Town of Paradise Valley

6401 E Lincoln Dr
Paradise Valley, AZ 85253

Meeting Notice and Agenda

Hillside Building Committee

Chair Scott Jarson, Sue-Meng Lau, Blair Portigal

Wednesday, August 13, 2025 | **8:00 AM** | **Town Hall Boardroom**

Committee Members

Chair Scott Jarson, Sue-Meng Lau, Blair Portigal, Robert Brown, Tim Dickman, James Rose

1. Call to Order

Notice is hereby given that members of the Committee will attend either in person or by telephone conference call, pursuant to A.R.S. §38-431(4).

2. Executive Session

The Committee may convene into an executive session at one or more times during the meeting as needed to confer with the Town Attorney for legal advice regarding any of the items listed on the agenda as authorized by A.R.S. §38-431.03.A.3.

3. Application Review

The Committee may take action on these items.

A. **25-173** **Solar Combined Review for new rooftop solar panels at 4622 E Foothill Drive (APN 169-11-140).**

Staff Contact: Jose Mendez, 480-348-3519

Attachments:

A. Staff Report

B. Hillside & Vicinity Maps

C. Application

D. Plans

E. Photo Exhibit

F. Notification Materials

G. Standard Approval Information

B. **25-172** **Solar Combined Review for new rooftop solar panels at 6010 E Hummingbird Lane (APN 169-49-060).**

Staff Contact: Jose Mendez, 480-348-3519

Attachments:
A. Staff Report
B. Hillside & Vicinity Maps
C. Application
D. Plans

4. Staff Reports

5. Committee Reports

6. Next Meeting Date

The next Hillside Building Committee meeting dates are tentatively scheduled for Wednesday, September 17, 2025 at 8:00 a.m. and Wednesday, October 15, 2025 at 8:00 a.m.

7. Adjournment

AGENDA IS SUBJECT TO CHANGE

**Notice is hereby given that pursuant to A.R.S. §1-602.A.9, subject to certain specified statutory exceptions, parents have a right to consent before the State or any of its political subdivisions make a video or audio recording of a minor child. Meetings of the Planning Commission are audio and/or video recorded, and, as a result, proceedings in which children are present may be subject to such recording. Parents in order to exercise their rights may either file written consent with the Town Clerk to such recording, or take personal action to ensure that their child or children are not present when a recording may be made. If a child is present at the time a recording is made, the Town will assume that the rights afforded parents pursuant to A.R.S. §1-602.A.9 have been waived.*

The Town of Paradise Valley endeavors to make all public meetings accessible to persons with disabilities. With 72 hours advance notice, special assistance can also be provided for disabled persons at public meetings. Please call 480-948-7411 (voice) or 480-483-1811 (TDD) to request accommodation to participate in the meeting.

Action Report

File #: 25-173

AGENDA TITLE:
Solar Combined Review for new rooftop solar panels at 4622 E Foothill Drive (APN 169-11-140).

STAFF CONTACT:

TOWN
Of
PARADISE VALLEY

STAFF REPORT

TO: **Hillside Building Committee**

FROM: **Chad Weaver, Community Development Director**
Shar Johnson, Town Engineer
Paul Michaud, Planning Manager
Jose Mendez, Hillside Development Planner
Juan Gonzalez Jr., Hillside Associate Engineer

DATE: **August 13, 2025**

DEPARTMENT: Community Development Department
Jose Mendez, (480)348-3519

AGENDA TITLE:
Solar Combined Review
New Solar
Our World Energy
4622 E Foothill Drive (APN 169-11-140).
#HILL-25-16

RECOMMENDATION:
Staff recommends the Hillside Building Committee to review and **approve** Case #HILL-25-16, a request by applicant Our World Energy, on behalf of the property owners at 4622 E Foothill Drive, for new solar panels on a flat roof portion of the home hidden from view.

BACKGROUND/DISCUSSION/SUMMARY (PROVIDED BY APPLICANT)
The proposed project will add new solar panels to the existing single-family residence. A total of 288 solar panels are proposed to be mounted on the roof.

Lot Data	
1. Area of Lot	6.019 ac or 269,717 SF
2. Footprint	Approximately 13,203 SF
3. Floor Area Ratio	Approximately 13,203 SF (.048%)

Single Family Residence
The lot contains a single-family residence with flat roofs at an approximate total of 13,203 (SF) of livable area. The home is shielded to the north by the mountain and located at an approximate elevation of 1650 feet with adjacent homes sitting lower in elevation. No other modifications to the existing residence are proposed.

Solar

The home had a solar power installation of approximately 128 solar panels that were approved in 2010. Recently the homeowner decided to remove those and add a new solar array.

The new solar installation has a total of 288 panels over three sections. Roof #1 will have 187 panels, roof #2 will have 78 panels, and roof #3 will have 23 panels. The solar panels mounted on the home will be flat pitched at a grade of 2% no taller than 8 inches.

Per code solar panels must be hidden from view when viewed from the same elevation or lower. Per *Article XXII of the Hillside Development Regulations*, II. ARCHITECTURAL STANDARDS. E.: *Solar panels may be allowed if they are integrated into the building design and hidden from view when viewed from the same or a lower elevation and approved by the Hillside Building Committee by a Combined Review. Solar panels may be allowed on pitched roofs when screened from the same or a lower elevation by the adjoining hillside or hillside Cut and approved by the Hillside Building Committee by a Combined Review.*

In this case, the proposed solar installation is on a flat roof that does not have parapets. The home and roof are at an elevation 40-50 feet higher than any adjacent home and are partially screened by the adjoining hillside to the north. In addition, the solar panels will be placed practically flat at 2% tilt, 8 inches tall, and placed at a minimum of 36 inches away from the edge of the roof screened from view.

The solar panels will have black frames and the racking system will be black. The solar utility equipment, inverters and electrical disconnects will be located toward the south side of the home. All site disturbances will remain the same.

ANALYSIS:

The applicant has proposed new roof mounted solar panel arrays on the existing single-family residence that meet the requirements of the Town Code and the adopted Zoning Ordinance.

STIPULATIONS:

1. All improvements shall comply with the enclosed Standard Approval Information.

REQUIRED ACTION:

The Hillside Building Committee must consider the facts and determine if the application complies with Article XXII - Hillside Development Regulations.

The Hillside Building Committee may take the following actions:

1. Approve the application request, subject to the stipulations noted by staff and/or the Hillside Building Committee.
2. Continue the application for further review.
3. Deny the application request if not compliant with Article XXII.

NOTICING:

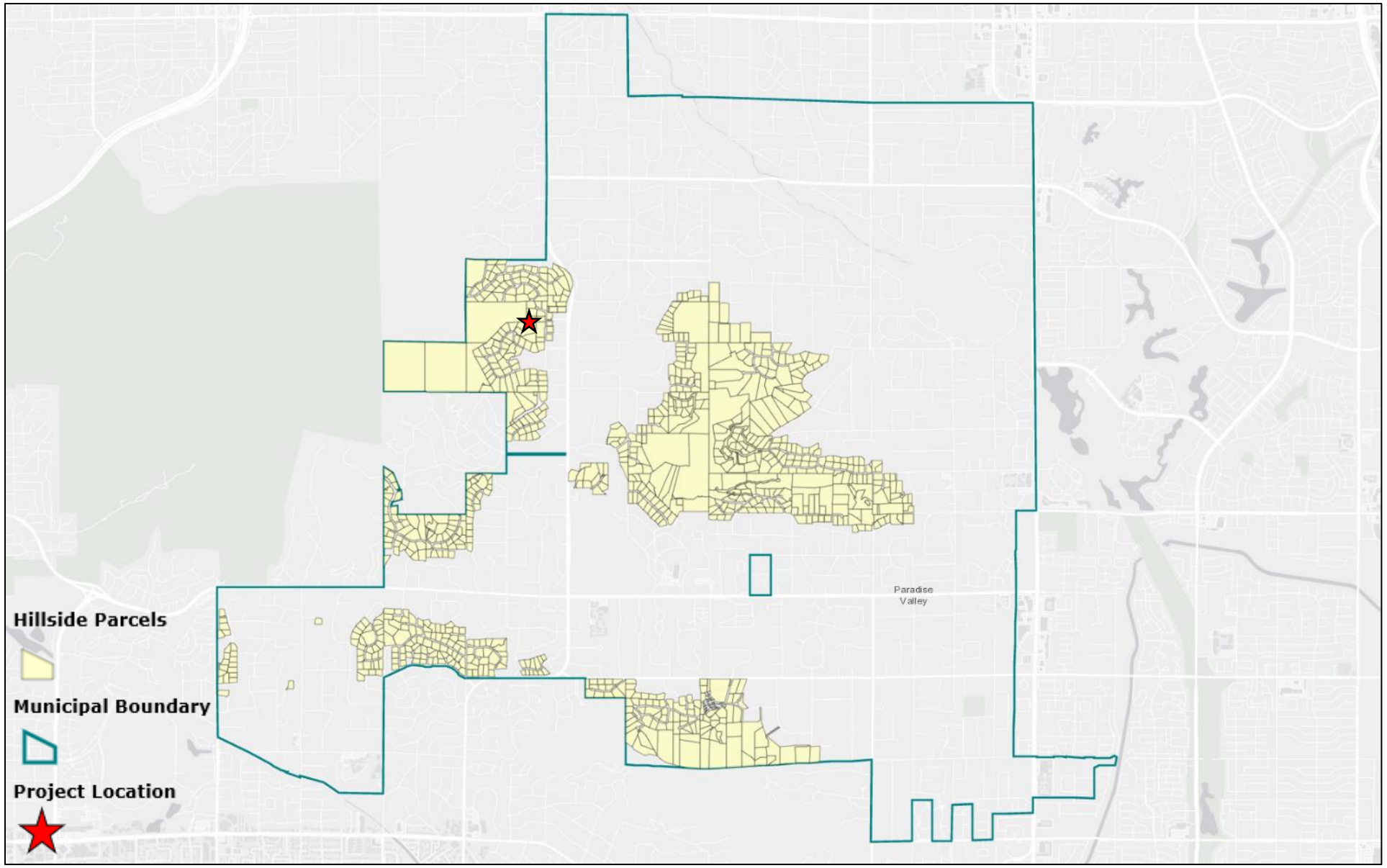
Public notification was performed in accordance with the public hearing process. Staff received no comments.

NEXT STEPS:
If approved the applicant shall acquire all required permits to complete the proposed scope of work. Plans submitted to the Town for permits shall comply with the plans, stipulations, and approval by the Hillside Building Committee.

ATTACHMENTS:
A. Staff Report
B. Hillside & Vicinity Maps
C. Application
D. Plans
E. Photo Exhibit
F. Notification Materials
G. Standard Approval Information

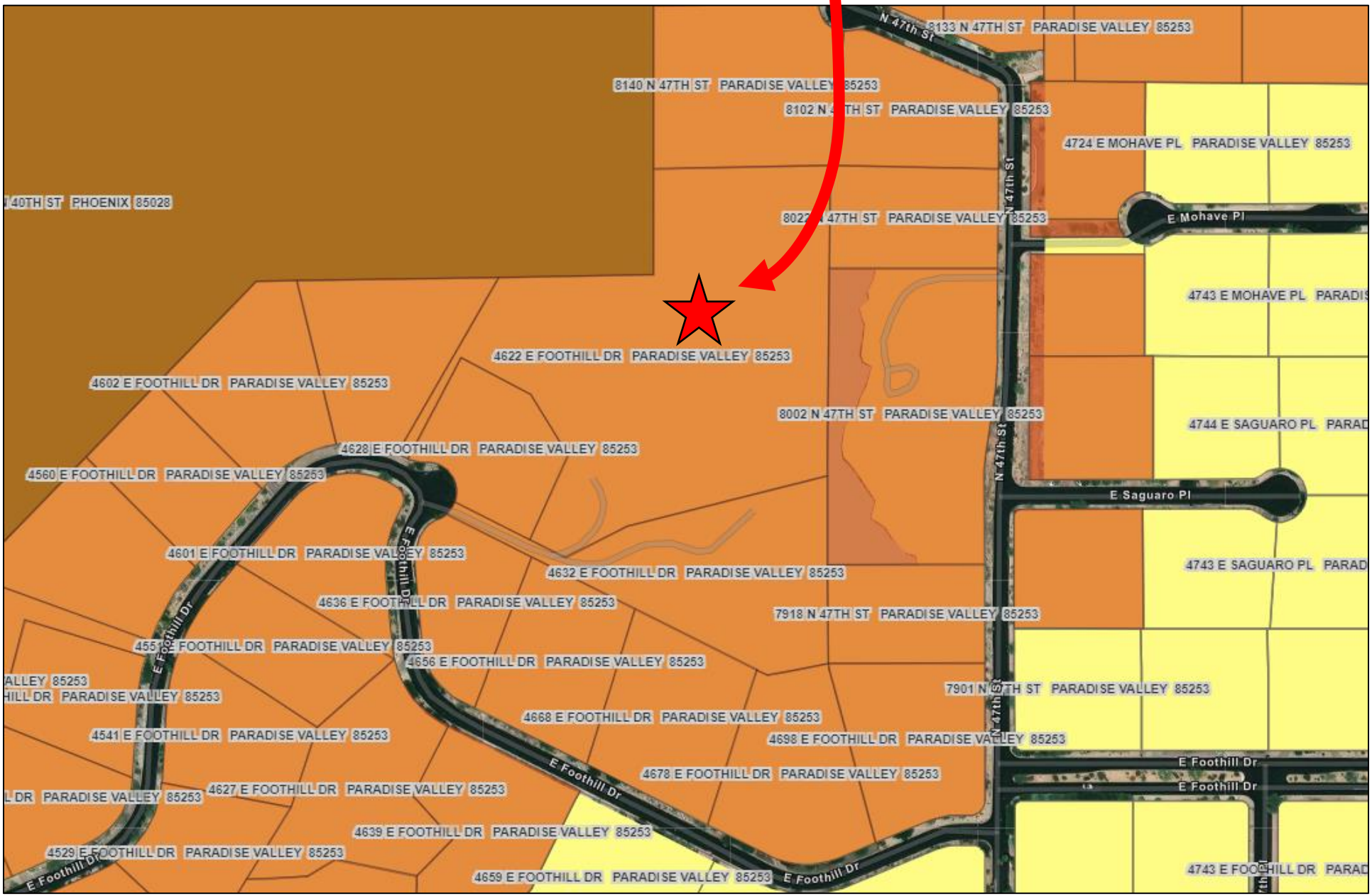
HILLSIDE MAP (OVERVIEW)

4622 E Foothill Drive



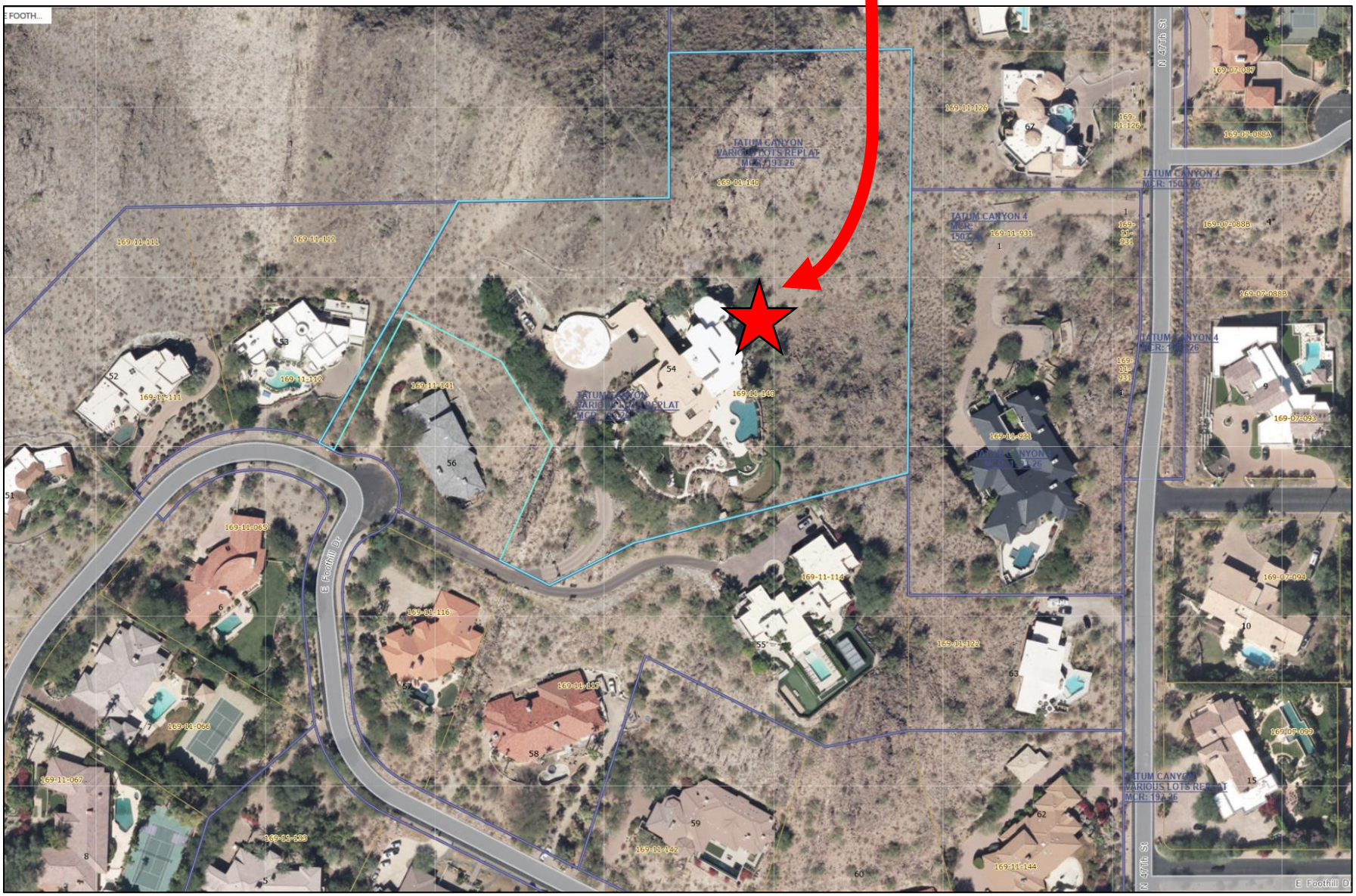
HILLSIDE MAP (ZOOM)

4622 E Foothill Drive



VICINITY MAP (ZOOM)

4622 E Foothill Drive



TOWN of PARADISE VALLEY

Hillside Application
Community Development Department
6401 E Lincoln Drive
Paradise Valley, AZ 85253

(480) 348-3692

HILLSIDE APPLICATION

DATE: February 18, 2025

SUBDIVISION NAME: TATUM CANYON VARIOUS LOTS REPLAT

PROPERTY ADDRESS: 4622 E Foothill Dr, Paradise Valley, AZ 85253

ASSESSOR'S PARCEL NUMBER: 169-11-140

LEGAL DESCRIPTION:

SCOPE OF WORK: Installation of a 123.84 kW roof-mounted PV system with 48 STORZ SP5.12-LFPV4 (240 kWh) batteries.

ARCHITECT:

PRINT NAME	PHONE NUMBER
ADDRESS	

ENGINEER:

PRINT NAME	PHONE NUMBER
ADDRESS	

OWNER:

Craig Jackson	(818) 294-3300
PRINT NAME	PHONE NUMBER
4622 E Foothill Dr, Paradise Valley, AZ 85253	
ADDRESS	

Jay Manalo	February 18, 2025
OWNER OR AUTHORIZED AGENT SIGNATURE	DATE

PHOTOVOLTAIC ROOF MOUNT SYSTEM

288 MODULES-ROOF MOUNTED - 123.840 kW DC, 99.900 kW AC

4622 E FOOTHILL DR, PARADISE VALLEY, AZ 85253

PHOTOVOLTAIC SYSTEM SPECIFICATIONS:

SYSTEM SIZE:	123.840 kW DC 99.900 kW AC
MODULE TYPE & AMOUNT:	(288) QCELL Q.TRON BLK M-G2+ 430W
MODULE DIMENSIONS:	(L/W/H) 67.8"/44.6"/1.18"
INVERTER:	(09) SOL-ARK 15K-2P-N
BATTERY:	(48) STORZ SP5.12-LFPV4 (240kWh)
BATTERY CABINET:	(05) STORZ POWER CUSTOMIZED BATTERY CABINET (50kWh)
INTERCONNECTION METHOD:	LOAD BREAKER

GENERAL STRUCTURAL NOTES:

a. THE SOLAR PANELS ARE TO BE MOUNTED TO THE ROOF FRAMING USING THE OMNIBASE SYSTEM BY SNAPNRACK WITH E-CURB. THE MOUNTING FEET ARE TO BE SPACED AS SHOWN IN THE DETAILS, AND MUST BE STAGGERED TO ADJACENT FRAMING MEMBERS TO SPREAD OUT THE ADDITIONAL LOAD.

b. UNLESS NOTED OTHERWISE, MOUNTING ANCHORS SHALL BE (6X) #14 WOOD SCREW, S.S., FULLY THREADED, WITH A MINIMUM ½" EMBEDMENT INTO THE ROOF DECK, EXCLUDING THE SCREW TIP.

1. ROOF LIVE LOAD = 20 psf TYPICAL, 0 psf UNDER NEW PV SYSTEM.
2. GROUND SNOW LOAD = 0 psf
3. WIND SPEED = 115 mph
4. EXPOSURE CATEGORY = C

NOTE:
EXISTING PV SYSTEM INSTALLED WILL BE REMOVED.

SHEET INDEX:

GOVERNING CODES

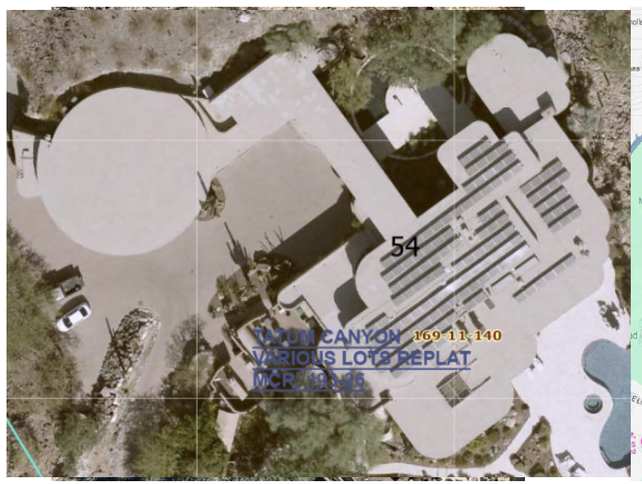
ALL WORK SHALL CONFORM TO THE FOLLOWING CODES

a. 2014 NATIONAL ELECTRICAL CODE
b. 2015 INTERNATIONAL RESIDENTIAL CODE
c. 2015 INTERNATIONAL BUILDING CODE
d. 2015 INTERNATIONAL FIRE CODE
e. ANY OTHER LOCAL AMENDMENTS

GENERAL ELECTRIC NOTES:

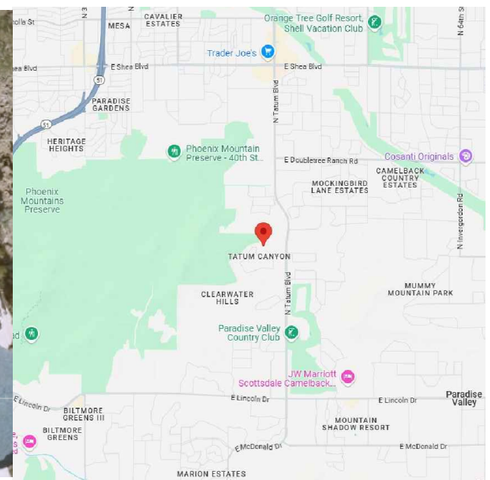
1. ALL COMPONENTS ARE UL LISTED AND NEC CERTIFIED, WHERE WARRANTED.
2. THE SOLAR PV & ENERGY STORAGE SYSTEM WILL BE INSTALLED IN ACCORDANCE WITH ARTICLE 690 OF THE NEC 2014.
3. THE UTILITY INTERCONNECTION APPLICATION MUST BE APPROVED AND PV & ENERGY STORAGE SYSTEM INSPECTED PRIOR TO PARALLEL OPERATION.
4. ALL CONDUCTORS OF A CIRCUIT, INCLUDING THE EGC, MUST BE INSTALLED IN THE SAME RACEWAY, OR CABLE, OR OTHERWISE RUN WITH THE PV ARRAY CIRCUIT CONDUCTORS WHEN THEY LEAVE THE VICINITY OF THE PV ARRAY.
5. WHERE METALLIC CONDUIT CONTAINING DC CONDUCTORS IS USED INSIDE THE BUILDING, IT SHALL BE IDENTIFIED AS "CAUTION: SOLAR CIRCUIT" EVERY 10FT.
6. HEIGHT OF THE AC DISCONNECT SHALL NOT EXCEED 6'-7" PER NEC CODE 240.24.
7. A GROUNDING ELECTRODE SYSTEM IN ACCORDANCE WITH NEC 690.47 AND 250.50 THROUGH 60 AND 250-166 SHALL BE PROVIDED. PER NEC GROUNDING ELECTRODE SYSTEM OF EXISTING BUILDING MAY BE USED AND BONDED TO THE SERVICE ENTRANCE. IF EXISTING SYSTEM IS INACCESSIBLE OR INADEQUATE A SUPPLEMENTAL GROUNDING ELECTRODE WILL BE USED AT THE INVERTER LOCATION CONSISTING OF A UL LISTED 8 FT. GROUND ROD WITH ACORN CLAMP. GROUNDING ELECTRODE CONDUCTORS SHALL BE NO LESS THAN #8 AWG AND NO LARGER THAN #6 AWG COPPER AND BONDED TO THE EXISTING GROUNDING ELECTRODE TO PROVIDE FOR A COMPLETE SYSTEM.
8. PHOTOVOLTAIC MODULES ARE TO BE CONSIDERED NON-COMBUSTIBLE.
9. PHOTOVOLTAIC INSTALLATION WILL NOT OBSTRUCT ANY PLUMBING. MECHANICAL, OR BUILDING ROOF VENTS.
10. ALL WIRING MUST BE PROPERLY SUPPORTED BY DEVICES OR MECHANICAL MEANS DESIGNED AND LISTED FOR SUCH USE. WIRING MUST BE PERMANENTLY AND COMPLETELY HELD OFF THE ROOF SURFACE.
11. ALL SIGNAGE TO BE PLACED IN ACCORDANCE WITH THE LOCAL BUILDING CODE. IF EXPOSED TO SUNLIGHT, IT SHALL BE UV RESISTANT. ALL PLAQUES AND SIGNAGE WILL BE INSTALLED AS REQUIRED BY THE NEC AND AHJ.
12. AS SPECIFIED BY THE AHJ, EQUIPMENT USED IN UNGROUNDED SYSTEMS LABELED ACCORDING TO NEC 690.35(F).
13. INVERTER(S) USED IN UNGROUNDED SYSTEM SHALL BE LISTED FOR THIS USE [NEC 690.35(G)].
14. THE INSTALLATION OF EQUIPMENT AND ALL ASSOCIATED WIRING AND INTERCONNECTION SHALL BE PERFORMED ONLY BY QUALIFIED PERSONS [NEC 690.4(C)]
15. ALL OUTDOOR EQUIPMENT SHALL BE NEMA 3R RATED (OR BETTER), INCLUDING ALL ROOF MOUNTED TRANSITION BOXES AND SWITCHES.
16. ALL EQUIPMENT SHALL BE PROPERLY GROUNDED AND BONDED IN ACCORDANCE WITH NEC ARTICLE 250.
17. SYSTEM GROUNDING SHALL BE IN ACCORDANCE WITH NEC 690.41.
18. PV & ENERGY STORAGE SYSTEM CIRCUITS INSTALLED ON OR IN BUILDINGS SHALL INCLUDE A RAPID SHUTDOWN FUNCTION IN ACCORDANCE WITH NEC 690.12
19. DISCONNECTING MEANS SHALL BE LOCATED IN A VISIBLE, READILY ACCESSIBLE LOCATION WITHIN THE PV & ENERGY STORAGE SYSTEM EQUIPMENT OR A MAXIMUM OF 10 FEET AWAY FROM THE SYSTEM [NEC 690.13(A)]
20. ALL WIRING METHODS SHALL BE IN ACCORDANCE WITH NEC 690.31
21. WORK CLEARANCES AROUND ELECTRICAL EQUIPMENT WILL BE MAINTAINED PER NEC 110.26(A)(1), 110.26(A)(2) AND 110.26(A)(3).
22. ROOFTOP MOUNTED PHOTOVOLTAIC PANELS AND MODULES SHALL BE TESTED, LISTED & IDENTIFIED IN ACCORDANCE WITH UL1703
23. ELECTRICAL CONTRACTOR TO PROVIDE CONDUIT EXPANSION JOINTS AND ANCHOR CONDUIT RUNS AS REQUIRED PER NEC.

