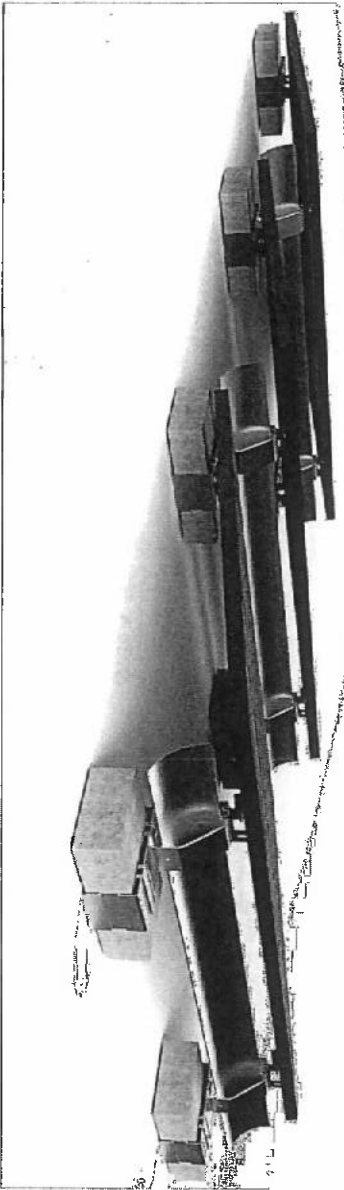
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SITE PLAN / PLOT PLAN

PV-02

***Data extrapolated from 11-24 Boeing Wind Tunnel testing and mechanical BallastRack hydraulic load testing.**



Specifications:

- Designed for ballasted deployment of solar modules on flat roofs or flat ground scenarios.
- Utilizes standard 32lb 4in x 8in x16in CMU cinder blocks.
- Roof material slip sheets (9in x 6in) recommended underneath each base.



PROJECT			
IntegratRack			
TITLE			
IR-08MBCB Multiballast System			
Data Sheet			
6061 T6 Aluminum			
APPROVED	SIZE	CODE	DWG NO
	B		
CHECKED			REV
DRAWN	SCALE	WEIGHT	SHEET
Jeff Glauser	1:10		1/3

IR-08MBCB Solar Racking System			
	Module size up to 24 sqft	Module size up to 34 sqft	
Maximum Snow Load	100psf	65psf	
Maximum Wind Speed	90mph	65mph	
20lb CMU	120mph	95mph	
32lb CMU			

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(39.220430, -76.965728)

OCCUPANCY R3 /
TYPE 5 STRU.

APN#: 05411327

SYSTEM SIZE

45.729 KW-AC
50.050 KW-DC

MODULES:

(81)GW ENERJ1 M0HENDSLUK TIC0AET VE
SANYU ANONIA SIKRETL
CWT569 144PWT0 630W

INVERTERS(S):

(1)SMA AMERICA
S9SE11.4-15-20 (240V)
11.5 kW UTILITY INTERACTIVE INVERTER

DATE: 01/08/26

REVISION :

PAGE INFORMATION

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SPECS

PV-07