33.55477, -111.97989



1 SATELLITE VIEW
PV 0.0
SCALE: NTS

33.55477, -111.97989



2 VICINITY MAP
PV 0.0
SCALE: NTS

REGISTERED PROFESSIONAL ENGINEER (CIVIL)
CERTIFICATE NO.
69778
VINCENT
MWUMVANEZA
Date Signed
ARIZONA, U.S.A.
Exp: 09/30/2025

Signed on: 05/07/2025

OUR WORLD ENERGY
8716 W Ludlow Dr Suite 6,
Peoria, AZ 85381, USA
PHONE: - 623-850-5700

12

REVISIONS

Description	Date	Rev
CAD	08-Jan-2025	00
CAD	22-Jan-2025	01
CAD	05-Feb-2025	02
CAD	11-Feb-2025	03
CAD	12-Feb-2025	04
CAD	30-Apr-2025	05

Signature with Seal

Project Name & Address

JACKSON RESIDENCE
4622 E FOOTHILL DR, PARADISE VALLEY, AZ 85253
UTILITY ACCOUNT #: 3918100000
AHJ: PARADISE VALLEY; UTILITY: APS

Service #
OUR69110

Sheet Name
COVER SHEET

Sheet Size
ANSI B
11" X 17"

Sheet Number
PV 0.0

TOWN
of
PARADISE VALLEY

6401 E Lincoln Dr
Paradise Valley, AZ 85253
(480) 948-7411

Building Permit

BD10-35859

Issued: 03/05/2010

Expires: 09/01/2010

Address: 4622 E FOOTHILL DR TPV
TATUM CANYON REPLAT OF
54

Parcel: 169-11-140
R-43 HILLSD
SCOTTB

Owner: FOOTHILL DRIVE LLC / JACKSON
4622 E FOOTHILL DR
PARADISE VALLEY, AZ 85253
480-203-1645

Contractor: STANDARD RENEWABLE ENERGY
2125 S 11TH AVE, #140
PHOENIX, AZ 85007
480-422-6344

MAR 8 - 2010

Valuation: $65,690.00

Job Type: 999 Roof Mounted Solar System

Remarks:

Fees:	*Building*	*Hauling*	*Excavation*	*Grading*	*Engr Review*
	$755.75	*$0.00*	*$0.00*	*$0.00*	*$0.00*

Setbacks:	*Front*	*Rear*	*Side*	*Side*	*Height*
	40	*40*	*20*	*20*	*24*
	0	*0*	*0*	*0*	*0*

The Town is released from all liability which may arise from the issuance of this permit. The owner and contractor are responsible for full compliance with the Town of Paradise Valley Town Code, Zoning Ordinance, the most recently-adopted applicable building code and related specialty codes, and any applicable Special Use Permits. Should the Town or authorized agent find work being done contrary to these codes, work shall be stopped immediately upon the issuance of a Stop Work Order.

If this Building Permit is issued to an owner/builder, it is done solely with the condition that construction is for the owner's personal use.

Notices

Pursuant to Town Code §5-1-2, construction for which this permit is issued must commence by scheduling and passing an inspection within one hundred eighty (180) days of the issuance date, and continue by scheduling and passing an inspection every 180 days thereafter. All new utilities shall be installed underground.

This Building Permit is ***non-refundable***, and is issued with the following stipulations:

1. Builder must construct according to the approved plans for which this permit is issued.
2. Builder has verified lot size, and construction is within setbacks required.
3. Construction of fences may not begin until the fees for the permit for the main building are paid and the permit is active.

Owner

Contractor

Printed Name

J. Delaney

Printed Name

03/05/2010


169-11-140
263.36'
N00°19'20"E
54
PATOM CANYON 169-11-140
VARIOUS LOTS REPLAT
MCR 19...26
120'
169-11-141
143.33'
N79°37'12"E
347.46'


1750 ft
1800 ft
1800 ft
16872001C
16911130
16911131
16911128
1600 ft
16911127
1700 ft
16911126
1500 ft
1650 ft
1700 ft
16911112
16911140
16911111
1650 ft
16911141
16911931
16911110
1600 ft
1550 ft
1600 ft
16911114
1550 ft
16911065
16911116
16911122
16911066
16911117
16911142
16911067
16911133
16911143

NOTE:
EXISTING PV SYSTEM INSTALLED WILL BE REMOVED.

NEW STORAGE CONTAINER (REFER TO PAGE PV 1.4 FOR DETAILS)
(N) DC BUSBAR
(N) GENERATOR DISTRIBUTION PANEL
(N) ALARM PANEL
(N) UTILITY DISCONNECT SWITCH
(N) UTILITY CT PRODUCTION METER
(E) GENERATOR UNIT
NEW CONDUIT TRENCH ~30' LENGTH AND 18" DEPTH
(E) DISTRIBUTION PANEL
(E) SES, CT METER CABINET
(N) UTILITY CT PRODUCTION METER
(N) UTILITY DISCONNECT SWITCH
6' TALL WALL WITH GATE
(N) DISTRIBUTION PANELS
(N) (02) SOL-ARK 15K-2P-N INVERTERS
(N) 01 - STORZ POWER 50kWh CUSTOMIZED BATTERY CABINET
(N) 04 - STORZ POWER 50kWh CUSTOMIZED BATTERY CABINET
(N) (07) SOL-ARK 15K-2P-N INVERTERS
TREES
(N) CRITTER GUARD
(288) QCELL Q.TRON BLK M-G2+ 430W PV MODULES

PROPERTY LINE
342'-3"
191'-10"
133'-0"
20'-4"
260'-8"
178'-0"
299'-0"
138'-6"
52'-8"
120'-0"
155'-9"
68'-1"
116'-6"
98'-11"
211'-11"
525'-11"
349'-0"
DRIVEWAY
WALKWAY
MAIN HOME
POOL
4622 E FOOTHILL DR
FRONT OF HOUSE

1 PLOT PLAN
PV 0.1
SCALE: 1/64" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER (CIVIL)
CERTIFICATE NO. 69778
VINCENT MWUMVANEZA
Date Signed:
ARIZONA, U.S.A.
Exp: 09/30/2025
Signed on: 05/07/2025

SYSTEM LEGEND

LOT: 6.19 ACRES
PARCEL: 16911140
PROPERTY LINE
FENCE LINE
DRIVEWAY

OUR WORLD ENERGY
OUR WORLD ENERGY
8716 W Ludlow Dr Suite 6,
Peoria, AZ 85381, USA
PHONE: - 623-850-5700

REVISIONS

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Signature with Seal

Project Name & Address
JACKSON RESIDENCE
4622 E FOOTHILL DR, PARADISE VALLEY, AZ 85253
UTILITY ACCOUNT #: 1391810000
AHJ: PARADISE VALLEY; UTILITY: APS

Service #
OUR69110

Sheet Name
PLOT PLAN

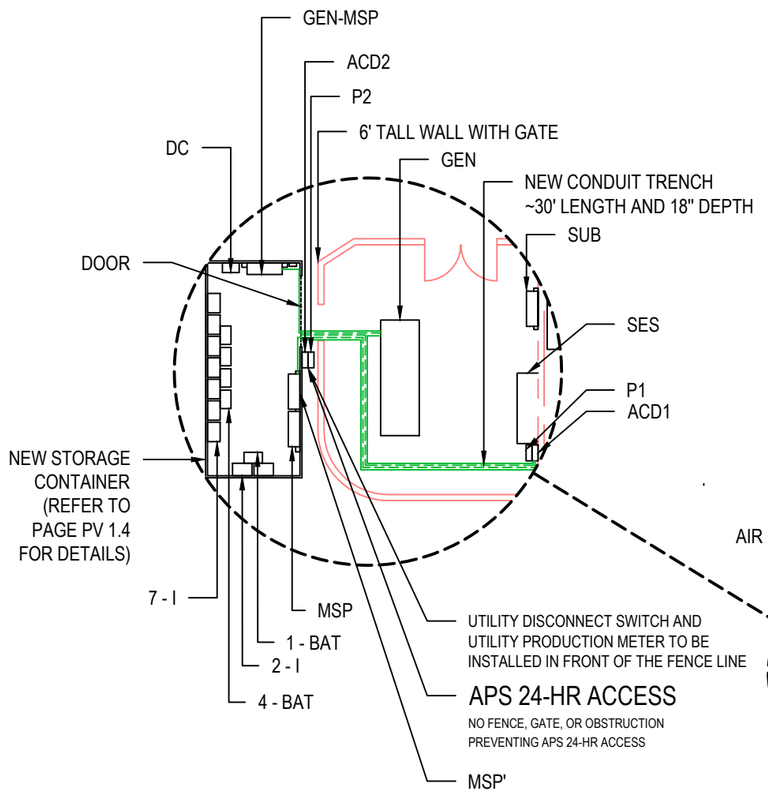
Sheet Size
ANSI B
11" X 17"

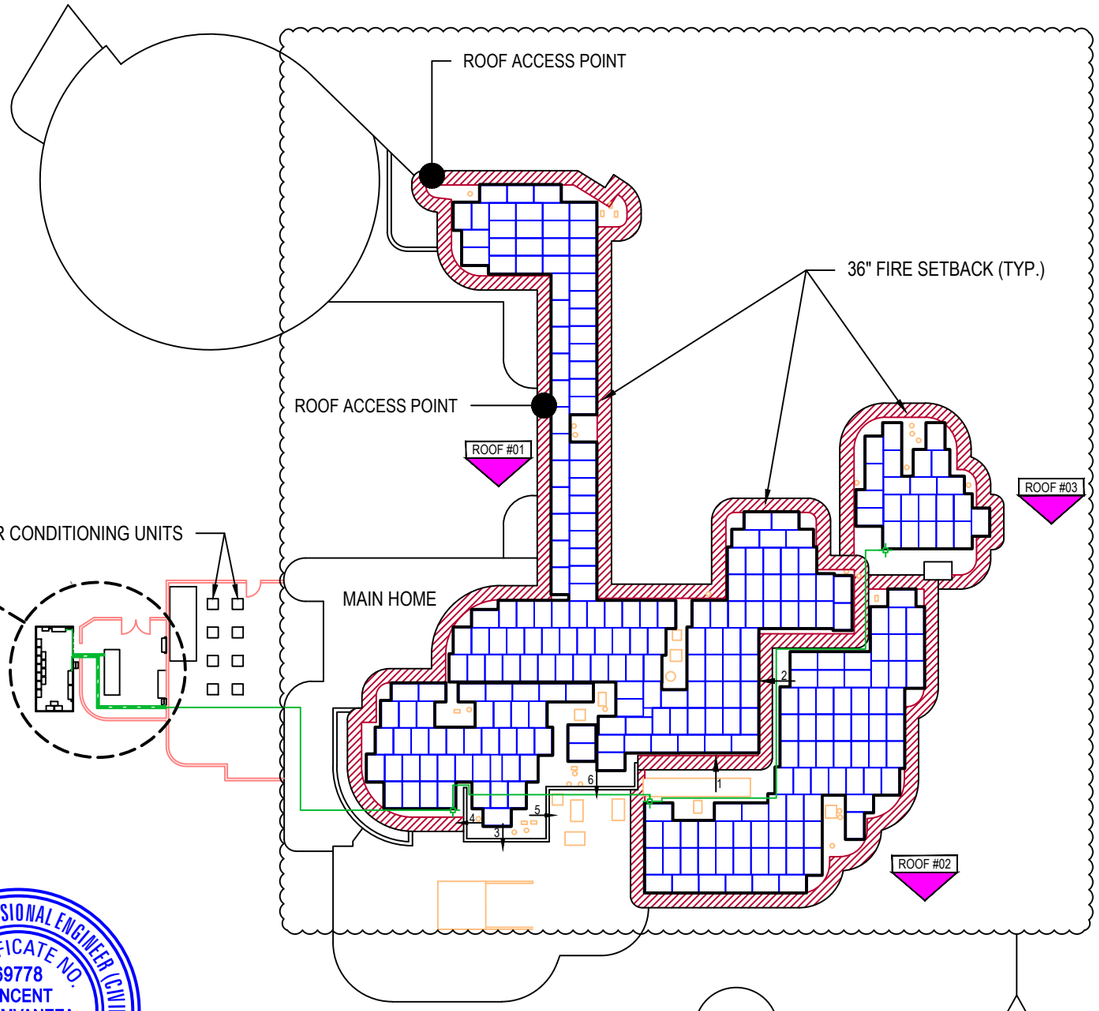
Sheet Number
PV 0.1

a.UTILITY HAS 24-HR UNRESTRICTED ACCESS TO ALL PHOTOVOLTAIC SYSTEM COMPONENTS LOCATED AT SERVICE ENTRANCE.
b.WORKSPACE IN FROM OF AN ALTERNATING-CURRENT ELECTRICAL SYSTEM COMPONENT SHALL BE IN ACCORDANCE WITH APS AND NEC REQUIREMENTS. FOR APS REQUIREMENTS REFERENCE SECTION 300 OF THE APS ESRM AND SECTION 8.2 OF THE APS INTERCONNECTION REQUIREMENTS
c.REFERENCE SECTIONS 301.15 OF THE APS ESRM FOR ELECTRICAL METER SEPARATION BETWEEN WATER AND GAS.
d.PHOTOVOLTAIC ENCLOSURES INSTALLED ON SIDE OF DWELLING TO BE PLACE 4'-6' ABOVE GRADE

ROOF ACCESS POINT

ROOF ACCESS POINTS SHALL BE LOCATED IN AREAS THAT DO NOT REQUIRE THE PLACEMENT OF GROUND LADDERS OVER OPENINGS SUCH AS WINDOWS OR DOORS, AND LOCATED AT STRONG POINTS OF BUILDING CONSTRUCTION IN LOCATIONS WHERE THE ACCESS POINT DOES NOT CONFLICT WITH OVERHEAD OBSTRUCTIONS SUCH AS TREE LIMBS, WIRES, OR SIGNS.





REGISTERED PROFESSIONAL ENGINEER (CIVIL)
CERTIFICATE NO.
69778
VINCENT
MWUMVANEZA
Date Signed
ARIZONA, U.S.A.
Exp: 09/30/2025

Signed on: 05/07/2025

SYSTEM LEGEND

SES	EXISTING EXTERIOR CT CABINET PANEL - SERVICE ENTRANCE SECTION & POINT OF INTERCONNECTION. TIED TO EXTERIOR UTILITY METER #V90887.
ACD1	NEW UTILITY DISCONNECT SWITCH (1 OF 2)
ACD2	NEW UTILITY DISCONNECT SWITCH (2 OF 2)
P1	NEW BI-DIRECTIONAL PRODUCTION CT-METER (1 OF 2)
P2	NEW BI-DIRECTIONAL PRODUCTION CT-METER (2 OF 2)
MSP	NEW DISTRIBUTION PANEL 1 OF 2
MSP'	NEW DISTRIBUTION PANEL 2 OF 2
GEN-MSP	NEW GENERATOR DISTRIBUTION PANEL
GEN	EXISTING GENERATOR UNIT
SUB	EXISTING DISTRIBUTION PANEL
DC	NEW 2500A DC BUSBAR
BAT	NEW STORZ POWER 50kWh CUSTOMIZED BATTERY CABINET
I	NEW SOL-ARK 15K-2P-N INVERTER
	288 NEW QCELL Q.TRON BLK M-G2+ 430W MODULES
	FIRE PATHWAY
	= ROOF OBSTRUCTIONS
	= EXTERIOR RUN
	= CONDUIT ROOF TOP JUNCTION BOX

ROOF SECTIONS

ROOF #01
MODULE - 187
SLOPE - 02°
AZIMUTH - 135°
MATERIAL - FOAM
RAFTER SIZE & SPACING - 2"X4" @ 24" O.C.

ROOF #02
MODULE - 78
SLOPE - 02°
AZIMUTH - 135°
MATERIAL - FOAM
RAFTER SIZE & SPACING - 2"X4" @ 24" O.C.

ROOF #03
MODULE - 23
SLOPE - 02°
AZIMUTH - 135°
MATERIAL - FOAM
RAFTER SIZE & SPACING - 2"X4" @ 24" O.C.

ARROW HEAD (INDICATING LOCATION/DIRECTION OF PARAPET WALL)

TOTAL ROOF AREA: 18337ft²
TOTAL MODULE AREA: 6048ft²
TOTAL AREA COVERED: 32.98%

OUR WORLD ENERGY
8716 W Ludlow Dr Suite 6,
Peoria, AZ 85381, USA
PHONE: - 623-850-5700

REVISIONS

Description	Date	Rev
CAD	08-Jan-2025	00
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CAD	12-Feb-2025	04
CAD	30-Apr-2025	05

Signature with Seal

Project Name & Address

JACKSON RESIDENCE
4622 E FOOTHILL DR, PARADISE VALLEY, AZ 85253
UTILITY ACCOUNT #: 1391810000
AHJ: PARADISE VALLEY; UTILITY: APS

Service #
OUR69110

Sheet Name
SITE PLAN

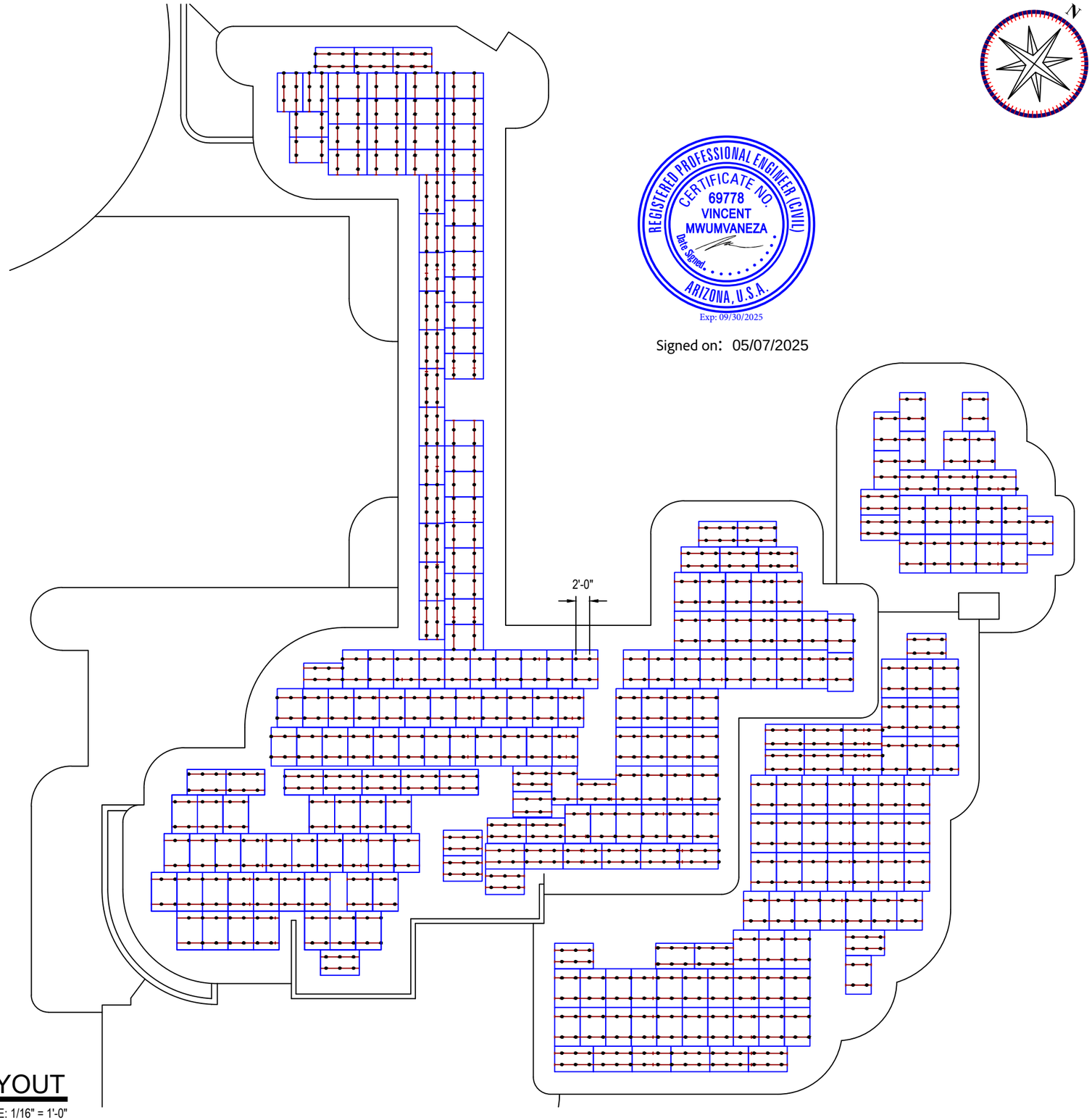
Sheet Size
ANSI B
11" X 17"

Sheet Number
PV 1.0

1 SITE PLAN
PV 1.0
SCALE: 1/32" = 1'-0"

NOTE:
EXISTING PV SYSTEM INSTALLED WILL BE REMOVED.

NOTE: THE MAXIMUM CANTILEVER OF THE RAIL SHALL BE 1/3 OF THE ATTACHMENT SPACING.



REGISTERED PROFESSIONAL ENGINEER (CIVIL)
CERTIFICATE NO.
69778
VINCENT
MWUMVANEZA
Date Signed
ARIZONA, U.S.A.

Exp: 09/30/2025

Signed on: 05/07/2025

SYSTEM LEGEND

- = ATTACHMENT POINTS (1234 Nos)
- = RAIL SYSTEM
- 288 NEW QCELL Q.TRON BLK M-G2+ 430W MODULES

DECK MOUNT

OUR WORLD ENERGY
8716 W Ludlow Dr Suite 6,
Peoria, AZ 85381, USA
PHONE: - 623-850-5700

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Signature with Seal

Project Name & Address

JACKSON RESIDENCE
4622 E FOOTHILL DR, PARADISE VALLEY,
AZ 85253
UTILITY ACCOUNT #: 139181000
AHJ: PARADISE VALLEY; UTILITY: APS

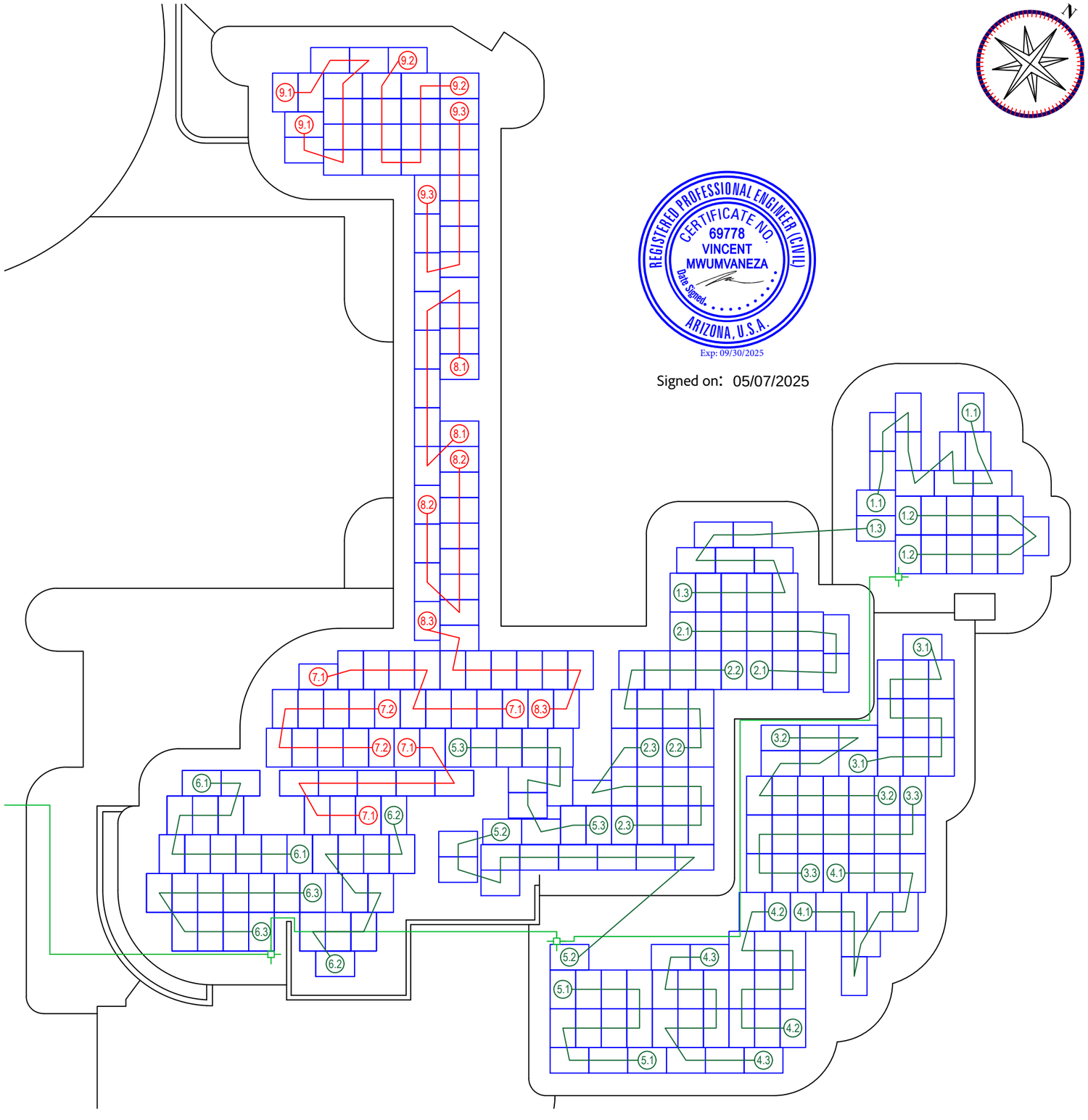
Service #
OUR69110

Sheet Name
ATTACHMENT & STRING LAYOUT

Sheet Size
ANSI B
11" X 17"

Sheet Number
PV 1.1

1 ATTACHMENT LAYOUT
PV 1.1
SCALE: 1/16" = 1'-0"



1 STRING LAYOUT
PV 1.2
SCALE: 1/16" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER (CIVIL)
CERTIFICATE NO. 69778
VINCENT MWUMVANEZA
Date Signed.
ARIZONA, U.S.A.
Exp: 09/30/2025

Signed on: 05/07/2025

SYSTEM LEGEND

= EXTERIOR RUN

= CONDUIT ROOF TOP JUNCTION BOX

288 NEW QCELL Q.TRON BLK M-G2+ 430W MODULES

CIRCUIT(S)

INVERTER #1 TO #6
(X refer to Inverter No.
Y refer to string no for inverter)

X.Y ——— 11 MODULES

INVERTER #7 TO #9
(X refer to Inverter No.
Y refer to string no for inverter)

X.Y ——— 10 MODULES

OUR WORLD ENERGY
OUR WORLD ENERGY
8716 W Ludlow Dr Suite 6,
Peoria, AZ 85381, USA
PHONE: - 623-850-5700

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Signature with Seal

Project Name & Address

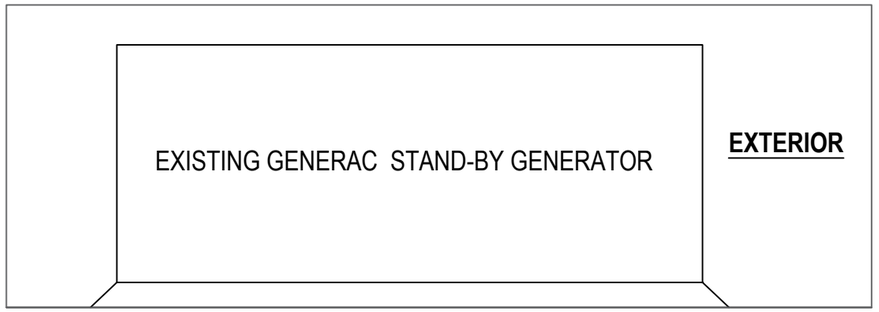
JACKSON RESIDENCE
4622 E FOOTHILL DR, PARADISE VALLEY, AZ 85253
UTILITY ACCOUNT #: 139181000
AHJ: PARADISE VALLEY; UTILITY: APS

Service #
OUR69110

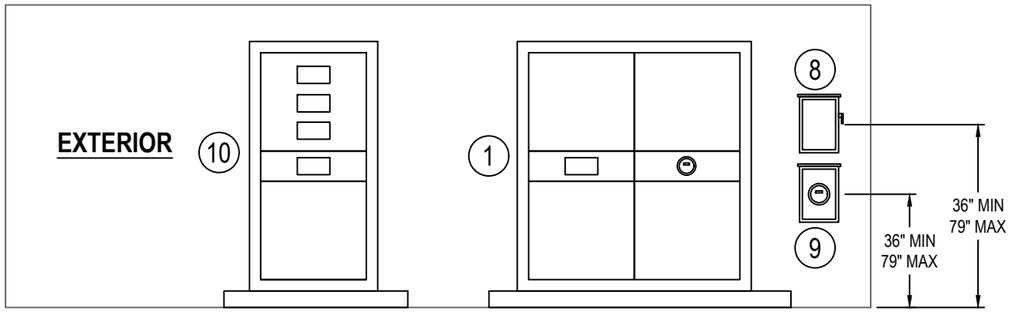
Sheet Name
ATTACHMENT & STRING LAYOUT

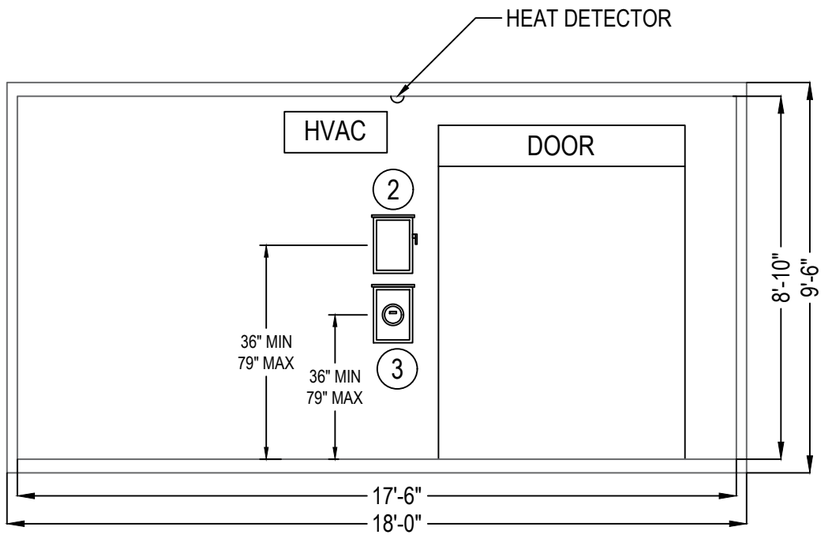
Sheet Size
ANSI B
11" X 17"

Sheet Number
PV 1.2

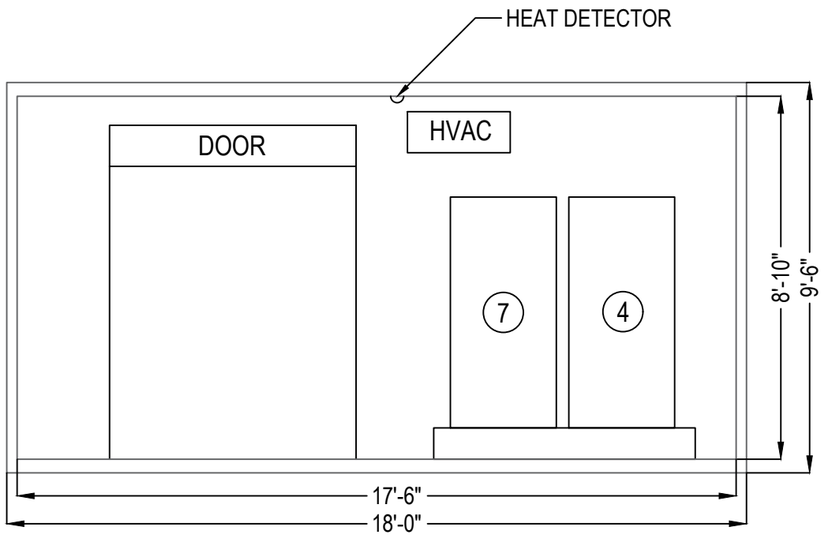


EXTERIOR



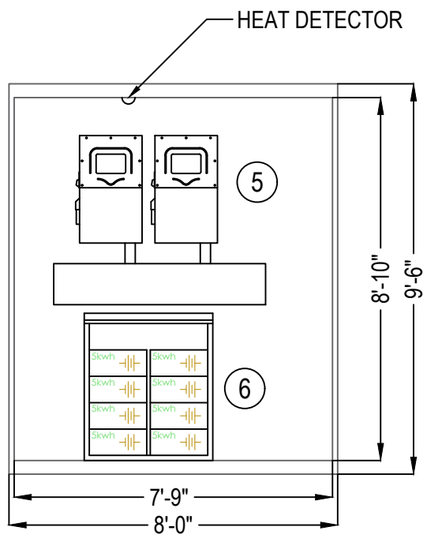


NEW STORAGE CONTAINER - EXTERIOR FRONT SIDE

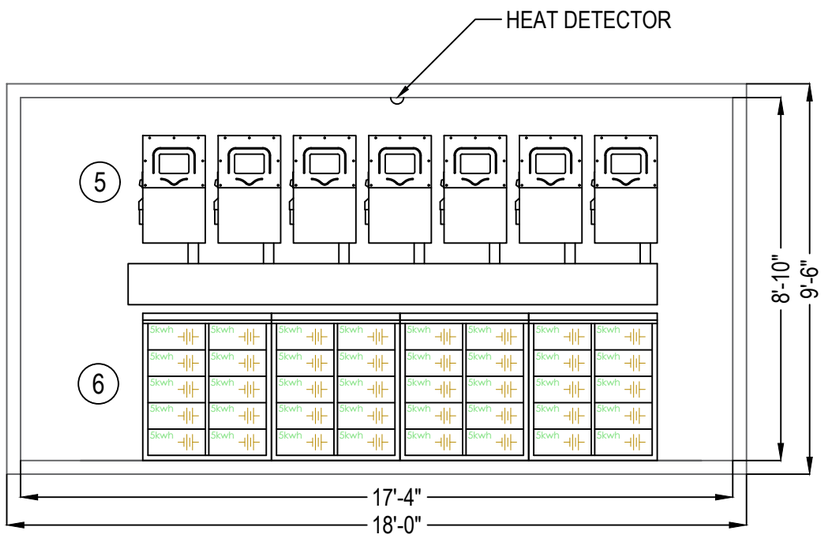


NEW STORAGE CONTAINER - INTERIOR FRONT SIDE

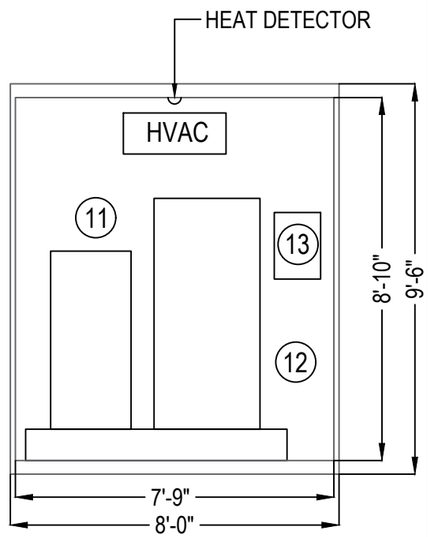
EQUIPMENTS LEGEND	
1	CT CABINET
2	UTILITY DISCONNECT SWITCH (1 OF 2)
3	UTILITY CT PRODUCTION METER (1 OF 2)
4	NEW MAIN DISTRIBUTION PANEL (1 OF 2)
5	SOL-ARK 15K-2P-N INVERTERS (09)
6	STORZ CUSTOM BATTERY CABINET (05)
7	NEW MAIN DISTRIBUTION PANEL (2 OF 2)
8	UTILITY DISCONNECT SWITCH (2 OF 2)
9	UTILITY CT PRODUCTION METER (2 OF 2)
10	EXISTING MAIN DISTRIBUTION PANEL
11	DC BUSBAR
12	GENERATOR DISTRIBUTION PANEL
13	ALARM PANEL



NEW STORAGE CONTAINER - INTERIOR LEFT SIDE



NEW STORAGE CONTAINER - INTERIOR BACK SIDE



NEW STORAGE CONTAINER - INTERIOR RIGHT SIDE

1 PV 1.3 **EQUIPMENT ELEVATION**

SCALE: NTS

OUR WORLD ENERGY
8716 W Ludlow Dr Suite 6,
Peoria, AZ 85381, USA
PHONE: - 623-850-5700

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Registered Professional Engineer (Electrical)
CERTIFICATE
Signature with Seal
76473
GREGORY M. DILLETT II
5/7/25
Date Signed
ARIZONA, U.S.A.

Project Name & Address

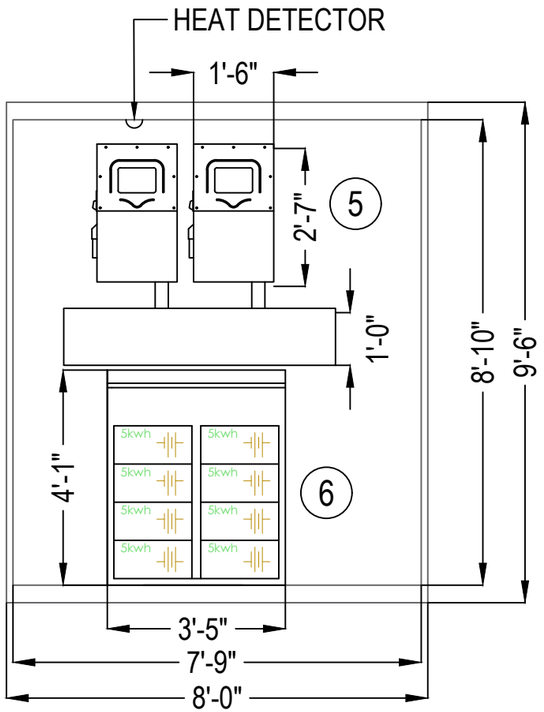
JACKSON RESIDENCE
4622 E FOOTHILL DR, PARADISE VALLEY,
AZ 85253
UTILITY ACCOUNT #: 13918100000
AHJ: PARADISE VALLEY; UTILITY: APS

Service #
OUR69110

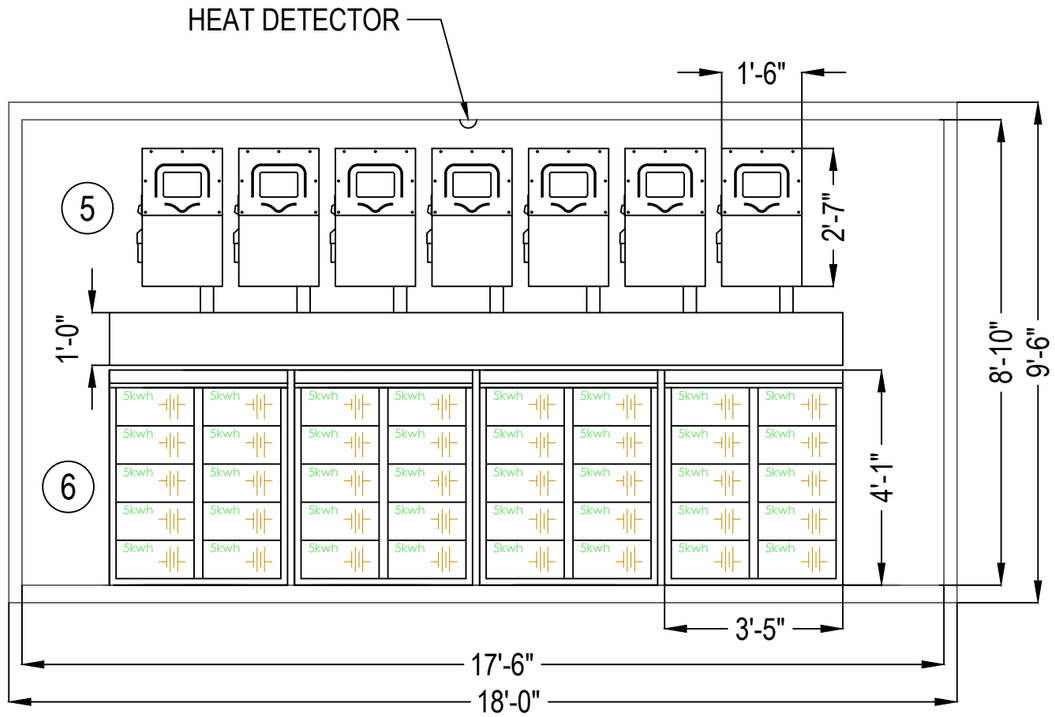
Sheet Name
EQUIPMENT ELEVATION

Sheet Size
ANSI B
11" X 17"

Sheet Number
PV 1.3



INTERIOR LEFT SIDE FRONT VIEW



INTERIOR BACK SIDE FRONT VIEW

EQUIPMENTS LEGEND	
1	CT CABINET
2	UTILITY DISCONNECT SWITCH (1 OF 2)
3	UTILITY CT PRODUCTION METER (1 OF 2)
4	NEW MAIN DISTRIBUTION PANEL (1 OF 2)
5	SOL-ARK 15K-2P-N INVERTERS (09)
6	STORZ CUSTOM BATTERY CABINET (05)
7	NEW MAIN DISTRIBUTION PANEL (2 OF 2)
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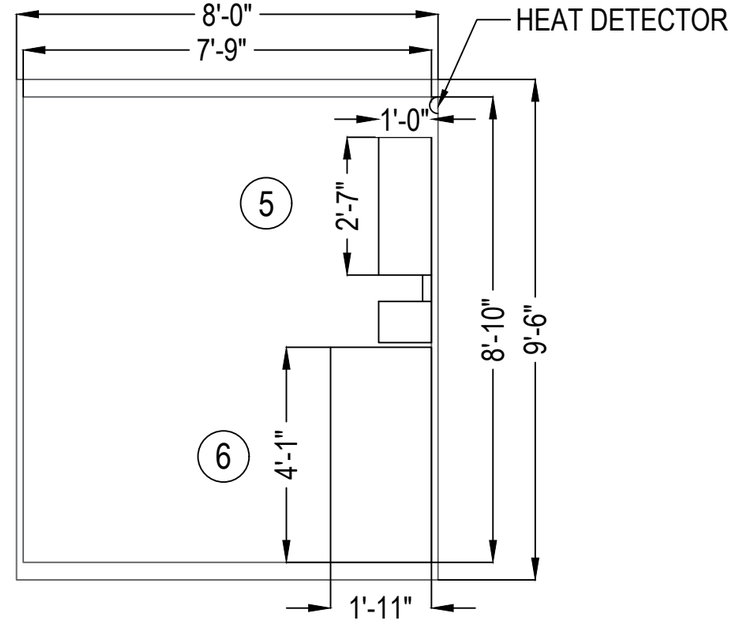
9	UTILITY CT PRODUCTION METER (2 OF 2)
10	EXISTING MAIN DISTRIBUTION PANEL
11	DC BUSBAR
12	GENERATOR DISTRIBUTION PANEL
13	ALARM PANEL



INTERIOR SIDE VIEW

1 BATTERY CABINET ELEVATION
PV 1.3(A)
SCALE: NTS

OUR WORLD ENERGY
OUR WORLD ENERGY
8716 W Ludlow Dr Suite 6,
Peoria, AZ 85381, USA
PHONE: - 623-850-5700

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CAD	04-Apr-2025	05

Registered Professional Engineer (Electrical)
CERTIFICATE
Signature with Seal
76473
GREGORY M. DILLETT II
5/7/25
Date Signed
ARIZONA, U.S.A.

Project Name & Address

JACKSON RESIDENCE
4622 E FOOTHILL DR, PARADISE VALLEY, AZ 85253
UTILITY ACCOUNT #: 1391810000
AHJ: PARADISE VALLEY; UTILITY: APS

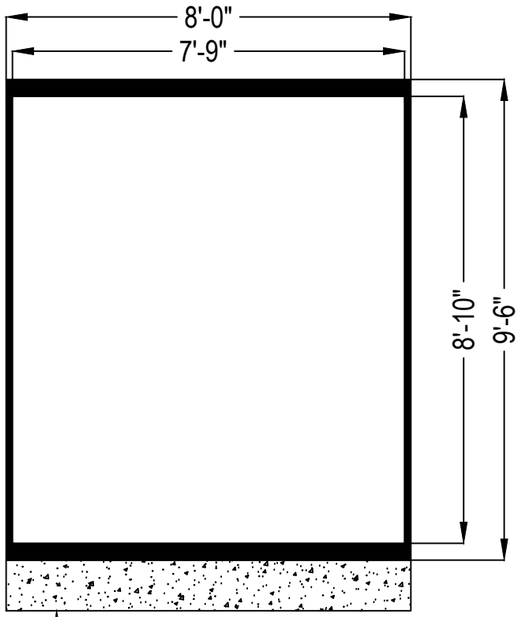
Service #
OUR69110

Sheet Name
BATTERY CABINET ELEVATION

Sheet Size
ANSI B
11" X 17"

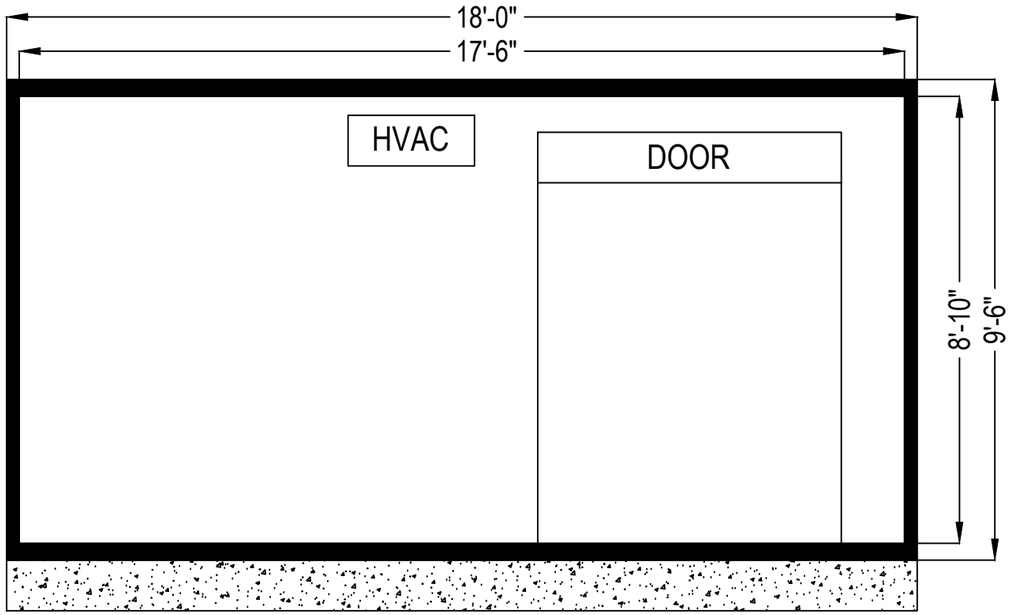
Sheet Number
PV 1.3(A)

LEFT SIDE

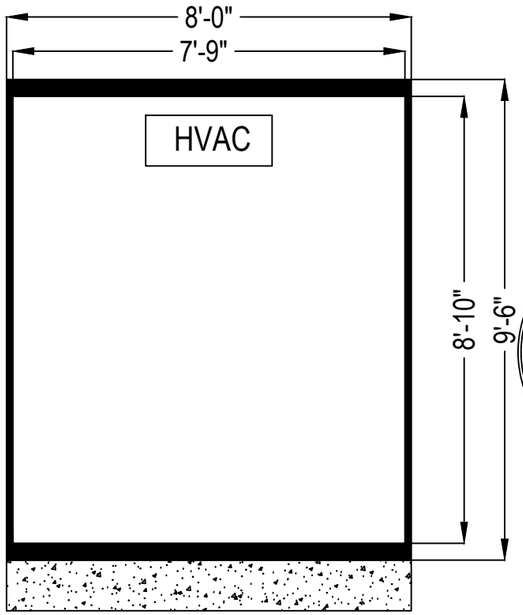


CONCRETE FOUNDATION (18'X8' SLAB)
NOTE: 6" CONCRETE WITH #4 REBARS AT 12"OC IN BOTH DIRECTIONS

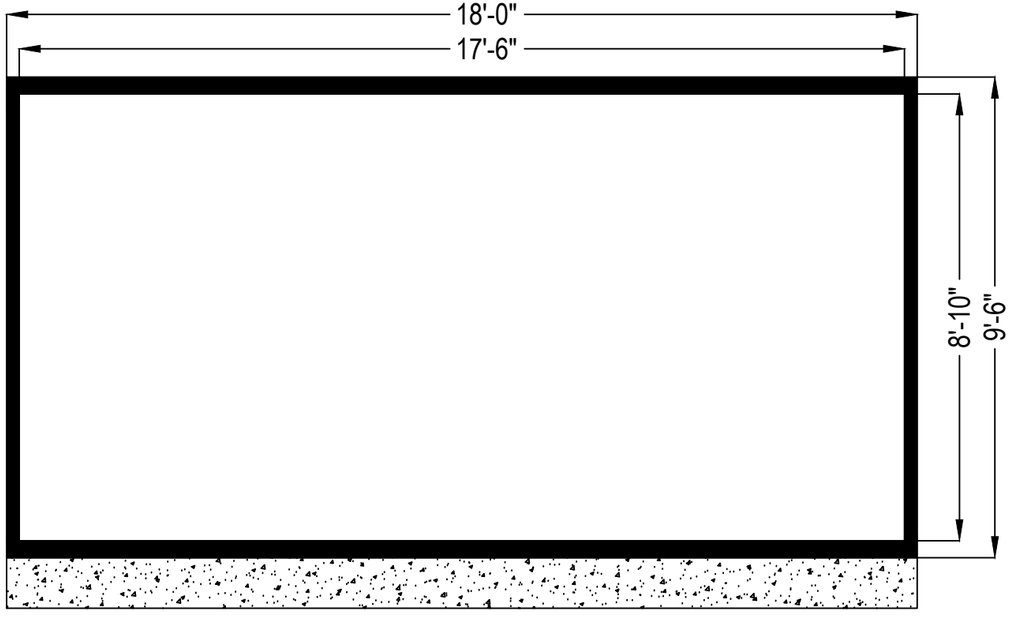
FRONT SIDE



RIGHT SIDE



BACK SIDE



1 STORAGE CONTAINER DETAILS
PV 1.4
SCALE: NTS

OUR WORLD ENERGY
OUR WORLD ENERGY
8716 W Ludlow Dr Suite 6,
Peoria, AZ 85381, USA
PHONE: - 623-850-5700

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Registered Professional Engineer (Electrical)
CERTIFICATE NO.
Signature with Seal
76473
GREGORY M.
DILLETT II
5/7/25
Date Signed
ARIZONA, U.S.A.

Project Name & Address

JACKSON RESIDENCE
4622 E FOOTHILL DR, PARADISE VALLEY,
AZ 85253
UTILITY ACCOUNT #: 1391810000
AHJ: PARADISE VALLEY; UTILITY: APS

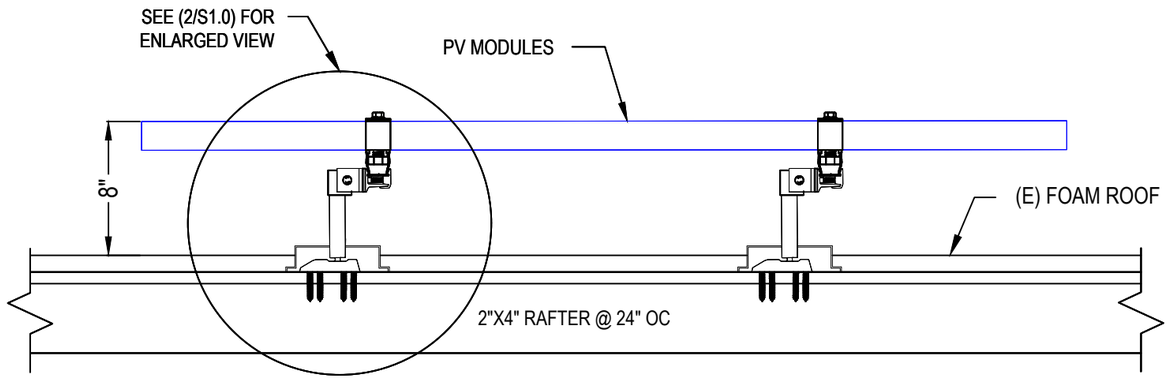
Service #
OUR69110

Sheet Name
STORAGE CONTAINER

Sheet Size
ANSI B
11" X 17"

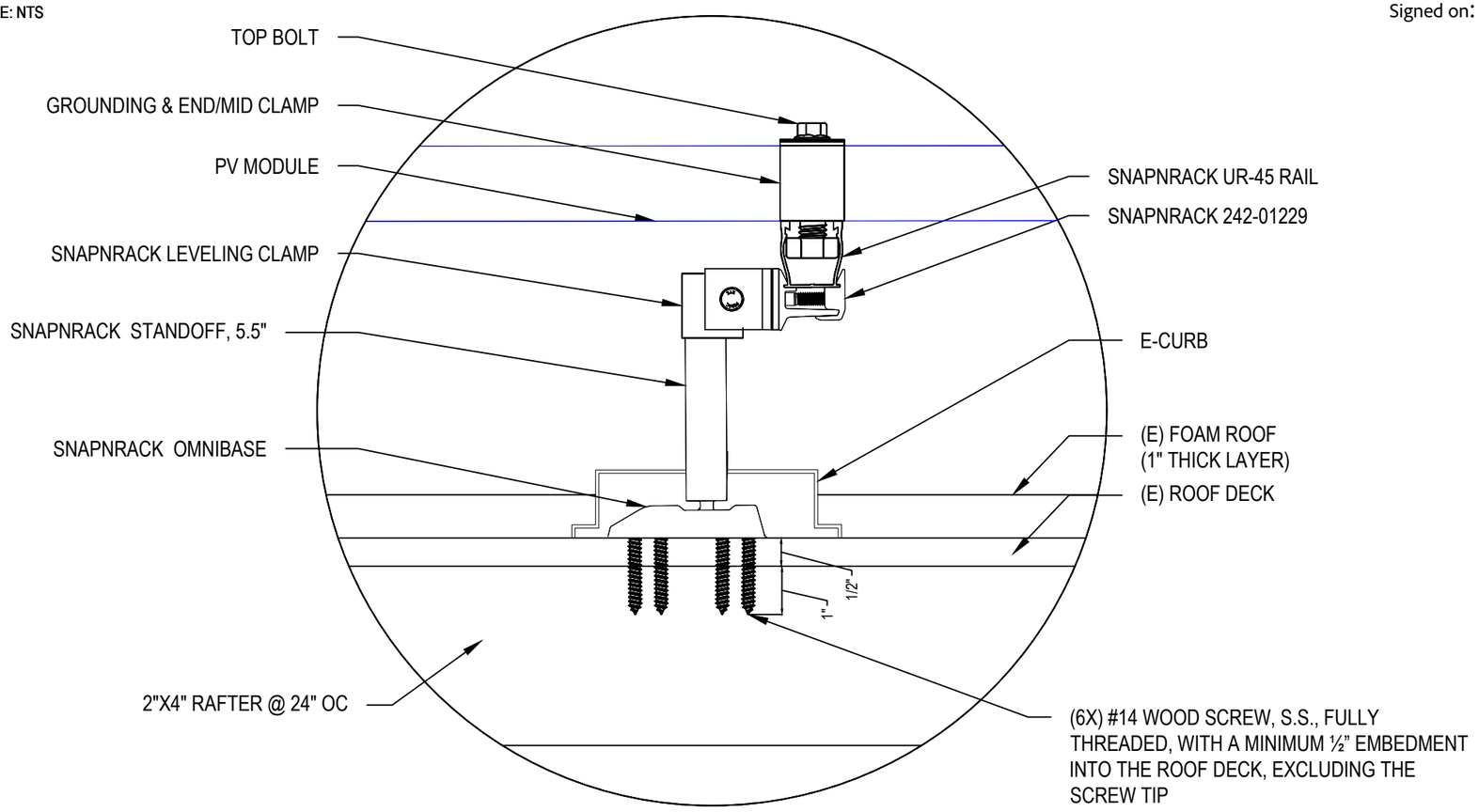
Sheet Number
PV 1.4

ATTACHMENT IS TO BE DECK MOUNTED AND WON'T BE ATTACHED TO THE RAFTER.



1 SNAPNRACK OMNIBASE ATTACHMENT DETAIL

S 1.0 SCALE: NTS



2 ATTACHMENT DETAIL (enlarged view)

S 1.0 SCALE: NTS

REGISTERED PROFESSIONAL ENGINEER (CIVIL)
CERTIFICATE NO. 69778
VINCENT MWUMVANEZA
Date Signed:
ARIZONA, U.S.A.
Exp: 09/30/2025

Signed on: 05/07/2025

OUR WORLD ENERGY
OUR WORLD ENERGY
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Signature with Seal

Project Name & Address

JACKSON RESIDENCE
4622 E FOOTHILL DR, PARADISE VALLEY, AZ 85253
UTILITY ACCOUNT #: 1391810000
AHJ: PARADISE VALLEY; UTILITY: APS

Service #
OUR69110

Sheet Name
MOUNT DETAIL

Sheet Size
ANSI B
11" X 17"

Sheet Number
S 1.0

PV MODULES
288 - QCELL Q.TRON BLK M-G2+ 430W

(NEW) JUNCTION BOX 600V, NEMA 4 UL LISTED

1 — 2T — TRENCH

PV STRING 1.1 11 - QCELL Q.TRON BLK M-G2+ 430W	
PV STRING 1.2 11 - QCELL Q.TRON BLK M-G2+ 430W	PV-A
PV STRING 1.3 11 - QCELL Q.TRON BLK M-G2+ 430W	
PV STRINGS 2.1, 2.2, 2.3 11 - QCELL Q.TRON BLK M-G2+ 430W	PV-B
PV STRINGS 3.1, 3.2, 3.3 11 - QCELL Q.TRON BLK M-G2+ 430W	PV-C
PV STRINGS 4.1, 4.2, 4.3 11 - QCELL Q.TRON BLK M-G2+ 430W	PV-D
PV STRINGS 5.1, 5.2, 5.3 11 - QCELL Q.TRON BLK M-G2+ 430W	PV-E
PV STRING 6.1 11 - QCELL Q.TRON BLK M-G2+ 430W	
PV STRING 6.2 11 - QCELL Q.TRON BLK M-G2+ 430W	PV-F
PV STRING 6.3 11 - QCELL Q.TRON BLK M-G2+ 430W	
PV STRING 7.1 10 - QCELL Q.TRON BLK M-G2+ 430W	
PV STRING 7.2 10 - QCELL Q.TRON BLK M-G2+ 430W	PV-G
PV STRING 7.3 10 - QCELL Q.TRON BLK M-G2+ 430W	
PV STRINGS 8.1, 8.2, 8.3 10 - QCELL Q.TRON BLK M-G2+ 430W	PV-H
PV STRING 9.1 10 - QCELL Q.TRON BLK M-G2+ 430W	
PV STRING 9.2 10 - QCELL Q.TRON BLK M-G2+ 430W	PV-I
PV STRING 9.3 10 - QCELL Q.TRON BLK M-G2+ 430W	

(NEW) 05 - STORZ POWER 50kWh CUSTOMIZED BATTERY CABINET WITH 10 UNITS MAX OF STORZ SP5.12-LFPV4 (5kWh) BATTERY EACH

(NEW) 2500A DC BUSBAR, 240V

INVERTER PV-A WILL HAVE EXPORT LIMIT OF 99.9KW AC TO LIMIT EXPORT TO THE GRID

PV-A / GEN-A — (NEW) SOL-ARK 15K-2P-N (15KW AC) INVERTER, 240V — A / AA
PV-A / GEN-B — (NEW) SOL-ARK 15K-2P-N (15KW AC) INVERTER, 240V — B / BB
PV-A / GEN-C — (NEW) SOL-ARK 15K-2P-N (15KW AC) INVERTER, 240V — C / CC
PV-A / GEN-D — (NEW) SOL-ARK 15K-2P-N (15KW AC) INVERTER, 240V — D / DD
PV-A / GEN-E — (NEW) SOL-ARK 15K-2P-N (15KW AC) INVERTER, 240V — E / EE
PV-A / GEN-F — (NEW) SOL-ARK 15K-2P-N (15KW AC) INVERTER, 240V — F / FF
PV-A / GEN-G — (NEW) SOL-ARK 15K-2P-N (15KW AC) INVERTER, 240V — G / GG
PV-A / GEN-H — (NEW) SOL-ARK 15K-2P-N (15KW AC) INVERTER, 240V — H / HH
PV-A / GEN-I — (NEW) SOL-ARK 15K-2P-N (15KW AC) INVERTER, 240V — I / II

POINT OF INTERCONNECTION, LOAD BREAKER 705.12(B)(2)(3)(c)

(NEW) BI-DIRECTIONAL UTILITY CT PRODUCTION METER, CL20 (1 OF 2)

(NEW) UTILITY DISCONNECT (1 OF 2), SIEMENS HF227NR, 240V/800A, FUSED, NEMA 3R

800A FUSES

VISIBLE, LOCKABLE 2 POLE "FUSED" AC DISCONNECT

EXISTING 240V/800A BUSBAR RATING, CT CABINET, SINGLE PHASE WITH 800A MAIN SERVICE DISCONNECT

800A — Existing GEC — N — L1 — L2 — UTILITY GRID

NEW 240V/800A BUSBAR RATING, DISTRIBUTION PANEL 1 OF 2, SINGLE PHASE, SIEMENS P3A56ML800ABS

(NEW) BI-DIRECTIONAL UTILITY CT PRODUCTION METER, CL20 (2 OF 2)

(NEW) UTILITY DISCONNECT (2 OF 2), SIEMENS HNF367R, 240V/800A, NON-FUSED, NEMA 3R

VISIBLE, LOCKABLE 3 POLE "KNIFE" AC DISCONNECT

NEW 240V/800A BUSBAR RATING, DISTRIBUTION PANEL 2 OF 2, SINGLE PHASE, SIEMENS P3A56ML800ABS

600A — 225A — 200A — 150A — EXISTING LOADS — EXISTING WIRES

EXISTING 240V/800A BUSBAR RATING, DISTRIBUTION PANEL, SINGLE PHASE, WITH 600A MAIN BREAKER

"KEY NOTES ON E1.4"

EXISTING GENERAC STAND-BY GENERATOR, 150kW, 120/240V, 60Hz

700A — GENERAC — G — N — G — 7T — TRENCH

80A — GEN-A
80A — GEN-B
80A — GEN-C
80A — GEN-D
80A — GEN-E
80A — GEN-F
80A — GEN-G
80A — GEN-H
80A — GEN-I

NEW 240V/800A BUSBAR RATING, GENERATOR DISTRIBUTION PANEL, SINGLE PHASE, SIEMENS P3A56ML800ABS

BATTERY SPECIFICATIONS	
MANUFACTURER	STORZ SP5.12-LFPV4
BATTERY CHEMISTRY	LITHIUM-IRON PHOSPHATE
ROUND TRIP EFFICIENCY DC-DC	98%
BATTERY VOLTAGE RANGE	44V-56V
MPPT RANGE	125-425V

INVERTER SPECIFICATIONS	
MANUFACTURER	SOL-ARK 15K-2P-N
NOMINAL AC OUTPUT POWER @ 240V	ON GRID - 15000W, 62.5A OFF GRID - 12000W, 50A
NUMBER OF MPPT'S / STRINGS	3 / 6
MAX. DC PV INPUT POWER	19500W
PV MAX. DC INPUT VOLTAGE	500V
MPPT RANGE	125-425V

PV MODULE RATING @ STC	
MANUFACTURER	QCELL Q.TRON BLK M-G2+ 430W
MAX. POWER-POINT CURRENT (IMP)	13.05 AMPS
MAX. POWER-POINT VOLTAGE (VMP)	32.94 VOLTS
OPEN-CIRCUIT VOLTAGE (VOC)	39.32 VOLTS
SHORT-CIRCUIT CURRENT (ISC)	13.74 AMPS
MAX. SERIES FUSE (OCPD)	25 AMPS
NOM. MAX. POWER AT STC (PMAX)	430 WATTS
MAX. SYSTEM VOLTAGE	1000V (IEC) / 1000V (UL)
VOC TEMPERATURE COEFFICIENT	-0.24 %/K

Photovoltaic System	
DC System Size (Watts)	123840
AC System Size (Watts)	99900
Total Module Count	288

1 — FREE AIR

+	(1)	10 AWG PV WIRE	CU	RED
-	(1)	10 AWG PV WIRE	CU	BLACK
G	(1)	10 AWG BARE COPPER	CU	BARE
		PV WIRE RUN		EXTERIOR

2T — CONDUIT

+	(3)	10 AWG THHN/THWN-2	CU	RED
-	(3)	10 AWG THHN/THWN-2	CU	BLACK
G	(1)	10 AWG THHN/THWN-2	CU	GREEN
		3" SCH40 PVC		EXTERIOR

3 — CONDUIT

+	(1)	1/0 AWG THHN/THWN-2	CU	RED
-	(1)	1/0 AWG THHN/THWN-2	CU	BLACK
G	(1)	6 AWG THHN/THWN-2	CU	GREEN
		4" SCH40 PVC		EXTERIOR

4 — CONDUIT

+	(2)	3/0 AWG THHN/THWN-2	CU	RED
-	(2)	3/0 AWG THHN/THWN-2	CU	BLACK
G	(1)	6 AWG THHN/THWN-2	CU	GREEN
		4" SCH40 PVC		EXTERIOR

5 — CONDUIT

L1	(1)	3 AWG THHN/THWN-2	CU	BLACK
L2	(1)	3 AWG THHN/THWN-2	CU	RED
N	(1)	3 AWG THHN/THWN-2	CU	WHITE
G	(1)	6 AWG THHN/THWN-2	CU	GREEN
		4" SCH40 PVC		EXTERIOR

6,6T — CONDUIT

L1	(2)	600 KCMIL THHN/THWN-2	CU	BLACK
L2	(2)	600 KCMIL THHN/THWN-2	CU	RED
N	(2)	600 KCMIL THHN/THWN-2	CU	WHITE
G	(1)	1/0 AWG THHN/THWN-2	CU	GREEN
		4" SCH 40 PVC		EXTERIOR

7T — CONDUIT

L1	(1)	3 AWG THHN/THWN-2	CU	BLACK
L2	(1)	3 AWG THHN/THWN-2	CU	RED
N	(1)	3 AWG THHN/THWN-2	CU	WHITE
G	(1)	6 AWG THHN/THWN-2	CU	GREEN
		1" SCH 40 PVC		EXTERIOR

OUR WORLD ENERGY
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Registered Professional Engineer Certificate
Signature with Seal
76473
GREGORY M. DILLETT II
5/7/25
Date Signed
ARIZONA, U.S.A.

Project Name & Address

JACKSON RESIDENCE
4622 E FOOTHILL DR, PARADISE VALLEY, AZ 85253
UTILITY ACCOUNT #: 139181000
AHJ: PARADISE VALLEY; UTILITY: APS

Service #
OUR69110

Sheet Name
3-LINE DIAGRAM

Sheet Size
ANSI B
11" X 17"

Sheet Number
E 1.1

PV MODULES
288 - QCELL Q.TRON BLK M-G2+ 430W

(NEW) JUNCTION BOX 600V, NEMA 4 UL LISTED

1 — 2T — TRENCH

PV STRING 1.1 11 - QCELL Q.TRON BLK M-G2+ 430W	PV-A
PV STRING 1.2 11 - QCELL Q.TRON BLK M-G2+ 430W	
PV STRING 1.3 11 - QCELL Q.TRON BLK M-G2+ 430W	
PV STRINGS 2.1, 2.2, 2.3 11 - QCELL Q.TRON BLK M-G2+ 430W	PV-B
PV STRINGS 3.1, 3.2, 3.3 11 - QCELL Q.TRON BLK M-G2+ 430W	PV-C
PV STRINGS 4.1, 4.2, 4.3 11 - QCELL Q.TRON BLK M-G2+ 430W	PV-D
PV STRINGS 5.1, 5.2, 5.3 11 - QCELL Q.TRON BLK M-G2+ 430W	PV-E
PV STRING 6.1 11 - QCELL Q.TRON BLK M-G2+ 430W	
PV STRING 6.2 11 - QCELL Q.TRON BLK M-G2+ 430W	PV-F
PV STRING 6.3 11 - QCELL Q.TRON BLK M-G2+ 430W	
PV STRING 7.1 10 - QCELL Q.TRON BLK M-G2+ 430W	
PV STRING 7.2 10 - QCELL Q.TRON BLK M-G2+ 430W	PV-G
PV STRING 7.3 10 - QCELL Q.TRON BLK M-G2+ 430W	
PV STRINGS 8.1, 8.2, 8.3 10 - QCELL Q.TRON BLK M-G2+ 430W	PV-H
PV STRING 9.1 10 - QCELL Q.TRON BLK M-G2+ 430W	
PV STRING 9.2 10 - QCELL Q.TRON BLK M-G2+ 430W	PV-I
PV STRING 9.3 10 - QCELL Q.TRON BLK M-G2+ 430W	

(NEW) 05 - STORZ POWER 50kWh CUSTOMIZED BATTERY CABINET WITH 10 UNITS MAX OF STORZ SP5.12-LFPV4 (5kWh) BATTERY EACH

(NEW) 2500A DC BUSBAR, 240V

4

INVERTER PV-A WILL HAVE EXPORT LIMIT OF 99.9KW AC TO LIMIT EXPORT TO THE GRID

PV-A	A	(NEW) SOL-ARK 15K-2P-N (15KW AC) INVERTER, 240V
GEN-A	AA	
PV-A	B	(NEW) SOL-ARK 15K-2P-N (15KW AC) INVERTER, 240V
GEN-B	BB	
PV-A	C	(NEW) SOL-ARK 15K-2P-N (15KW AC) INVERTER, 240V
GEN-C	CC	
PV-A	D	(NEW) SOL-ARK 15K-2P-N (15KW AC) INVERTER, 240V
GEN-D	DD	
PV-A	E	(NEW) SOL-ARK 15K-2P-N (15KW AC) INVERTER, 240V
GEN-E	EE	
PV-A	F	(NEW) SOL-ARK 15K-2P-N (15KW AC) INVERTER, 240V
GEN-F	FF	
PV-A	G	(NEW) SOL-ARK 15K-2P-N (15KW AC) INVERTER, 240V
GEN-G	GG	
PV-A	H	(NEW) SOL-ARK 15K-2P-N (15KW AC) INVERTER, 240V
GEN-H	HH	
PV-A	I	(NEW) SOL-ARK 15K-2P-N (15KW AC) INVERTER, 240V
GEN-I	II	

3

POINT OF INTERCONNECTION, LOAD BREAKER 705.12(B)(2)(3)(c)

A, B, C, D, E, F, G, H, I — 90A — 5

NEW 240V/800A BUSBAR RATING, DISTRIBUTION PANEL 1 OF 2, SINGLE PHASE, SIEMENS P3A56ML800ABS

(NEW) BI-DIRECTIONAL UTILITY CT PRODUCTION METER, CL20 (1 OF 2)

7 — 15 — 19

(NEW) UTILITY DISCONNECT (1 OF 2), SIEMENS HF227NR, 240V/800A, FUSED, NEMA 3R

800A FUSES

CT METER

61 TRENCH — 16 — 6 — 6

VISIBLE, LOCKABLE 2 POLE "FUSED" AC DISCONNECT

EXISTING 240V/800A BUSBAR RATING, CT CABINET, SINGLE PHASE WITH 800A MAIN SERVICE DISCONNECT

800A — CT METER — 1 — 3 — 12 — 18

UTILITY GRID

AA, BB, CC, DD, EE, FF, GG, HH, II — 90A — 5

(NEW) BI-DIRECTIONAL UTILITY CT PRODUCTION METER, CL20 (2 OF 2)

7 — 15 — 19

(NEW) UTILITY DISCONNECT (2 OF 2), SIEMENS HNF367R, 240V/800A, NON-FUSED, NEMA 3R

CT METER

6 — 6 — 16 — 6 — 6

VISIBLE, LOCKABLE 3 POLE "KNIFE" AC DISCONNECT

NEW 240V/800A BUSBAR RATING, DISTRIBUTION PANEL 2 OF 2, SINGLE PHASE, SIEMENS P3A56ML800ABS

600A
225A
200A
150A

EXISTING LOADS

EXISTING WIRES

EXISTING 240V/800A BUSBAR RATING, DISTRIBUTION PANEL, SINGLE PHASE, WITH 600A MAIN BREAKER

"KEY NOTES ON E1.4"

EXISTING GENERAC STAND-BY GENERATOR, 150kW, 120/240V, 60Hz

700A — G — GENERAC

7T TRENCH

80A — GEN-A, GEN-B, GEN-C, GEN-D, GEN-E, GEN-F, GEN-G, GEN-H, GEN-I

NEW 240V/800A BUSBAR RATING, GENERATOR DISTRIBUTION PANEL, SINGLE PHASE, SIEMENS P3A56ML800ABS

5

BATTERY SPECIFICATIONS	
MANUFACTURER	STORZ SP5.12-LFPV4
BATTERY CHEMISTRY	LITHIUM-IRON PHOSPHATE
ROUND TRIP EFFICIENCY DC-DC	98%
BATTERY VOLTAGE RANGE	44V-56V
MPPT RANGE	125-425V

INVERTER SPECIFICATIONS	
MANUFACTURER	SOL-ARK 15K-2P-N
NOMINAL AC OUTPUT POWER @ 240V	ON GRID - 15000W, 62.5A OFF GRID - 12000W, 50A
NUMBER OF MPPT'S / STRINGS	3 / 6
MAX. DC PV INPUT POWER	19500W
PV MAX. DC INPUT VOLTAGE	500V
MPPT RANGE	125-425V

PV MODULE RATING @ STC	
MANUFACTURER	QCELL Q.TRON BLK M-G2+ 430W
MAX. POWER-POINT CURRENT (IMP)	13.05 AMPS
MAX. POWER-POINT VOLTAGE (VMP)	32.94 VOLTS
OPEN-CIRCUIT VOLTAGE (VOC)	39.32 VOLTS
SHORT-CIRCUIT CURRENT (ISC)	13.74 AMPS
MAX. SERIES FUSE (OCPD)	25 AMPS
NOM. MAX. POWER AT STC (PMAX)	430 WATTS
MAX. SYSTEM VOLTAGE	1000V (IEC) / 1000V (UL)
VOC TEMPERATURE COEFFICIENT	-0.24 %/K

Photovoltaic System	
DC System Size (Watts)	123840
AC System Size (Watts)	99900
Total Module Count	288

1	+	(1)	10 AWG PV WIRE	CU	RED
	-	(1)	10 AWG PV WIRE	CU	BLACK
	G	(1)	10 AWG BARE COPPER	CU	BARE
	FREE AIR		PV WIRE RUN		EXTERIOR

2T	+	(3)	10 AWG THHN/THWN-2	CU	RED
	-	(3)	10 AWG THHN/THWN-2	CU	BLACK
	G	(1)	10 AWG THHN/THWN-2	CU	GREEN
	CONDUIT		3" SCH40 PVC		EXTERIOR

3	+	(1)	1/0 AWG THHN/THWN-2	CU	RED
	-	(1)	1/0 AWG THHN/THWN-2	CU	BLACK
	G	(1)	6 AWG THHN/THWN-2	CU	GREEN
	CONDUIT		4" SCH40 PVC		EXTERIOR

4	+	(2)	3/0 AWG THHN/THWN-2	CU	RED
	-	(2)	3/0 AWG THHN/THWN-2	CU	BLACK
	G	(1)	6 AWG THHN/THWN-2	CU	GREEN
	CONDUIT		4" SCH40 PVC		EXTERIOR

5	L1	(1)	3 AWG THHN/THWN-2	CU	BLACK
	L2	(1)	3 AWG THHN/THWN-2	CU	RED
	N	(1)	3 AWG THHN/THWN-2	CU	WHITE
	G	(1)	6 AWG THHN/THWN-2	CU	GREEN
	CONDUIT		4" SCH40 PVC		EXTERIOR

6,6T	L1	(2)	600 KCMIL THHN/THWN-2	CU	BLACK
	L2	(2)	600 KCMIL THHN/THWN-2	CU	RED
	N	(2)	600 KCMIL THHN/THWN-2	CU	WHITE
	G	(1)	1/0 AWG THHN/THWN-2	CU	GREEN
	CONDUIT		4" SCH 40 PVC		EXTERIOR

7T	L1	(1)	3 AWG THHN/THWN-2	CU	BLACK
	L2	(1)	3 AWG THHN/THWN-2	CU	RED
	N	(1)	3 AWG THHN/THWN-2	CU	WHITE
	G	(1)	6 AWG THHN/THWN-2	CU	GREEN
	CONDUIT		1" SCH 40 PVC		EXTERIOR

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Signature with Seal
76473
GREGORY M. DILLETT II
5/7/25
Date Signed
ARIZONA, U.S.A.

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UTILITY ACCOUNT #: 139181000
AHJ: PARADISE VALLEY; UTILITY: APS

Service #
OUR69110

Sheet Name
1-LINE DIAGRAM

Sheet Size
ANSI B
11" X 17"

Sheet Number
E 1.2

PV MODULE RATING @ STC	
MANUFACTURER	QCELL Q.TRON BLK M-G2+ 430W
MAX. POWER-POINT CURRENT (IMP)	13.05 AMPS
MAX. POWER-POINT VOLTAGE (VMP)	32.94 VOLTS
OPEN-CIRCUIT VOLTAGE (VOC)	39.32 VOLTS
SHORT-CIRCUIT CURRENT (ISC)	13.74 AMPS
MAX. SERIES FUSE (OCPD)	25 AMPS
NOM. MAX. POWER AT STC (PMAX)	430 WATTS
MAX. SYSTEM VOLTAGE	1000V (IEC) / 1000V (UL)
VOC TEMPERATURE COEFFICIENT	-0.24 %/K

INVERTER SPECIFICATIONS	
MANUFACTURER	SOL-ARK 15K-2P-N
NOMINAL AC OUTPUT POWER @ 240V	ON GRID - 15000W, 62.5A OFF GRID - 12000W, 50A
NUMBER OF MPPT'S / STRINGS	3 / 6
MAX. DC PV INPUT POWER	19500W
PV MAX. DC INPUT VOLTAGE	500V
MPPT RANGE	125-425V

BATTERY SPECIFICATIONS	
MANUFACTURER	STORZ SP5.12-LFPV4
BATTERY CHEMISTRY	LITHIUM-IRON PHOSPHATE
ROUND TRIP EFFICIENCY DC-DC	98%
BATTERY VOLTAGE RANGE	44V-56V
MPPT RANGE	125-425V

Rooftop conductor ampacities designed in compliance with art. 690.8, Tables 310.15(B)(2)(a), 310.15(B)(3)(a), 310.15(B)(3)(c), 310.15(B)(16), Chapter 9 Table 4, 5, & 9. Location specific temperature obtained from ASHRAE 2014 data tables

RECORD LOW TEMP	-1°
AMBIENT TEMP (HIGH TEMP 2%)	43°
CONDUIT HEIGHT	7/8"
CONDUCTOR TEMPERATURE RATE ON / OFF ROOF	90°

THIS PANEL IS FED BY MULTIPLE SOURCES (UTILITY AND SOLAR)	
AC OUTPUT CURRENT ACCORDING TO ART. 690.8(B)(1)	562.50A
NOMINAL AC VOLTAGE	240V

PERCENT OF VALUES	NUMBER OF CURRENT CARRYING CONDUCTORS IN CONDUIT
.80	4-6
.70	7-9
.50	10-20

OCPD Calculations

Breakers sized according to continuous duty output current.
Inverter Output Current X (1.25[art. 690.8(A)])
System output current w/ continuous duty = 78.13A <= 90A (Inverter OCPD)

For Total inverters,
78.13A X 09 = 703.17A <= 800A (Main OCPD)

Conductor Calculations

Wire gauge calculated from code art. 310.16 with ambient temperature calculations from art. 310.15(B)(1).
For "On Roof" conductors we use the 90°C column ampacity, the relevant ambient temperature adjustment, and raceway fill adjustments from 310.16. Conduit shall be installed at least 1" above the roof deck.
For "Off Roof" conductors we use the 90°C column ampacity, or the 90°C column ampacity with the relevant ambient temperature and raceway fill adjustments, whichever is less.The rating of the conductor after adjustments MUST be greater than, or equal to, the continuous duty uprated output current.
Calculation Example - Wire Rating (90°C) x Ambient Temperature Adjustment x Conduit Fill Adjustment >= Continuous Duty Output Current
(Tag 2 On Roof):
10 gauge wire rated for 40 A, 40 A x 0.87 x 0.8 (6 Conductors) = 27.84A > 17.18A
(Tag 3 Off Roof):
1/0 gauge wire rated for 170A , 170A x 0.87 = 147.90A > 60A (Battery Output)
(Tag 4 Off Roof):
3/0 gauge wire rated for 225A , 225A x 0.87 = 195.75A > 60A (Battery Output)
(Tag 5 Off Roof):
3 gauge wire rated for 115A , 115A x 0.87 = 100.05A > 90A (Inverter OCPD)
(Tag 6, 6T Off Roof):
2 Set of 600 kcmil wire rated for 475A , 2 x 475A x 0.87 = 826.5A > 800A (System OCPD)
(Tag 7 Off Roof):
3 gauge wire rated for 110A , 110A x 0.87 = 95.7A > 90A (Generator Feeder)

ELECTRICAL NOTES

- Designed according to and all code citations are relevant to the 2014 National Electrical Code.
- Tag 2-Use 87% temperature derate for conditions of use (direct sunlight on roof)
- Tag 3 - Use 87% temperature derate for conditions of use (adjusted ambient)
- Bottom of conduit to be installed min. 7/8" above roof surface.
- Photovoltaic utility meter and photovoltaic utility disconnect switch to be installed and labeled as required by ESS PAGE 11-43
- System grounding & bonding designed in compliance with 690.47(C)3 and 250.64(E)
- Equipment shall be listed, tested, and marked to withstand the available short circuit current

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Registered Professional Engineer (Ltd)
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ARIZONA, U.S.A.
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Sheet Name
WIRE CALCS

Sheet Size
ANSI B
11" X 17"

Sheet Number
E 1.3

KEY NOTES

1. LABEL "WARNING POWER SOURCE OUTPUT CONNECTION. DO NOT RELOCATE THIS OVERCURRENT DEVICE." AND LOCATE BREAKER AT OPPOSITE END OF BUS FROM MAIN BREAKER LOCATION PER 2014 NEC 705.12(B)(3).
2. BI-DIRECTIONAL UTILITY METER TO BE INSTALLED BY UTILITY COMPANY.
3. LABEL BREAKER "PHOTOVOLTAIC ELECTRIC POWER SOURCE" PER NEC 705.12(B)(2)(3)(b) AND "BREAKERS ARE BACKFED" PER NEC 705.12(B)(2)(3)(C). LABEL WITH THE RATED AC OUTPUT CURRENT AND THE NOMINAL OPERATING VOLTAGE PER NEC 690.54.
4. LABEL "UTILITY DISCONNECT". SWITCH COVER TO BE LOCKED PER THE NEC 690.13(B) AT ALL TIMES BY UTILITY SWITCH TO BE VISIBLE OPEN AND ACCESSIBLE PER UTILITY REQUIREMENTS AND CONFORM TO NEC 705.20.
5. LABEL "PHOTOVOLTAIC ARRAY DC DISCONNECT" PER NEC 690.13(B). LABEL WITH MAXIMUM DC VOLTAGE, OUTPUT CURRENT PER NEC 690.53. SWITCH COVER TO BE LOCKED PER NEC 690.12(A)
6. LABEL "WARNING; THIS SUB-PANEL FED FROM MULTI-POWER PRODUCTION SOURCES".
7. PROVIDE WARNING SIGN PER NEC 690.13(B) AND 706.15(C).READING"WARNING-ELECTRIC SHOCK HAZARD-TERMINALS ON THE LINE AND LOAD SIDE MAY BE ENERGIZED IN THE OPEN POSITION.
8. INVERTER TO BE LISTED TO UL 1741SA AND SB
9. METALLIC CONDUIT SHALL BE USED WITHING BUILDING AND LABELED PER THE 690.31(D)
10. GROUND FAULT PROTECTION PER NEC 690.41(B). PROVIDE IN DC/AC INVERTER
11. GEC TO BE INSTALLED AS REQUIRED PER MANUFACTURER INSTRUCTION AND NEC 690.47.
12. LABEL "MAIN BREAKER HAS BEEN DE-RATED PER NEC 705.12(B)(2)(3)(c)" & "MAX 175 AMPS".
13. BUILDING RAPID SHUTDOWN PER NEC 690.56(C); LABEL; "SOLAR PV SYSTEM IS EQUIPPED WITH RAPID SHUTDOWN. TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUTDOWN PV SYSTEM AND REDUCE HAZARD IN THE ARRAY".
14. LABEL "RAPID SHUTDOWN SWITCH FOR SOLAR PER NEC 690.56(C)(2).
15. LABEL "CUSTOMER FUSED DISCONNECT"SWITCH COVER TO BE LOCKED AT ALL TIMES,AND COMPLY WITH NEC 705.20 PER NEC.
16. CUSTOMER WILL INSTALL RING-TYPE METER SOCKET WITH NON-DETENTED FORM 2S. APS WILL INSTALL THE PRODUCTION METER LABEL METER METER SOCKET"BI-DIRECTIONAL METER".
17. CUSTOMER WILL INSTALL RING-TYPE METER SOCKET WITH NON-DETENTED FORM 2S. APS WILL INSTALL THE PRODUCTION METER LABEL METER METER SOCKET "UNI-DIRECTIONAL METER".
18. LABEL "GENERATOR DISCONNECT" SWITCH COVER TO BE LOCKED PER NEC 690.13(B) AT ALL TIMES BY UTILITY SWITCH TO BE VISIBLE OPEN AND ACCESSIBLE PER UTILITY REQUIREMENTS AND CONFIRM TO NEC 705.20
19. LABEL CAUTION - MULTI SOURCE OF POWER" ON PLACARD/DIRECTORY PER NEC 705.10.
20. LABEL: "BI-DIRECTIONAL METER LINE SIDE DISCONNECT".SWITCH COVER TO BE LOCKED PER NEC 690.13(B) AT ALL TIMES BY THE UTILITY SWITCH TO BE VISIBLE OPEN AND ACCESSIBLE PER UTILITY REQUIREMENTS AND CONFORM TO NEC 705.20.
21. LABEL: "BI-DIRECTIONAL METER DER SIDE DISCONNECT".SWITCH COVER TO BE LOCKED PER NEC 690.13(B) AT ALL TIMES BY THE UTILITY SWITCH TO BE VISIBLE OPEN AND ACCESSIBLE PER UTILITY REQUIREMENTS AND CONFORM TO NEC 705.20.
22. LABEL: "SOLAR PV SYSTEM IS EQUIPPED WITH RAPID SHUTDOWN SWITCH, TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT SOWN PV SYSTEM AND REDUCE HAZARD IN ARRAY" AND SHALL CONFORM TO NEC 690.56..

GENERAL NOTES

A. EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE 2014 NEC AND ALL APPLICABLE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.

B. DC ARRAY PANEL GROUND WIRES MUST BE CONTINUOUS AND INSTALLED TO ALLOW FOR PANEL REMOVAL WITHOUT DISRUPTING CONTINUITY. ALL MODULE GROUND CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH NEC 690.43 AND 690.47.

C. FOLLOW MANUFACTURERS' SUGGESTED INSTALLATION PRACTICES AND WIRING SPECIFICATIONS FOR ALL EQUIPMENT.

D. ARRAY DC WIRES SHALL BE RATED AND LABELED "SUNLIGHT RESISTANT" WHERE EXPOSED TO AMBIENT CONDITIONS FOR ALL 300.6(B)(1).

E. DC EQUIPMENT SHOWN FOR ILLUSTRATION PURPOSES ONLY. ACTUAL DESIGN SHALL BE IN ACCORDANCE WITH THE NEC AND MANUFACTURER'S SPECIFICATIONS AND INSTALLATION SHALL BE IN ACCORDANCE WITH AHJ REQUIREMENTS.

F. PER 705.10 A PERMANENT PLAQUE OR DIRECTORY, DENOTING ALL ELECTRIC POWER SOURCES ON OR IN THE PREMISES, SHALL BE INSTALLED AT EACH SERVICE EQUIPMENT LOCATION AND AT LOCATIONS OF ALL ELECTRIC POWER PRODUCTION SOURCES CAPABLE OF BEING INTERCONNECTED.

G. EQUIPMENT SHALL BE TESTED, LISTED, AND MARKED TO WITHSTAND THE AVAILABLE SHORT CIRCUIT CURRENT.

H. DWELLING BATTERY STORAGE ENERGY TRESHOLDS PER NFPA 855(2020) SECTION 15.7.1. THE 2021 VERSION OF THE "INTERNATIONAL FIRE CODE" AND THE 2021 VERSION IF THE INTERNATIONAL RESIDENTIAL FIRE CODE FOR ONE AND TWO FAMILY DWELLINGS"
INDIVIDULS: 20KWH
AGGREGATE: 40KWH WITHIN CLOSET AND STORAGE OR UTILITY SPACES
80KWH IN ATTACHED OR DETACHED GARAGES AND DETACHED ACCESSORY STRUCTURES
80KWH ON EXTERIOR WALLS
80KWH IN OUTDOOR INSTALLATION

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KEY NOTES

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PHOTOVOLTAIC SYSTEM
AC COMBINER PANEL
⚠WARNING
THIS EQUIPMENT FED BY MULTIPLE SOURCES. TOTAL RATING OF ALL OVERCURRENT DEVICES, EXCLUDING MAIN SUPPLY OVERCURRENT DEVICE, SHALL NOT EXCEED AMPACITY OF BUSBAR.
AUTHORIZED PERSONNEL ONLY
DO NOT ADD LOADS TO THIS PANEL
TURN OFF PHOTOVOLTAIC DISCONNECT PRIOR TO WORKING INSIDE PANEL
L01GEN.02.PLA.WH-RD

*To be installed at:
- PV or ESS AC combiner panels

PHOTOVOLTAIC ELECTRIC
POWER SOURCE
⚠WARNING
ELECTRIC SHOCK HAZARD
TERMINALS ON THE LINE AND LOAD SIDE MAY BE ENERGIZED IN THE OPEN POSITION
DUAL POWER SUPPLY
SOURCES: UTILITY GRID AND PV SOLAR ELECTRIC SYSTEM
TURN OFF PHOTOVOLTAIC DISCONNECT PRIOR TO WORKING INSIDE PANEL
RATED AC OUTPUT CURRENT 562.500 A
NOMINAL AC OPERATING VOLTAGE 240 V
L01GEN.01.PLA.WH-RD

*To be installed at:
- MSP(SES)
- PV AC disconnect switch
- Subpanel (if point of interconnection)

*Rated AC Output Current to be field engraved by installer.

WARNING: PHOTOVOLTAIC POWER SOURCE
L01GEN.10.LAB.WH-RD

*To be installed at:
- All conduit containing PV conductors

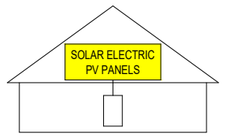
RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM
L01GEN.11.LAB.WH-RD

*To be installed at:
- PV AC disconnect switch

⚠WARNING
THIS EQUIPMENT FED BY MULTIPLE SOURCES. TOTAL RATING OF ALL OVERCURRENT DEVICES, EXCLUDING MAIN SUPPLY OVERCURRENT DEVICE, SHALL NOT EXCEED AMPACITY OF BUSBAR.
L01GEN.04.PLA.WH-RD

*To be installed:
- Adjacent to PV backfed breaker at point of interconnection

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
L01GEN.09.LAB.BK-YL

*To be installed at:
- MSP(SES)
- PV AC disconnect switch
- Subpanel (if point of interconnection)

*To be installed as label contents suggest

○ UTILITY DISCONNECT ○
L02APS.01.PLA.WH-BK

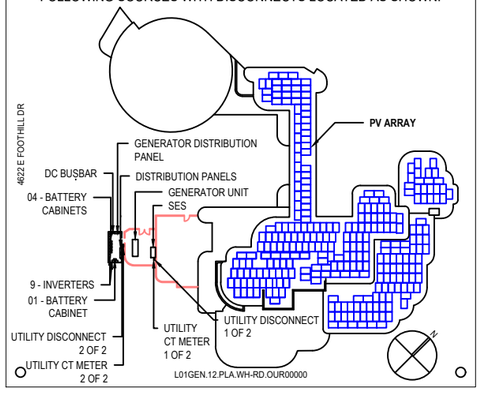
○ BI-DIRECTIONAL METER ○
L02APS.02.PLA.WH-BK

○ 1 OF 2 ○
L02APS.10.PLA.WH-BK

○ 2 OF 2 ○
L02APS.11.PLA.WH-BK

*If multiple instances of the equipment listed above exist, these labels shall be install directly underneath the above label.

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



L01GEN.12.PLA.WH-RD.OUR00000

*To be installed:
- On every job
- At the main service panel
- and the PV disconnect at detached structures

INVERTER #1
○OUTPUT CURRENT: 62.5 A○
OUTPUT VOLTAGE: 240 V
L01GEN.13.PLA.WH-RD

INVERTER #2
○OUTPUT CURRENT: 62.5 A○
OUTPUT VOLTAGE: 240 V
L01GEN.13.PLA.WH-RD

INVERTER #3
○OUTPUT CURRENT: 62.5 A○
OUTPUT VOLTAGE: 240 V
L01GEN.13.PLA.WH-RD

INVERTER #4
○OUTPUT CURRENT: 62.5 A○
OUTPUT VOLTAGE: 240 V
L01GEN.13.PLA.WH-RD

INVERTER #5
○OUTPUT CURRENT: 62.5 A○
OUTPUT VOLTAGE: 240 V
L01GEN.13.PLA.WH-RD

INVERTER #6
○OUTPUT CURRENT: 62.5 A○
OUTPUT VOLTAGE: 240 V
L01GEN.13.PLA.WH-RD

INVERTER #7
○OUTPUT CURRENT: 62.5 A○
OUTPUT VOLTAGE: 240 V
L01GEN.13.PLA.WH-RD

INVERTER #8
○OUTPUT CURRENT: 62.5 A○
OUTPUT VOLTAGE: 240 V
L01GEN.13.PLA.WH-RD

INVERTER #9
○OUTPUT CURRENT: 62.5 A○
OUTPUT VOLTAGE: 240 V
L01GEN.13.PLA.WH-RD

OUR WORLD ENERGY
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Peoria, AZ 85381, USA
PHONE: - 623-850-5700

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Registered Professional Engineer (Electrical)
CERTIFICATE NO.
Signature with Seal
76473
GREGORY M.
DILLETT II
Date Signed 5/7/25
ARIZONA, U.S.A.

Project Name & Address
JACKSON RESIDENCE
4622 E FOOTHILL DR, PARADISE VALLEY, AZ 85253
UTILITY ACCOUNT #: 1391810000
AHJ: PARADISE VALLEY; UTILITY: APS

Service #
OUR69110

Sheet Name
WARNING LABELS

Sheet Size
ANSI B
11" X 17"

Sheet Number
E 1.5

APS Interconnection & Incentive Equipment Labels - ANSI

ALL Labels to be made of UV resistant material and shall be permanently attached. Labels associated to an APS meter or disconnect shall be attached with rivets. All other labels may use the 3M 4930 VHB two-sided adhesive tape. These labels shall be in accordance with ANSI Z535.1-2006(R2011) & ANSI Z535.4-2011 and the latest APS Interconnection Requirements for Distributed Generation, Section 8.6. (Colors shown are per ANSI standards, not required by APS or NEC.) Text font shall be SansSerif, size shown shall be 1/4 inch unless otherwise noted.

Label No.	Label Location	Text	Reference	Approximate Sizes
(1)	Dedicated kWh meter *(Black with White Lettering)*	**XXX METER**	Replace "XXX" with "UNI-DIRECTIONAL", "BI-DIRECTIONAL", etc. as applicable. Add "1", "2", etc. as applicable for multiple meters.	1 x 3-1/2 inches text 1/4 inch
(2)	Utility Disconnect *(Black with White Lettering)*	**UTILITY DISCONNECT**	Add "1 OF 2", "2 OF 2", etc. as applicable	1 x 3-1/2 inches text 1/4 inch
(3)	Dedicated kWh meter *(Black with White Lettering)*	**PHOTOVOLTAIC SYSTEM METER (UTILITY SIDE VOLTAGE ON TOP LUGS)**	For APS SCP residential self contained only	1 x 3-1/2 inches text 1/4 inch
(4)	*Replaced with Label No. 28*			
(5)	Leasing Company kWh meter *(Black with White Lettering)*	**LEASING COMPANY PV PRODUCTION METER**		1 x 3-1/2 inches text 1/4 inch
(6)	*Replaced with Label No. 1*			
(7)	*Replaced with Label No. 1*			
(8)	*Replaced with Label No. 1*			
(9)	3rd Party Battery System meter *(Black with White Lettering)*	**3RD PARTY OWNED BATTERY SYSTEM PRODUCTION METER**		1 x 3-1/2 inches text 1/4 inch
(10)	Dedicated kWh meter PERMANENT PLAQUE OR DIRECTORY *(Black with White Lettering)*	~~[illegible]~~	No longer applicable. Disconnects must be adjacent to meter.	1/2 x 1-3/4 inches text 1/8 (or 1/16) inch
(11)	*Replaced with Label No. 2*			
(12)	*Replaced with Label No. 2*			
(13)	Meter Disconnect *(Black with White Lettering)*	**XXX METER YYY DISCONNECT**	Replace "XXX" with "UNI-DIRECTIONAL", "BI-DIRECTIONAL", etc. and "YYY" with "LINE SIDE", "DER SIDE", etc. as applicable	1 x 3-1/2 inches text 1/4 inch
(14)	Dedicated kWh meter PERMANENT PLAQUE OR DIRECTORY *(Black with White Lettering)*	**OPEN ALL ISOLATION DEVICES [DIRECTION/LOCATION] TO ISOLATE THIS METERING ENCLOSURE FROM ALL KNOWN SOURCES OF POWER. ENSURE ISOLATION DEVICES ARE LOCKED IN THE OPEN POSITION IN ACCORDANCE WITH OSHA LOCK OUT / TAG OUT REQUIREMENTS PRIOR TO PERFORMING ANY WORK WITHIN THIS METERING ENCLOSURE**	Replace" [DIRECTION/LOCATION] with specifics to identify devices and location to isolate the meter from all potential sources, especially when not in the same workspace	Minimum 1-1/2 x 5 inches text 1/8 inch
	Dedicated kWh meter *(Yellow with black letting)*	**CAUTION SUPPLY/LINE SIDE CONNECTION**		1-1/2 x 3-1/2 inches text 1/4 inch

8/3/2022

APS Interconnection & Incentive Equipment Labels - ANSI

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Label No.	Label Location	Text	Reference	Approximate Sizes
	Under Bi-Directional ESS meter *(Yellow with black letting)*	**CAUTION POSSIBLE BACKFEED ENERGY STORAGE SYSTEM LOAD SIDE BACKFEED**		1-1/2 x 3-1/2 inches text 1/4 inch
(17)	Utility Disconnect & Dedicated kWh meter *(Orange with Black Lettering)*	**WARNING ELECTRIC SHOCK HAZARD** DO NOT TOUCH TERMINALS TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION	2011 & 2014 NEC 690.17(E) 2017 NEC 690.13(B), 690.15(D) 2020 NEC 690.13(B), 690.15(C), 706.15(C)	1-1/2 x 3-1/2 inches "Warning" Text 1/4 inch text 3/16 inch
	Service Entrance / Production Meter or Utility Disconnect when not adjacent *(Orange with Black Lettering)*	**WARNING** OTHER POWER SOURCE CONNECTED IS A DER SYSTEM. UTILITY DISCONNECT SWITCH FOR THIS SOURCE IS LOCATED APPROX 40 FEET FROM THIS LOCATION ON NORTH WEST SIDE OF DETACHED GARAGE. **AND** **WARNING** SERVICE ENTRANCE IS LOCATED APPROXIMATELY 40 FEET NORTH AND 60 FEET WEST FROM THIS LOCATION ON SOUTH SIDE OF HOUSE.		1-1/2 x 5 inches "Warning" Text 1/4 inch text 1/8 inch
	Combiner box/panel *(Blue with White Lettering)*	**NOTICE DEDICATED DER SYSTEM COMBINER PANEL DO NOT ADD LOADS TO THIS PANEL**		1-1/2 x 3-1/2 inches text 1/4 inch
	Supply Side Tap / Load Panel *(Orange with Black Lettering)*	**WARNING** A GENERATION SOURCE IS CONNECTED TO THE SUPPLY (UTILITY) SIDE OF THE SERVICE DISCONNECTING MEANS. FOLLOW PROPER LOCK-OUT/TAG-OUT PROCEDURES TO ENSURE THE DER UTILITY DISCONNECT IS OPENED PRIOR TO PERFORMING WORK ON THIS DEVICE		1-1/2 x 5 inches "Warning" Text 1/4 inch text 1/8 inch
	Service Entrance and Tap Box / Multiple Sources *(Orange with Black Lettering)*	**WARNING MULTI POWER PRODUCTION SOURCES INTERCONNECTED TO THIS ELECTRICAL DEVICE**		1-1/2 x 5 inches "Warning" Text 1/4 inch text 1/8 inch
(22)	Load Panel / Multiple Sources *(Orange with Black Lettering)*	**WARNING** THIS EQUIPMENT FED BY **MULTIPLE SOURCES** TOTAL RATING OF ALL OVERCURRENT DEVICES, EXCLUDING MAIN SUPPLY OVERCURRENT DEVICE, SHALL NOT EXCEED AMPACITY OF BUSBAR	2017 NEC 705.12(B)(2)(3)(c) 2020 NEC 705.12(B)(3)(3)	1-1/2 x 5 inches "Warning" Text 1/4 inch text 1/8 inch
(23)	Panelboard *(Red with White Lettering)*	**CAUTION** DUAL POWER SOURCES SECOND SOURCE IS PHOTOVOLTAIC SYSTEM	2011 NEC 705.12(D)(4) 2014 NEC 705.12(D)(3) 2017 NEC 705.12(B)(3)	1-1/2 x 5 inches "CAUTION" Text 1/4 inch text 1/8 inch
(24)	Service Entrance / Center-Fed Panelboard *(Red with White Lettering)*	**CAUTION** DO NOT MOVE BREAKERS OR ADD NEW CIRCUITS WITHOUT ELECTRICAL ENGINEER APPROVAL	2014 NEC 705.12(D)(2)(3)(d)	1-1/2 x 5 inches "CAUTION" Text 1/4 inch text 1/8 inch

8/3/2022

APS Interconnection & Incentive Equipment Labels - ANSI

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Label No.	Label Location	Text	Reference	Approximate Sizes
(25)	Backfed Breaker *(Black with White Lettering)*	**PHOTOVOLTAIC POWER SOURCE BREAKERS ARE BACKFEEDING**	2011 NEC 705.12(D)(5) 2014 NEC 705.12(D)(4) 2017 NEC 705.12(B)(4) 2020 NEC 705.12(C)	1/2 x 1-3/4 inches text 1/8 (or 1/16) inch
(26)	Main Bkr De-rate *(Black with White Lettering)*	**BREAKER HAS BEEN DE-RATED PER NEC 705.12(D)(2)**	NOTE: FOR 2017 NEC REPLACE CODE REFERENCE WITH 705.12(B)(2)	1/2 x 1-3/4 inches text 1/8 (or 1/16) inch
(27)	Amp Rating of Main if De-rated *(Black with White Lettering)*	**MAX ____ AMPS**	LABEL TO BE INSTALLED ADJACENT TO OR UNDERNEITH LABEL 26	1/2 x 1-3/4 inches text 1/8 (or 1/16) inch
(28)	Backfed Breaker *(Orange with Black Lettering)*	**WARNING POWER SOURCE OUTPUT CONNECTION DO NOT RELOCATE THIS OVERCURRENT DEVICE**	2011 NEC 705.12(D)(7) 2014 NEC 705.12(D)(2) 2017 NEC 705.12(B)(2)(3)(b) 2020 NEC 705.12(B)(3)(2)	1-1/2 x 3-1/2 inches text 1/4 inch
(29)	Dedicated 3Phase kWh meter *(Orange with Black Letting)*	**WARNING VOLTAGE AT THIS METER IS DIFFERENT THAN VOLTAGE AT BILLING METER ____/____Vac 3 PH __W**	Fill in V and # wire for 3-ph systems where voltage at production meter is different than service voltage	1-1/2 x 3-1/2 inches text 1/4 inch
(30)	Uncer Bi-Directional meter *(Yellow with Black Lettering)*	**CAUTION POSSIBLE BACKFEED** EQUIPMENT CONNECTED TO TWO OR MORE SOURCES OF POWER		Utility Installed Labels
(31)	Pole/Transformer Sign *(Alluminum holder - Black with Yellow Lettering)*	**CO-GEN**		
	LABELS BELOW ARE FOR EXAMPLE ONLY, AND NOT REQUIRED TO BE ENGRAVED			
(*)	AC Panel *(Black with White Lettering)*	**PHOTOVOLTAIC ELECTRIC POWER SOURCE MAXIMUM AC CURRENT ___ A SYSTEM AC VOLTAGE ___ V**	NEC 690.54	1-1/2 x 3-1/2 inches Text 3/16 inch
(*)	DC Disconnect *(Black with White Lettering)*	**PHOTOVOLTAIC ARRAY DC DISCONNECT SWITCH PHOTOVOLTAIC POWER SOURCE VOC ___ VDC ISC ___ A VOP ___ VDC IOP ___ A**	NEC 690.53	1-1/2 x 3-1/2 inches Text 3/16 inch

8/3/2022

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Registered Professional Engineer (Electrical)
CERTIFICATE NO.
Signature with Seal
76473
GREGORY M. DILLETT II
5/7/25...
Date Signed.....
ARIZONA, U.S.A.

Project Name & Address

JACKSON RESIDENCE
4622 E FOOTHILL DR, PARADISE VALLEY, AZ 85253
UTILITY ACCOUNT #: 1391810000
AHJ: PARADISE VALLEY; UTILITY: APS

Service #
OUR69110

Sheet Name
EQUIP TAG LIST

Sheet Size
ANSI B 11" X 17"

Sheet Number
E 1.6

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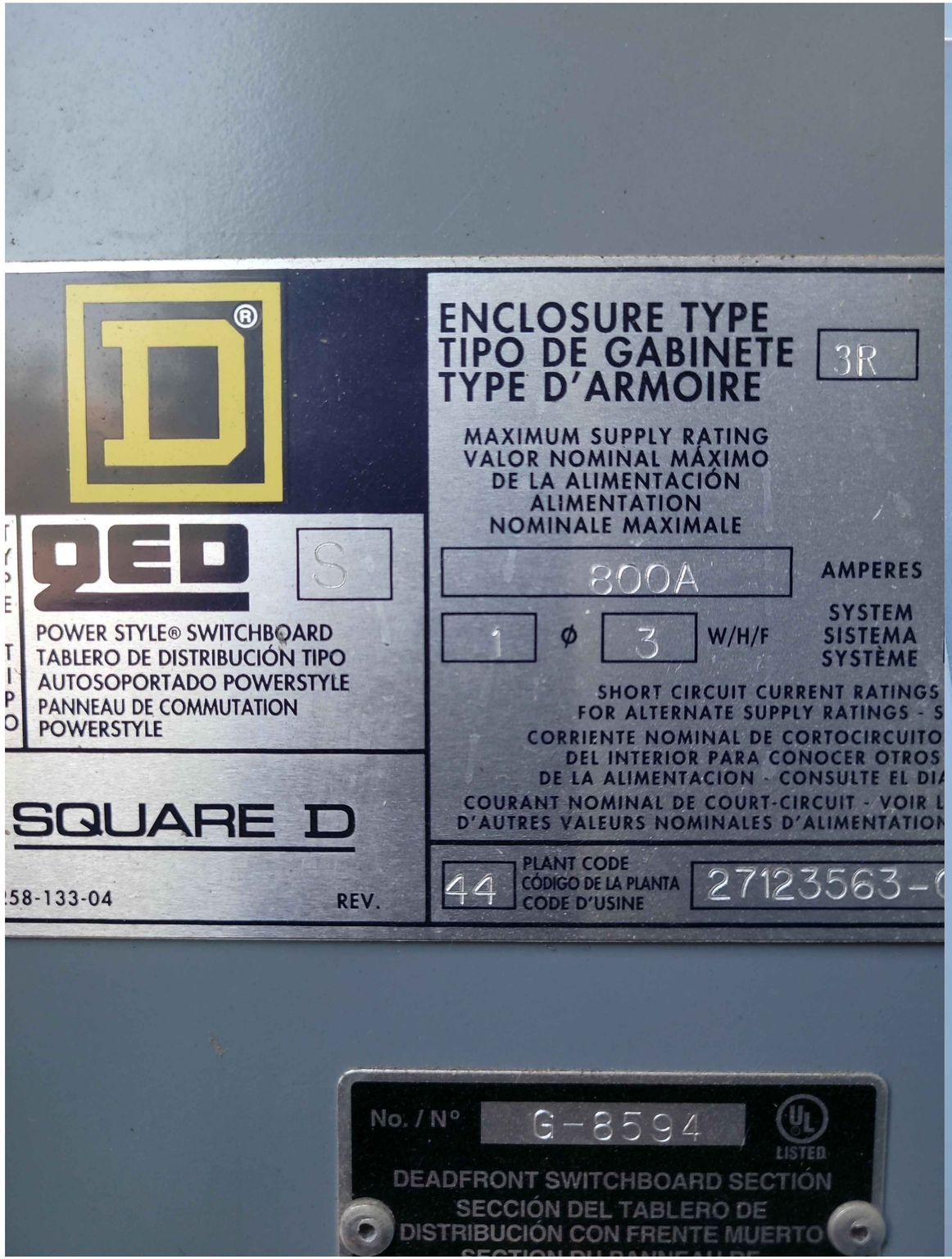
4622 E FOOTHILL DR, PARADISE VALLEY,
AZ 85253
UTILITY ACCOUNT #: 139181000
AHJ: PARADISE VALLEY; UTILITY: APS

Service #
OUR69110

Sheet Name
ELECTRICAL PHOTOS UTILITY METER & LOCATION

Sheet Size
ANSI B
11" X 17"

Sheet Number
E 1.7



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AHJ: PARADISE VALLEY; UTILITY: APS

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ELECTRICAL PHOTOS
EXISTING MSP

Sheet Size
ANSI B
11" X 17"

Sheet Number
E 1.8

Q.TRON BLK M-G2+ SERIES

415 - 440 Wp | 108 Cells
22.5 % Maximum Module Efficiency

MODEL Q.TRON BLK M-G2+

High performance Qcells N-type solar cells

Q.ANTUM NEO Technology with optimized module layout boosts module efficiency up to 22.5 %.

A reliable investment

Inclusive 25-year product warranty and 25-year linear performance warranty[1].

Enduring high performance

Long-term yield security with Anti LeTID Technology, Anti PID Technology[2], Hot-Spot Protect.

Extreme weather rating

High-tech aluminium alloy frame, certified for high snow (8100 Pa) and wind loads (3600 Pa).

Innovative all-weather technology

Optimal yields, whatever the weather with excellent low-light and temperature behaviour.

The most thorough testing programme in the industry

Qcells is the first solar module manufacturer to pass the most comprehensive quality programme in the industry: The new "Quality Controlled PV" of the independent certification institute TÜV Rheinland.

[1] See data sheet on rear for further information.
[2] APT test conditions according to IEC/TS 62804-1:2015, method A (−1500 V, 96 h)

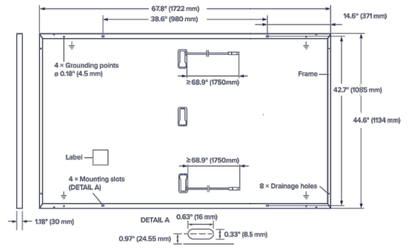
The ideal solution for:

Rooftop arrays on residential buildings

Q.TRON BLK M-G2+ SERIES

Mechanical Specification

Format	67.8 in × 44.6 in × 1.18 in (including frame) (1722 mm × 1134 mm × 30 mm)
Weight	46.7 lbs (21.2 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodised aluminium
Cell	6 × 18 monocrystalline Q.ANTUM NEO solar half cells
Junction box	2.09-3.98 in × 1.26-2.36 in× 0.59-0.71 in (53-101 mm × 32-60 mm × 15-18 mm), Protection class IP67, with bypass diodes
Cable	4 mm² Solar cable; (+) ≥68.9 in (1750mm), (−) ≥68.9 in (1750mm)
Connector	Stäubli MC4; IP68

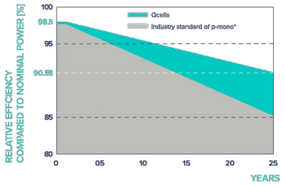


Electrical Characteristics

POWER CLASS				415	420	425	430	435	440
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC[1] (POWER TOLERANCE +5 W/−0 W)									
Minimum	Power at MPP[1]	P_{MPP}	[W]	415	420	425	430	435	440
Minimum	Short Circuit Current[1]	I_{SC}	[A]	13.49	13.58	13.66	13.74	13.82	13.90
Minimum	Open Circuit Voltage[1]	V_{OC}	[V]	38.47	38.75	39.03	39.32	39.60	39.88
Minimum	Current at MPP	I_{MPP}	[A]	12.83	12.91	12.98	13.05	13.13	13.20
Minimum	Voltage at MPP	V_{MPP}	[V]	32.34	32.54	32.74	32.94	33.14	33.33
Minimum	Efficiency[1]	η	[%]	≥21.3	≥21.5	≥21.8	≥22.0	≥22.3	≥22.5
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT[2]									
Minimum	Power at MPP	P_{MPP}	[W]	313.7	317.5	321.2	325.0	328.8	332.6
Minimum	Short Circuit Current	I_{SC}	[A]	10.87	10.94	11.00	11.07	11.14	11.20
Minimum	Open Circuit Voltage	V_{OC}	[V]	36.50	36.77	37.04	37.31	37.58	37.84
Minimum	Current at MPP	I_{MPP}	[A]	10.10	10.15	10.21	10.27	10.33	10.38
Minimum	Voltage at MPP	V_{MPP}	[V]	31.07	31.26	31.46	31.65	31.84	32.03

[1]Measurement tolerances P_{MPP} ±3 %; I_{SC}; V_{OC} ±5 % at STC: 1000 W/m², 25±2 °C, AM 1.5 according to IEC 60904-3 • [2]800 W/m², NMOT, spectrum AM 1.5

Qcells PERFORMANCE WARRANTY

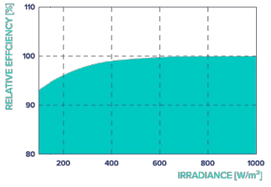


At least 98.5 % of nominal power during first year. Thereafter max. 0.33 % degradation per year. At least 95.53 % of nominal power up to 10 years. At least 90.58 % of nominal power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Qcells sales organisation of your respective country.

*Standard terms of guarantee for the 5 PV companies with the highest production capacity in 2021 (February 2021)

PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m²).

TEMPERATURE COEFFICIENTS

Temperature Coefficient of I_{SC}	α	[%/K]	+0.04	Temperature Coefficient of V_{OC}	β	[%/K]	−0.24
Temperature Coefficient of P_{MPP}	γ	[%/K]	−0.30	Nominal Module Operating Temperature	NMOT	[°F]	109±5.4 (43±3 °C)

Properties for System Design

Maximum System Voltage	V_{SYS}	[V]	1000 (IEC)/1000 (UL)	PV module classification	Class II
Maximum Series Fuse Rating		[A DC]	25	Fire Rating based on ANSI/UL 61730	C / TYPE 2
Max. Design Load, Push/Pull[3]		[lbs/ft²]	113 (5400 Pa)/50 (2400 Pa)	Permitted Module Temperature on Continuous Duty	−40 °F up to +185 °F (−40 °C up to +85 °C)
Max. Test Load, Push/Pull[3]		[lbs/ft²]	169 (8100 Pa)/75 (3600 Pa)		

[3] See Installation Manual

Qualifications and Certificates

UL61730-1 & UL61730-2, CE-compliant, Quality Controlled PV - TÜV Rheinland, IEC 61215:2016, IEC 61730:2016, U.S. Patent No. 9,893,215 (solar cells).

*Contact your Qcells Sales Representative for details regarding the module's eligibility to be Buy American Act (BAA) compliant.

Qcells pursues minimizing paper output in consideration of the global environment.

Note: Installation instructions must be followed. Contact our technical service for further information on approved installation of this product.
Hanwha Q CELLS America Inc. 300 Spectrum Center Drive, Suite 500, Irvine, CA 92618, USA | TEL +1 949 748 59 96 | EMAIL na.support@qcells.com | WEB www.qcells.com/us

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AHJ: PARADISE VALLEY; UTILITY: APS

Service #
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Sheet Name
MODULE SPEC SHEET

Sheet Size
ANSI B
11" X 17"

Sheet Number
D 1.1

DATASHEET

15K-2P-N

Residential Hybrid Inverter

Inverter Model:	Limitless 15K-LV
SKU:	15K-2P
Input Data (PV)	
Max. Allowed PV Power (STC)	19,500W
Rated MPPT Operating Voltage Range	175 - 425V
MPPT Voltage Range	150 - 500V
Startup Voltage	125V
Max. DC Input Voltage [1]	500V
Max. Operating Input Current per MPPT	26A
Max. Short Circuit Current per MPPT	44A
No. of MPP Trackers	3
No. of PV Strings per MPPT	2
Max. AC Coupled Input	19,200W
Output Data (AC)	
Nominal AC Voltage	120/240V, 120/208V, 220V
Grid Frequency	50 / 60Hz
Real Power, max continuous	15,000W
Max. Output Current	62.5A
Real Power, max continuous (batteries only, no PV)	12,000W (50A @ 240V)
Peak Apparent Power (10s, off-grid) Peak Apparent Power (100ms, off-grid)	24,000VA @ 240V 30,000VA @ 240V
Max Output Fault Current (5s)	94A with PV, 75A (batteries only)
Max Output Fault Current (100ms)	120A
Max. Grid Passthrough Current	200A
Power Factor Output Range	+/- 0.9 adjustable
Backup Transfer Time	5ms
CEC Efficiency	96.5%
Max Efficiency	97.5%
Design (DC to AC)	Transformerless DC
Stackable	Up to 12 in parallel
Battery Input Data (DC)	
Battery Technologies	Lithium / Lead Acid
Nominal DC Voltage	48V
Operating Voltage Range	43 - 63V
Capacity	50 – 9900Ah
Max. Battery Charge / Discharge Current	275A
Battery Disconnecting Means	200A/pole x 2
Charging Controller	3-Stage with Equalization
Grid to Battery Charging Efficiency	96.0%
External Battery Temperature Sensor (BTS)	Included
Automatic Generator Start (AGS)	2 Wire Start - Integrated
BMS Communication	CANBus & RS485 MODBUS
General Data	
Dimensions (H x W x D)	807 x 494 x 306 mm (31.8 x 19.4 x 12 in)
Weight	61.2 Kg / 135 lb.
Enclosure	IP65 / NEMA 3R
Ambient Temperature	-25~55°C, > 45°C Derating
Noise	< 30 dB @ 25°C (77°F)
Idle Consumption - No Load	90W
Communication and Monitoring	Wi-Fi & LAN Hardware Included
Standard Warranty	10 Years
Protection and Certifications	
Certifications and Listings	UL1741-2010/2018, IEEE1547a 2003/2014, FCC 15 Class B, UL1741SB, CA Rule 21, HECO Rule 14H
PV DC Disconnect Switch – NEC 240.15	Integrated
Ground Fault Detection – NEC 690.5	Integrated
PV Rapid Shutdown Control – NEC 690.12	Integrated
PV Arc Fault Detection – NEC 690.11	Integrated
PV Input Lightning Protection	Integrated
PV String Input Reverse Polarity Protection	Integrated
AC Output Breaker - 200A	Integrated
Surge Protection	DC Type II / AC Type II

1. See Installation Guide for more details on sizing array strings. The highest input voltage is based on the open-circuit voltage of the array at the minimum design temperature.

OUR WORLD ENERGY

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8716 W Ludlow Dr Suite 6,
Peoria, AZ 85381, USA
PHONE: - 623-850-5700

REVISIONS

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CAD	11-Feb-2025	03
CAD	12-Feb-2025	04
CAD	17-Feb-2025	05

Registered Professional Engineer (Electrical)
CERTIFICATE
Signature with Seal
76473
GREGORY M.
DILLETT II
5/7/25
Date Signed
ARIZONA, U.S.A.

Project Name & Address

JACKSON RESIDENCE
4622 E FOOTHILL DR, PARADISE VALLEY,
AZ 85253
UTILITY ACCOUNT #: 1391810000
AHJ: PARADISE VALLEY; UTILITY: APS

Service #
OUR69110

Sheet Name
INVERTER SPEC SHEET

Sheet Size
ANSI B
11" X 17"

Sheet Number
D 1.2

STORZ POWER
INTELLIGENCE IN ENERGY STORAGE

BATTERY SPECS

LiFePO4 Battery
Model #: SP5.12-LFPv4

Lithium-Iron Phosphate (LFP)
5.12 kWh Battery

Energy Capacity
5.12 kWh
100% depth of discharge
(at 1C Rate at 77°F)
98% round trip efficiency
100 (Ah)

Size & Weight:
17" x 17" x 8.75"
106 lbs.

Cycle Life
8,000+ @ 77°F
Storage temp <86°F
State of charge 20%-60%

Battery Chemistry
Lithium-Iron Phosphate (LFP)
Temperature range: 14°F to 113°F
(best between 77°F to 87°F)
Included
BMU/BMS/Modbus/Terminals
Metal casing

Battery Installation
Rack or floor mounted

Stacking
Up to 14 units in parallel

Voltage
51.2 V nominal voltage
44-56.8 V voltage range

Current
Continuous charge 100 A
Continuouse discharge 100 A
Peak 120 A, ≤ 0.3s

Communication Type
Double RS485

Cooling
Natural convection - no fan

Protection Function
Over-charge, over-discharge, over-current, short circuit, temperature

Compatibility
Most PV inverter manufacturers & grid-tied PV systems

Certifications
UL 1642, UN 38.3, ANSI/CAN/UL-1973, UL 9540-9540a ready

Warranty:
15 year performance warranty or
8,000 cycles @ 77°F
10 year product warranty

10 kWh 20 kWh 40 kWh

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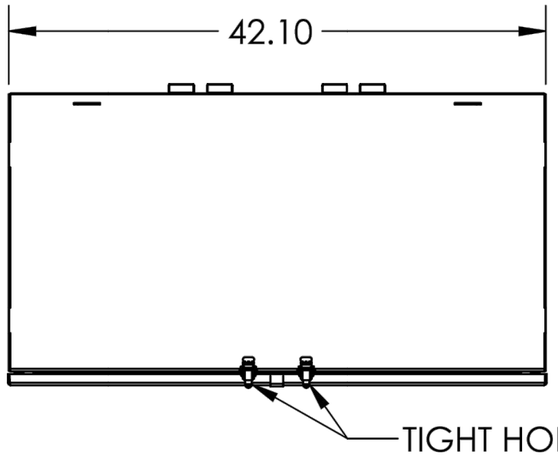
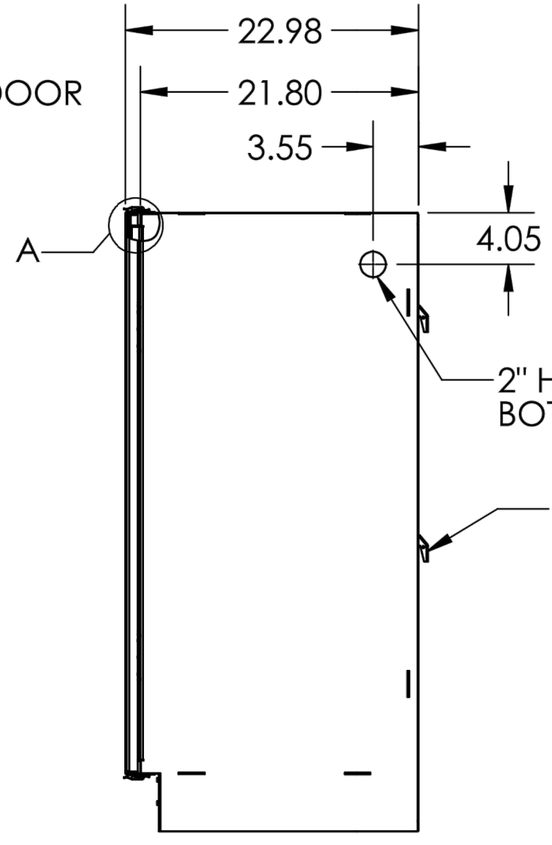
Service #
OUR69110

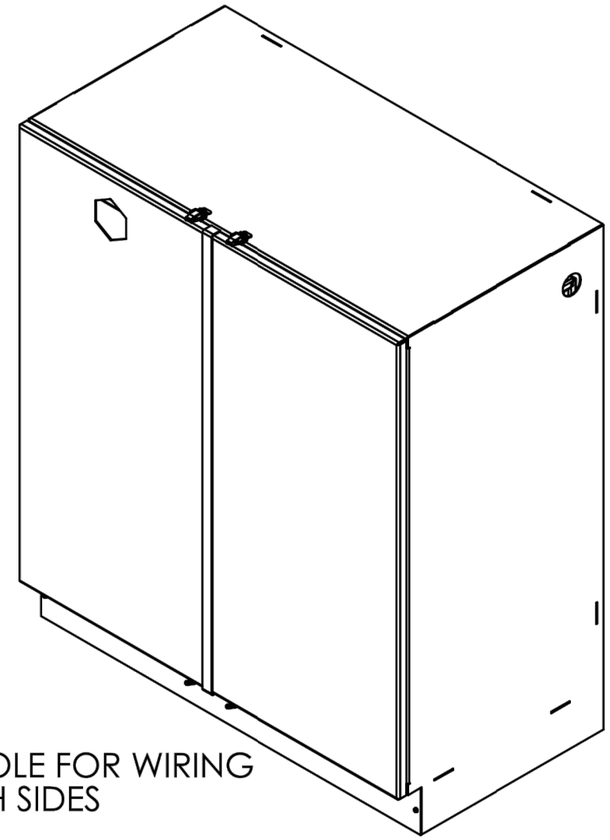
Sheet Name
BATTERY SPEC SHEET

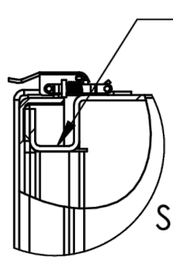
Sheet Size
ANSI B
11" X 17"

Sheet Number
D 1.3









UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:

ANGULAR: ±0.5°
TWO PLACE DECIMAL ±.030
THREE PLACE DECIMAL ±.010

PROJECT: Storz Power Cabinet

MATERIAL

FINISH

	NAME	DATE
DRAWN	DB	2024-11-12

COMMENTS:

TITLE: Storz Double Door Panel Assembly - Design Review

SIZE	DWG. NO.	REV
A	STORZ-PANEL-40	0

SCALE: 1:24 | WEIGHT: | SHEET 1 OF 2

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CAD	04-Mar-2025	04

CERTIFICATE
Signature with Seal

Registered Professional Engineer (Electrical)
76473
GREGORY M. DILLETT II
5/7/25
Date Signed
ARIZONA, U.S.A.

Project Name & Address

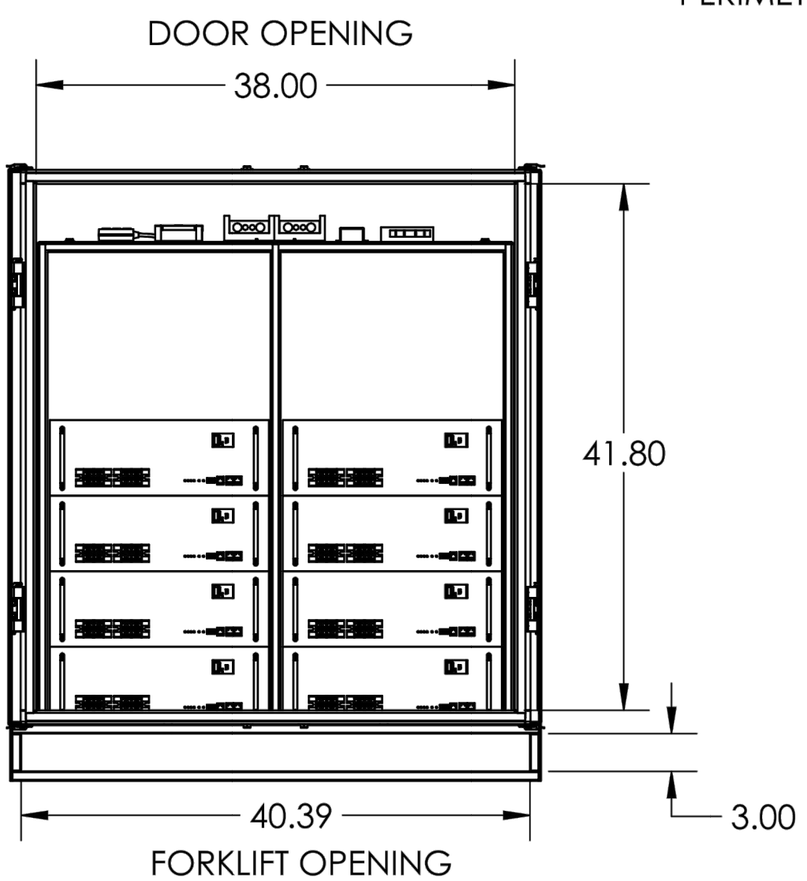
JACKSON RESIDENCE
4622 E FOOTHILL DR, PARADISE VALLEY, AZ 85253
UTILITY ACCOUNT #: 139181000
AHJ: PARADISE VALLEY; UTILITY: APS

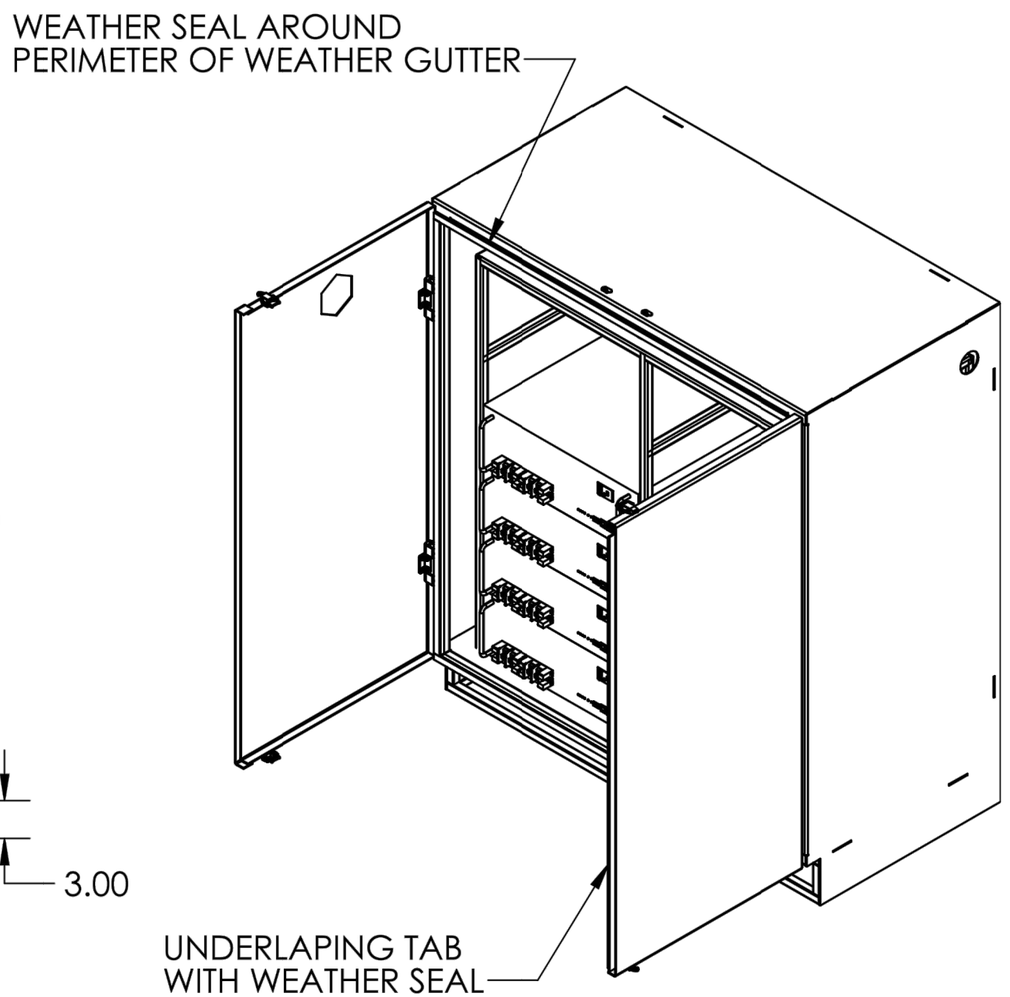
Service #
OUR69110

Sheet Name
BATTERY CABINET SPEC SHEET

Sheet Size
ANSI B
11" X 17"

Sheet Number
D 1.4





UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:

ANGULAR: ±0.5°
TWO PLACE DECIMAL ±.030
THREE PLACE DECIMAL ±.010

PROJECT: Storz Power Cabinet

MATERIAL

FINISH

	NAME	DATE
DRAWN	DB	2024-11-12

COMMENTS:

TITLE: Storz Double Door Panel Assembly - Design Review

SIZE	DWG. NO.	REV
A	STORZ-PANEL-40	0

SCALE: 1:16 | WEIGHT: | SHEET 2 OF 2

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Sheet Name
BATTERY CABINET SPEC SHEET

Sheet Size
ANSI B
11" X 17"

Sheet Number
D 1.5

SnapNrack®

snapnrack.com

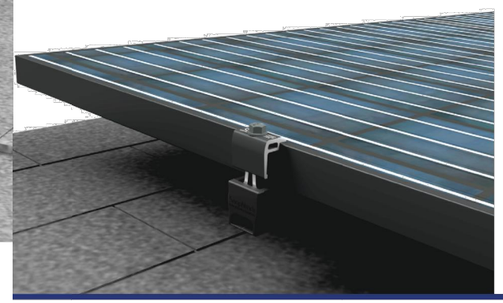
Ultra Rail Roof Mount System

SnapNrack Ultra Rail System

A sleek, straightforward rail solution for mounting solar modules on all roof types. Ultra Rail now features ***one*** rail profile, **UR-45**, a lightweight rail profile that's suited for all geographic regions, with varying span capabilities. UR-45 Rail maintains all the great features of SnapNrack rail like snap-in module clamps and an open rail channel for integrated wire management. The Ultra Rail portfolio features multiple roof attachment sealing technologies for all install preferences.

NEW! UltraFoot Roof Attachments (Coming Soon)

- Features SpeedSeal™+ Technology, a pre-installed butyl pad for easy peel & stick installation
- The ***only*** single lag roof attachment with butyl sealing available
- UltraFoot available in (3) configurations to accomodate rafter & deck mounting based on DeckAnchor™ or wood screw install preferences
- All UltraFoot designs feature ***new*** Flip Clamp Mount that centers load over fastener & creates an easier snap-in experience with UR-45 Rail

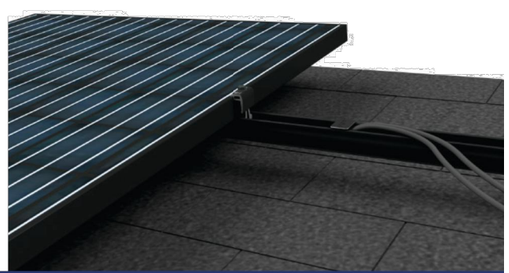


The Entire System is a Snap to Install

- Ultra Rail Mounts include snap-in brackets for attaching rail
- Ultra Rail Mid Clamps & End Clamps are one-size-fits-all universal clamping height
- Universal End Clamps & snap-in End Caps provide a clean look to the array edge

Unparalleled Wire Management

- Open rail channel provides room for running wires resulting in a long-lasting quality install
- Module clamps eliminate bolt interference in the rail channel creating more space for wire management
- Industry best wire management offering includes Junction Boxes, Universal Wire Clamps, MLPE Attachment Kits & Conduit Clamps
- System is fully bonded & listed to UL 2703 Standard



The Ultimate Value in Rooftop Solar

- Industry leading Wire Management Solutions
- Mounts available for all roof types
- Single Tool Installation
- All SnapNrack Module Clamps & Accessories are compatible with both rail profiles

Start Installing Ultra Rail Today

Quality. Innovative. Superior.

SnapNrack Solar Mounting Solutions are engineered to optimize material use and labor resources and improve overall installation quality and safety.

877-732-2860 **www.snapnrack.com** **contact@snapnrack.com**

OUR WORLD ENERGY

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CAD	30-Apr-2025	05

Signature with Seal

Project Name & Address

JACKSON RESIDENCE
4622 E FOOTHILL DR, PARADISE VALLEY,
AZ 85253
UTILITY ACCOUNT #: 1391810000
AHJ: PARADISE VALLEY; UTILITY: APS

Service #
OUR69110

Sheet Name
RAIL
SPEC SHEET

Sheet Size
ANSI B
11" X 17"

Sheet Number
D 1.6

SnapNrack®

Ultra Rail

OmniBase Tilt & Flush Mounts

Versatility for any application

- Single design to accommodate a wide variety of roof types
- Fewer parts required for maximum adjustability
- Alignment marks easily facilitate locating layout points
- Universal tool installation using a standard 1/2” socket

Start Installing the OmniBase Today!

SnapNrack Ultra Rail OmniBase Solutions

provide the ultimate flexibility in roof type, structural member and mounting configurations with a single base. Standoff attachments are engineered to ensure maximum adjustability for a clean, level installation on the most irregular roof surfaces.

Universal OmniBase

- Works with a single lag for traditional rafter mount installations
- Accommodates 2 or 4 lags for flat rafters TJI joists or metal framing.
- Can be used with 6 screws for rafter-less mounting
- Sealant Pockets allow for extra sealant around fastener
- Compatible with off the shelf flashings and e-curbs
- Anti-rotation features aid in installation

1” Post

- 5.5”, 7” and 8.5” lengths available for flush mount configurations
- 5.5”, 10”, 14” and 23” lengths available for tilt systems accommodating both portrait & landscape orientations
- Standoff easily threads into base for attachment to any roof type

Leveling Clamp

- Clamps mount directly to SnapNrack Ultra Rail without the need for separate L Feet and mounting hardware
- Unique design offers ultimate adjustability to ensure clean, level arrays on uneven roofs
- Ships fully assembled with post and maintains the same 1/2” socket attachment throughout the system

Tilt Mount Assembly

Flush Mount Assembly

Quality. Performance. Innovation.

SnapNrack solutions are focused on simplifying the installation experience through intuitive products and the best wire management in the industry.

SnapNrack®

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CAD	30-Apr-2025	05

Signature with Seal

Project Name & Address

JACKSON RESIDENCE
4622 E FOOTHILL DR, PARADISE VALLEY, AZ 85253
UTILITY ACCOUNT #: 1391810000
AHJ: PARADISE VALLEY; UTILITY: APS

Service #
OUR69110

Sheet Name
MOUNTING SPEC SHEET

Sheet Size
ANSI B
11" X 17"

Sheet Number
D 1.7

CHEM LINK®
A SOPREMA® GROUP COMPANY

E-CURB® SYSTEM
PENETRATION SEAL
WITH SILICONE SEALANT

Technical Data Sheet | **Polyether Technology** | **CSI Section No. 07 12 13**

CHEM LINK
Construction & Maintenance
Telephone: 800-826-1681
Fax: 269-679-4448
353 E. Lyons Street
Schoolcraft, MI 49087
www.chemlink.com

Last Revision: 07/16/20
Document No. DS1358S

Product Description
E-Curb penetration seals provide a high performance watertight solution designed to protect your largest investment with versatile, precast components and pourable sealants. The **E-Curb** System includes three components: 1) precast curbs, 2) DuraSil Silicone Adhesive/Sealant for bonding the curb to the roof's surface and to prime the penetration, and 3) a silicone self-leveling pourable sealant to fill the curbs, creating a monolithic, leak-proof seal. CHEM LINK's **E-Curb** System can usually be installed in under 15 minutes and never requires flashing or mechanical attachment.

E-Curbs are highly versatile for sealing penetrations on silicone roof coatings as well as around HVAC, mechanical, solar panel mounts, electrical, and any type of structural supports.

When properly installed, this system forms a durable, waterproof rubber seal around penetrations. An extended manufacturers warranty against leaks is activated with submittal of a completed warranty card.

Special Characteristics
- Rapid installation - "Slip-fit" light weight curb design significantly reduces labor.
- Excellent adhesion to most roofing materials.
- No flashing or mechanical attachment required.
- Service Temp -80°F to 400°F (-62°C to 204°C)
- For sloped roof applications, substitute **DuraSil®** non-slump adhesive/sealant for **DuraSil SL**.

Restrictions
- Silicone roof coatings vary in quality, please test and evaluate prior to installation.
- Please contact customer service for application guidelines with temperatures below 32°F (0°C).
- Do not install if rain is anticipated within 4 hours
- Do not prime bonding surfaces with asphalt primer.
- **E-Curb** kits are designed to contain enough **DuraSil SL** to fill each curb with displacement in consideration. Refer to our penetration calculator under Contractor Resources at chemlink.com to verify volumes.
- To provide an adequate rubber seal, maintain a 1" distance between penetrations and inside edge of the **E-Curb**.

E-Curb System Components
- **E-Curb** exterior rings, straights, and corners.
- **DuraSil** Silicone Adhesive/Sealant used for bonding the **E-Curb** components, sealing and priming the penetration.
- **DuraSil SL** pourable silicone sealer, used to form a durable, watertight seal around the roof penetration

E-Curb precast form components are composed of lightweight nylon resin. The **E-Curb** is 2-inches high and is available in a variety of shapes and sizes.
Standard sizes include bisected circular pieces with inside diameters of 3, 4, 5, 6 or 9 inches; corner pieces with a 2-inch radius; straight pieces in 3-inch or 8-inch lengths; and a 4.5" x 3.4" rectangle. The outer surface is impervious to ice, corrosion, UV (ultraviolet) light and ponding water.

DuraSil is a neutral cure RTV silicone, adhesive sealant, designed for higher temperature applications up to 400°F (204°C). Cartridges of **DuraSil** are supplied in each **E-Curb** kit.
Components are also sold separately.

DuraSil SL is a self-leveling neutral cure silicone sealant designed for use in pitch pans and warranted **E-Curb** penetration seals suitable for hot pipe applications up to 400°F (204°C). 2 liter pouches of **DuraSil SL** are supplied in each **E-Curb** kit.
Components are also sold separately.

Made in the USA - ISO 9001:2015 certified

SPRI INSTITUTE | IAMA American Architectural Manufacturers Association | NATIONAL ROOFING CONTRACTORS ASSOCIATION MEMBER

Step 1
Remove all previously applied caulk, mastic, cement, asphalt, and other contaminants from penetrations with a wire brush. Clean all smooth substrates with isopropyl or denatured alcohol. Seal the base of each penetration with **DuraSil**. Coat penetrations with **DuraSil** to 3" above the roof line.

Step 2
Apply a 1/4" bead of **DuraSil** to the entire bottom inside and ouside perimeter of the **E-Curb**. Apply 1 additional 1/4" bead of **DuraSil** down the center of each perimeter bead. Do not tool the beads flat. Place the **E-Curb** section on the roof surface to form a half circle around the penetration(s). Press down firmly until **DuraSil** extrudes from the outside edges.

Step 3
Apply **DuraSil** to the second section of **E-Curb** as described above. Place the second section of curb on the roof surface to form a circle with the first section. Press firmly in place until excess adhesive extrudes from the outside edges. Apply a bead of **DuraSil** around the outside base of the installed **E-Curb**, and tool to form a smooth fillet.

Step 4
Screw the provided nozzle onto the **DuraSil SL** pouch, cut tip and squeeze material into **E-Curb** to fill. When complete, remove nozzle, squeeze out excess air, and reseal with cap.

All properties described in this document are derived from testing conducted in laboratory conditions. Properties and performance will vary depending on environmental conditions and application technique. Test and evaluate to determine appropriate usage. Visit www.chemlink.com for the Safety Data Sheet, Technical Data Guides and full warranty for this product.

CHEM LINK®
A SOPREMA® GROUP COMPANY

OUR WORLD ENERGY

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Signature with Seal

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JACKSON RESIDENCE
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AHJ: PARADISE VALLEY; UTILITY: APS

Service #
OUR69110

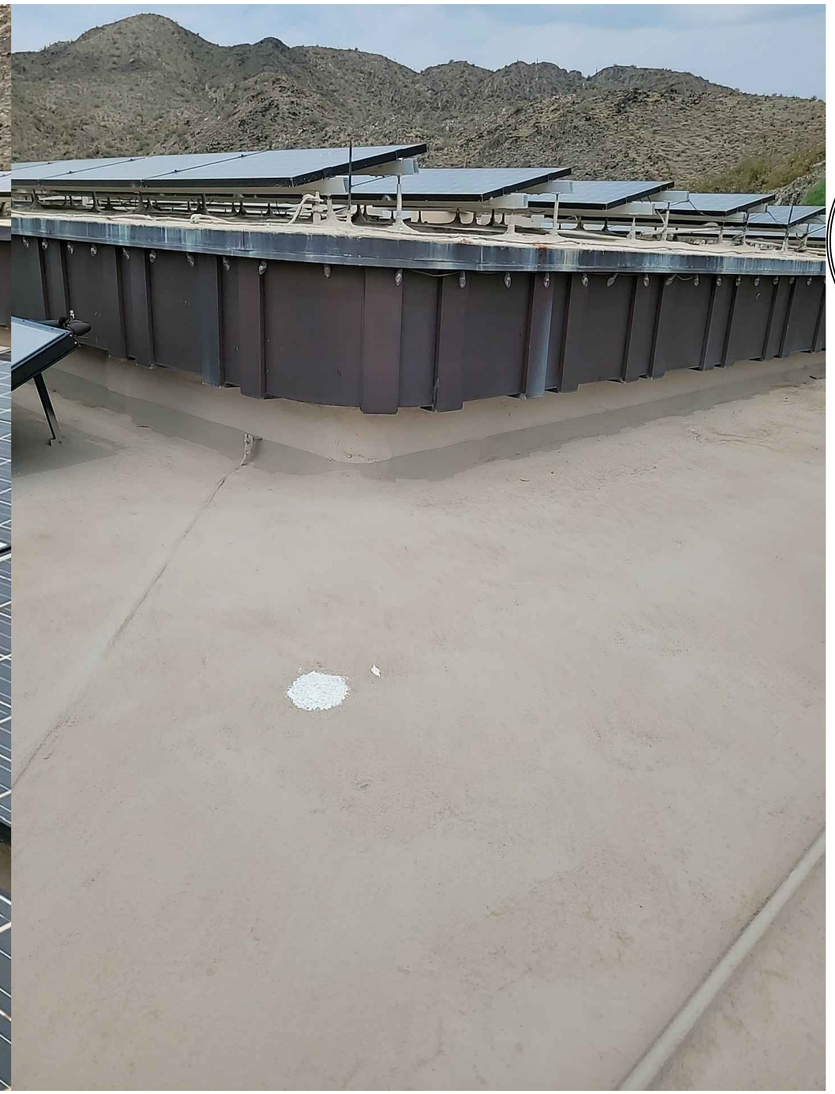
Sheet Name
MOUNTING SPEC SHEET

Sheet Size
ANSI B
11" X 17"

Sheet Number
D 1.8

PARAPET WALL #1 (PARAPET HEIGHT: 3'-9")

PARAPET WALL #2 (PARAPET HEIGHT: 3'-9")



01

OUR WORLD ENERGY
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Registered Professional Engineer (Electrical)
CERTIFICATE NO.
(Signature with Seal)
76473
GREGORY M.
DILLETT II
5/7/25
Date Signed
ARIZONA, U.S.A.

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OUR69110

Sheet Name
PARAPET WALL IMAGES

Sheet Size
ANSI B
11" X 17"

Sheet Number
D 1.9

PARAPET WALL #3 (PARAPET HEIGHT (EST.): 6")

PARAPET WALL #4 (PARAPET HEIGHT (EST.): 6")

01

OUR WORLD ENERGY
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CAD	[illegible]-2025	04
CAD	[illegible]-2025	05

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ARIZONA, U.S.A.

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Sheet Name
PARAPET WALL IMAGES

Sheet Size
ANSI B
11" X 17"

Sheet Number
D 1.10

PARAPET WALL #5 (PARAPET HEIGHT (EST.): 6")

PARAPET WALL #6 (PARAPET HEIGHT (EST.): 6")

01

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11" X 17"

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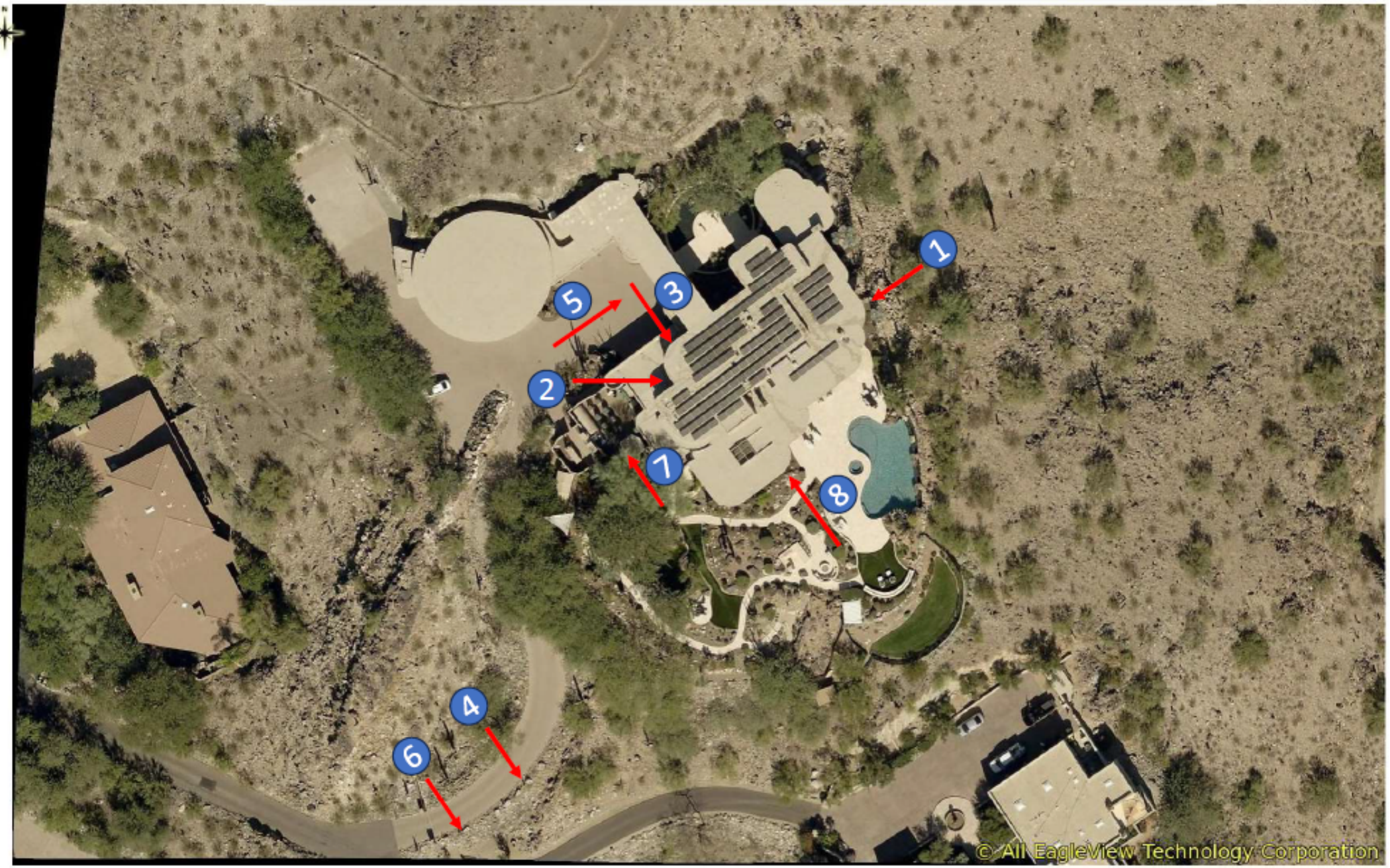
D 1.11

AERIAL VIEW - 4622 E Foothill Dr, Paradise Valley, AZ 85253



NOTE:
EXISTING PV SYSTEM INSTALLED WILL BE REMOVED.

NEW STORAGE CONTAINER (REFER TO PAGE PV 1.4 FOR DETAILS)
(N) DC BUSBAR
(N) GENERATOR DISTRIBUTION PANEL
(N) ALARM PANEL
NEW CONDUIT TRENCH
~2' LENGTH AND 18" DEPTH
(N) UTILITY DISCONNECT
SWITCH
(N) UTILITY CT PRODUCTION METER
(E) GENERATOR UNIT
NEW CONDUIT TRENCH
~30' LENGTH AND 18" DEPTH
(E) DISTRIBUTION PANEL
(E) SES, CT METER CABINET
P1
ACD2
ACD3
(N) H FRAME
(N) DISTRIBUTION
PANELS
(N) (02) SOL-ARK 15K-2P-N
INVERTERS
(N) 01 - STORZ POWER 50kWh
CUSTOMIZED BATTERY CABINET
(N) 04 - STORZ POWER 50kWh
CUSTOMIZED BATTERY CABINET
(N) (07) SOL-ARK 15K-2P-N INVERTERS
TREES
(N) CRITTER GUARD
(288) QCELL Q.TRON BLK M-G2+ 430W PV MODULES
PROPERTY LINE
342'-3"
260'-8"
178'-0"
299'-0"
191'-10"
133'-0"
20'-4"
138'-6"
52'-8"
120'-0"
DRIVEWAY
WALKWAY
MAIN HOME
DRIVEWAY
155'-9"
PROPERTY LINE
68'-1"
FRONT OF HOUSE
4622 E FOOTHILL DR
DRIVEWAY
116'-6"
PROPERTY LINE
98'-11"
POOL
211'-11"
525'-11"
349'-0"
PROPERTY LINE
1
2
3
4
5
6
7
8
N

SYSTEM LEGEND

LOT: 6.19 ACRES
PARCEL: 16911140
PROPERTY LINE
FENCE LINE
DRIVEWAY

1 PLOT PLAN

PV 0.1

SCALE: 1/64" = 1'-0"

OUR WORLD ENERGY
OUR WORLD ENERGY
8716 W Ludlow Dr Suite 6,
Peoria, AZ 85381, USA
PHONE: - 623-850-5700

REVISIONS

Description	Date	Rev
CAD	05-Feb-2025	02
CAD	11-Feb-2025	03
CAD	12-Feb-2025	04
CAD	30-Apr-2025	05
CAD	22-May-2025	06
CAD	03-Jul-2025	07

Signature with Seal

Project Name & Address

JACKSON RESIDENCE
4622 E FOOTHILL DR, PARADISE VALLEY,
AZ 85253
UTILITY ACCOUNT #: 1391810000
AHJ: PARADISE VALLEY; UTILITY: APS

Service #
OUR69110

Sheet Name
PLOT PLAN

Sheet Size
ANSI B
11" X 17"

Sheet Number
PV 0.1

IMAGE #1

IMAGE #2

02

OUR WORLD ENERGY
8716 W Ludlow Dr Suite 6,
Peoria, AZ 85381, USA
PHONE: - 623-850-5700

REVISIONS

Description	Date	Rev
CAD	05-Feb-2025	02
CAD	11-Feb-2025	03
CAD	12-Feb-2025	04
CAD	30-Apr-2025	05
CAD	22-May-2025	06
CAD	03-Jul-2025	07

Signature with Seal

Project Name & Address

JACKSON RESIDENCE
4622 E FOOTHILL DR, PARADISE VALLEY,
AZ 85253
UTILITY ACCOUNT #: 139181000
AHJ: PARADISE VALLEY; UTILITY: APS

Service #

OUR69110

Sheet Name

EXTERIOR IMAGES

Sheet Size

ANSI B
11" X 17"

Sheet Number

D 2.1

02

IMAGE #3

IMAGE #4

OUR WORLD ENERGY
8716 W Ludlow Dr Suite 6,
Peoria, AZ 85381, USA
PHONE: - 623-850-5700

REVISIONS

Description	Date	Rev
CAD	05-Feb-2025	02
CAD	11-Feb-2025	03
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CAD	03-Jul-2025	07

Signature with Seal

Project Name & Address

JACKSON RESIDENCE
4622 E FOOTHILL DR, PARADISE VALLEY,
AZ 85253
UTILITY ACCOUNT #: 139181000
AHJ: PARADISE VALLEY; UTILITY: APS

Service #

OUR69110

Sheet Name

EXTERIOR IMAGES

Sheet Size

ANSI B
11" X 17"

Sheet Number

D 2.2

IMAGE #5

IMAGE #6

02

OUR WORLD ENERGY
8716 W Ludlow Dr Suite 6,
Peoria, AZ 85381, USA
PHONE: - 623-850-5700

REVISIONS

Description	Date	Rev
CAD	05-Feb-2025	02
CAD	11-Feb-2025	03
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CAD	03-Jul-2025	07

Signature with Seal

Project Name & Address

JACKSON RESIDENCE
4622 E FOOTHILL DR, PARADISE VALLEY,
AZ 85253
UTILITY ACCOUNT #: 1391810000
AHJ: PARADISE VALLEY; UTILITY: APS

Service #
OUR69110

Sheet Name
EXTERIOR IMAGES

Sheet Size
ANSI B
11" X 17"

Sheet Number
D 2.3

02

IMAGE #7

IMAGE #8

OUR WORLD ENERGY

OUR WORLD ENERGY
8716 W Ludlow Dr Suite 6,
Peoria, AZ 85381, USA
PHONE: - 623-850-5700

REVISIONS

Description	Date	Rev
CAD	05-Feb-2025	02
CAD	11-Feb-2025	03
CAD	12-Feb-2025	04
CAD	30-Apr-2025	05
CAD	22-May-2025	06
CAD	03-Jul-2025	07

Signature with Seal

Project Name & Address

JACKSON RESIDENCE
4622 E FOOTHILL DR, PARADISE VALLEY,
AZ 85253
UTILITY ACCOUNT #: 139181000
AHJ: PARADISE VALLEY; UTILITY: APS

Service #

OUR69110

Sheet Name

EXTERIOR IMAGES

Sheet Size

ANSI B
11" X 17"

Sheet Number

D 2.4

AFFIDAVIT OF MAILING NOTIFICATION

STATE OF ~~ARIZONA~~ Florida)

) ss:

County of ~~Maricopa~~ Broward)

In accordance with the requirements of the Town of Paradise Valley, the undersigned hereby certifies that the mailing list for the proposed project is a complete list of property owners within 1500 feet of the subject property, as obtained from the Maricopa County Assessor's Office on the following date July 23, 2025, and such notification has been mailed on the following date July 30, 2025.

Rachel Vallejos

Signature

The foregoing instrument was acknowledged by me this 30 day of July, 2025, by Rachel Vallejos.

Name

NOTARY PUBLIC

My commission expires:

09/05/2026

ABIGAIL LOUISE MILLER
Notary Public - State of Florida
Commission # HH 308468
Expires on September 5, 2026

Notarized remotely online using communication technology via Proof.

AFFIDAVIT OF POSTING

STATE OF ~~ARIZONA~~ Florida)

) ss:

County of ~~Maricopa~~ Broward)

I, Rachel Vallejos, depose and state that the attached notice, of proposed application Solar Combined Plan Review for 4622 E Foothill Dr located at Paradise Valley TownHall located at 6401 East Lincoln Drive. for the (Planning Commission/Town Council/Board of Adjustment/Hillside Committee) meeting date of August 13, 2025 is a true and correct copy of a notice which I cause to be posted by the following day of the week , and on the following date July 30th, 2025 in the following location(s):

All in the Town of Paradise Valley, Arizona and County and State aforesaid, the same being public places in said County and in the following locations:

All to the Town of Paradise Valley, Arizona and County and State aforesaid.

DATED this 30th day of July, 2025.

Rachel Vallejos

Signature

This affidavit was SUBSCRIBED AND SWORN to before me this 30th day of July, 2025.

NOTARY PUBLIC

My commission expires:

09/05/2026

ABIGAIL LOUISE MILLER
Notary Public - State of Florida
Commission # HH 308468
Expires on September 5, 2026

Notarized remotely online using communication technology via Proof.


NOTICE OF
HEARING


4622
4632
NOTICE OF HEARING
TOWN OF PARADISE VALLEY
6401 E LINCOLN DRIVE
PARADISE VALLEY, AZ 85253
SUBJECT PROPERTY:
4622 E FOOTHILL DRIVE
AGENDA IS SUBJECT TO CHANGE
PUBLIC NOTICE
HILLSIDE BUILDING COMMITTEE - TOWN HALL BOARD ROOM ON
August 13 , 2025 AT 8:00 AM
1. Call to order/Roll call.
2. Approval of Minutes.
3. Consider Application for a New Single-Family Residence at 3924 E Bethany Home Road (APN: 169-11-140).
4. Consider Application for a New Single-Family Residence at 4622 E Foothill Drive (APN: 169-11-140).
5. Consider Application for a 6201 N 56th Street (APN: 168-75-022).
6. Staff Matters.
7. Hillside Building Committee meeting dates are tentatively scheduled for Wednesday, September 17, 2025 at 8:00 am and Wednesday, October 15, 2025 at 8:00 am.
8. Adjournment.
PENALTY FOR DEFACING POSTER PRIOR TO DATE OF HEARING

TOWN
Of
PARADISE VALLEY

Standard Approval Information

1. All construction documents submitted for permit reviews shall include all approved Hillside-approved documents, including but not limited to, approved material references, cross sections, landscape plans, lighting plans, and lighting specifications. Any changes to the Hillside-approved plans may result in delays in permit plan review and inspection processes. Any proposed changes should be reported to the Staff to determine compliance with Hillside Development Regulations. Changes may be subject to a Staff, Chair, or Committee review.

2. The Applicant shall submit a Construction Staging Plan to the Town per the Hillside Safety Improvement Measures and Process Manual for review and approval prior to being issued a building permit.

3. The Applicant shall submit a liability insurance policy for the proposed project in the amount of $2 million per occurrence and $5 million aggregate naming the Town of Paradise Valley as an additional insured prior to being issued a building permit.

4. All construction parking shall be located on the property as much as possible. Any offsite parking shall be confined to the adjacent streets along the immediate property frontage. All offsite parking shall be located on the same side of the street. No construction materials will be allowed to be stored on the Town's right-of-way.

5. No final approval or certificate of occupancy shall be issued until all Hillside stipulations and all Town Code requirements are complied with, including, but not limited to, landscaping, fire flow, fire safety and all onsite and offsite improvements.

6. Noise from construction that can be heard off-site, including, but not limited to, hydraulic ram hammers, equipment used to cut through rock, machinery with audible back-up warning devices, powered machinery, truck delivery and idling, constant and persistent hammering, shall comply with Article 8-10, Nuisance Noise, as set forth in the Town Code. Heavy Equipment and construction-related deliveries are generally limited between the hours of 7:00 a.m. and 5:00 p.m. Monday through Friday; no work on Saturday, Sunday or legal holidays. Exceptions include a one hour early start time in summer, time exceptions granted by the Town Manager, and construction not defined as Heavy Equipment or deliveries that can occur outside the 7:00 a.m. to 5:00 p.m., Monday through Friday, time frame.

Action Report

File #: 25-172

AGENDA TITLE:
Solar Combined Review for new rooftop solar panels at 6010 E Hummingbird Lane (APN 169-49-060).

STAFF CONTACT:

TOWN
Of
PARADISE VALLEY

STAFF REPORT

TO: **Hillside Building Committee**

FROM: **Chad Weaver, Community Development Director**
Shar Johnson, Town Engineer
Paul Michaud, Planning Manager
Jose Mendez, Hillside Development Planner
Juan Gonzalez Jr., Hillside Associate Engineer

DATE: **August 13, 2025**

DEPARTMENT: Community Development Department
Jose Mendez, (480)348-3519

AGENDA TITLE:
Solar Combined Review
New Solar
Black Platinum Solar
6010 E Hummingbird Lane (APN 169-49-060).
#HILL-25-13

RECOMMENDATION:
Staff recommends the Hillside Building Committee to review and **approve** Case #HILL-25-13, a request by applicant Black Platinum Solar, on behalf of the property owners at 6010 E Hummingbird Lane, for new Solar panels on a flat roof portion of the home screened by parapets.

BACKGROUND/DISCUSSION/SUMMARY (PROVIDED BY APPLICANT)
The proposed project will add new solar panels to the existing single-family residence. A total of forty forty-two solar panels are proposed to be mounted on the roof.

Lot Data	
1. Area of Lot	1.092 ac or 43,563 SF
2. Footprint	Approximately 6,096.8 SF
3. Floor Area Ratio	Approximately 6,096.8 SF (12.82%)

Single Family Residence
The lot contains a single-family residence with a pitched roof and a section of flat roof with an approximate total of 6,096 square feet (SF) of livable area. No other modifications to the existing residence are proposed.

Solar

The new solar installation includes forty-two (42) solar panels over the flat section of the roof above the garage. The solar panels mounted on the home will be pitched no taller than 12 inches to be screened by the existing 12-inch parapet.

The solar panels will have black frames and the racking system will be black. The solar utility equipment, inverters and electrical disconnects will be located toward the east side of the home hidden from view. All site disturbances will remain the same.

ANALYSIS:

The applicant has proposed new roof mounted solar panel arrays on the existing single-family residence that meet the requirements of the Town Code and the adopted Zoning Ordinance.

STIPULATIONS:

1. All improvements shall comply with the enclosed Standard Approval Information.

REQUIRED ACTION:

The Hillside Building Committee must consider the facts and determine if the application complies with Article XXII - Hillside Development Regulations.

The Hillside Building Committee may take the following actions:

1. Approve the application request, subject to the stipulations noted by staff and/or the Hillside Building Committee.
2. Continue the application for further review.
3. Deny the application request if not compliant with Article XXII.

NOTICING:

Public notification was performed in accordance with the public hearing process. Staff received no comments.

NEXT STEPS:

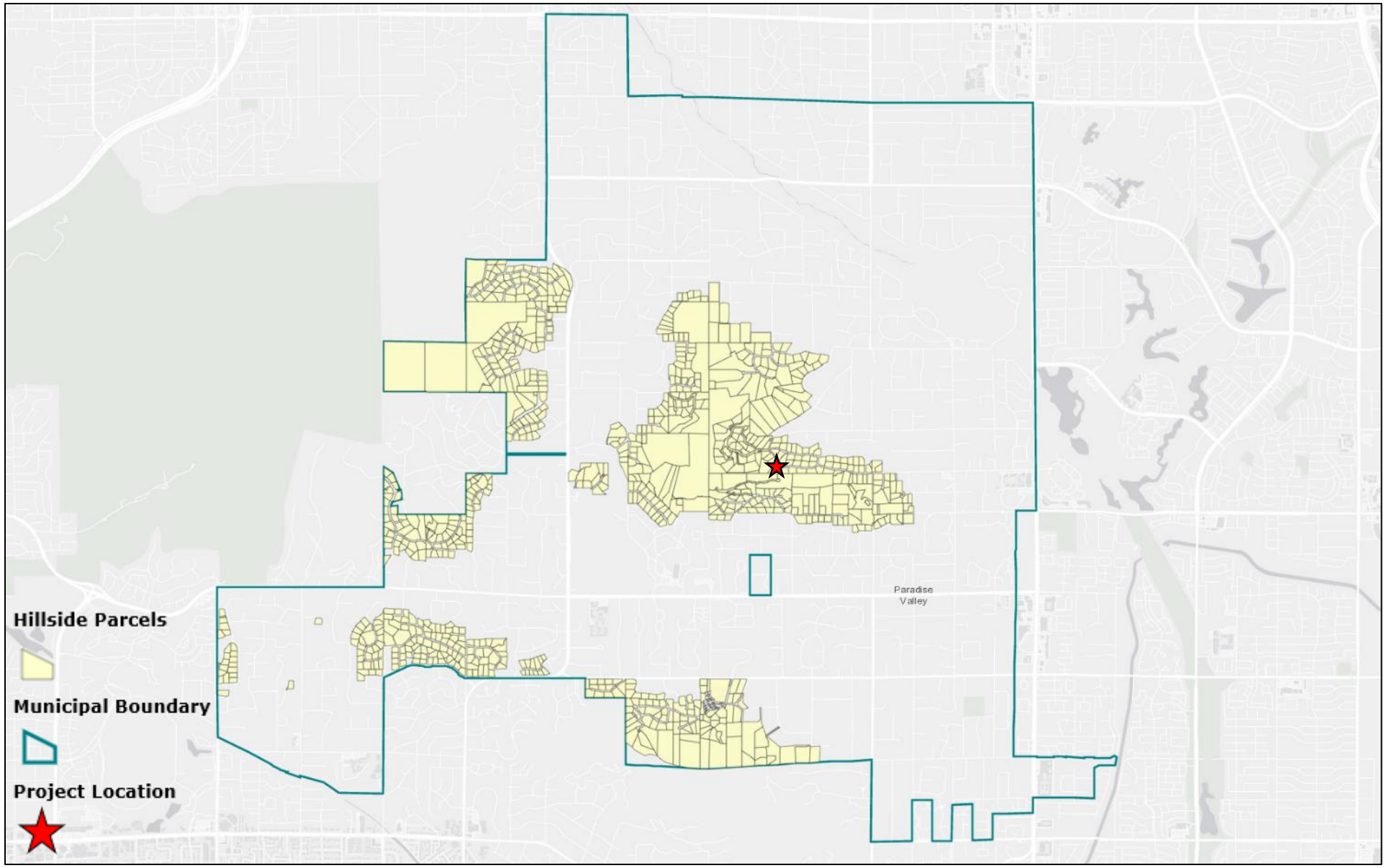
If approved the applicant shall acquire all required permits to complete the proposed scope of work. Plans submitted to the Town for permits shall comply with the plans, stipulations, and approval by the Hillside Building Committee.

ATTACHMENTS:

A. Staff Report
B. Hillside & Vicinity Maps
C. Application
D. Plans
E. Notification Materials
F. Standard Approval Information

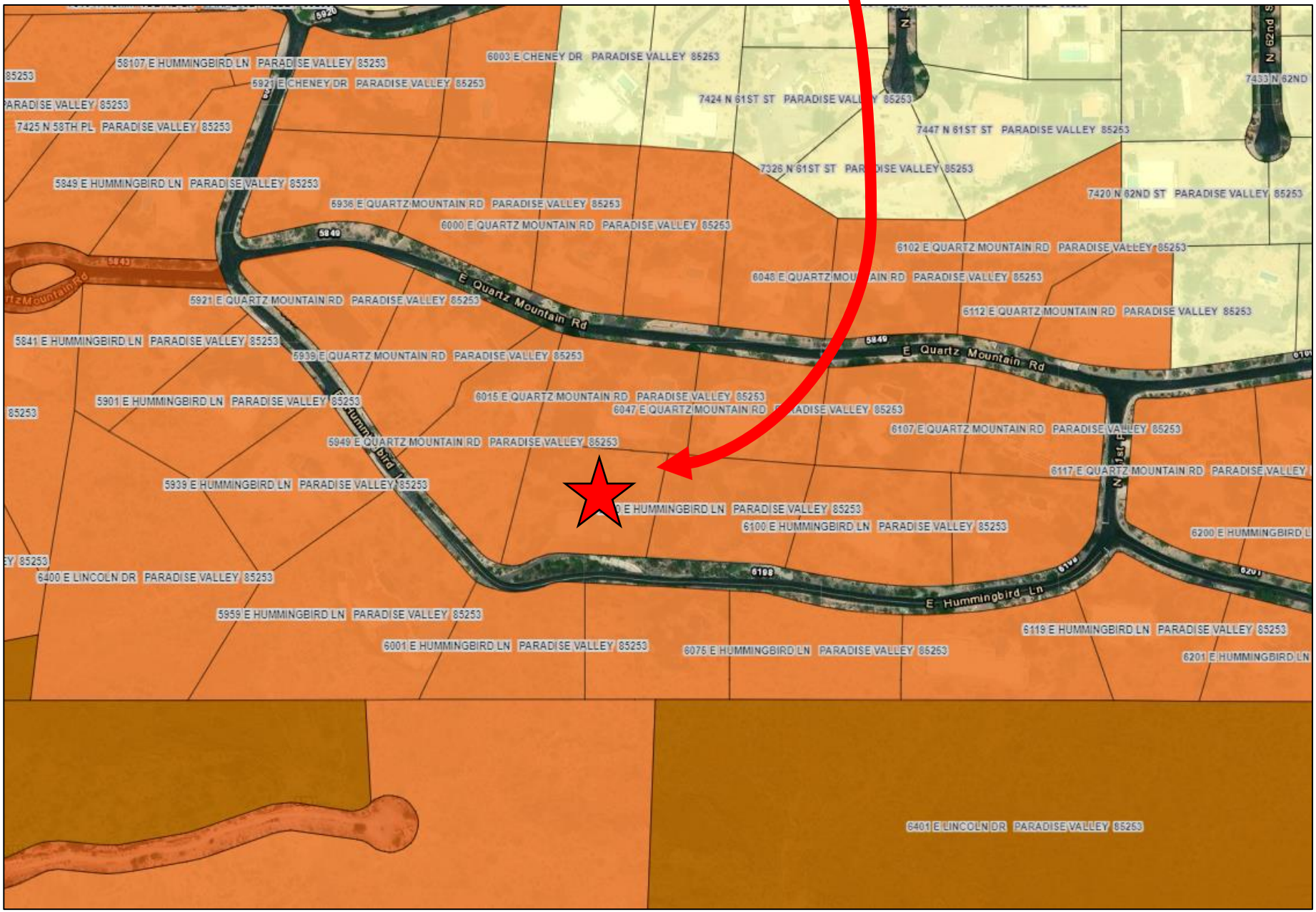
HILLSIDE MAP (OVERVIEW)

6010 E Hummingbird Lane



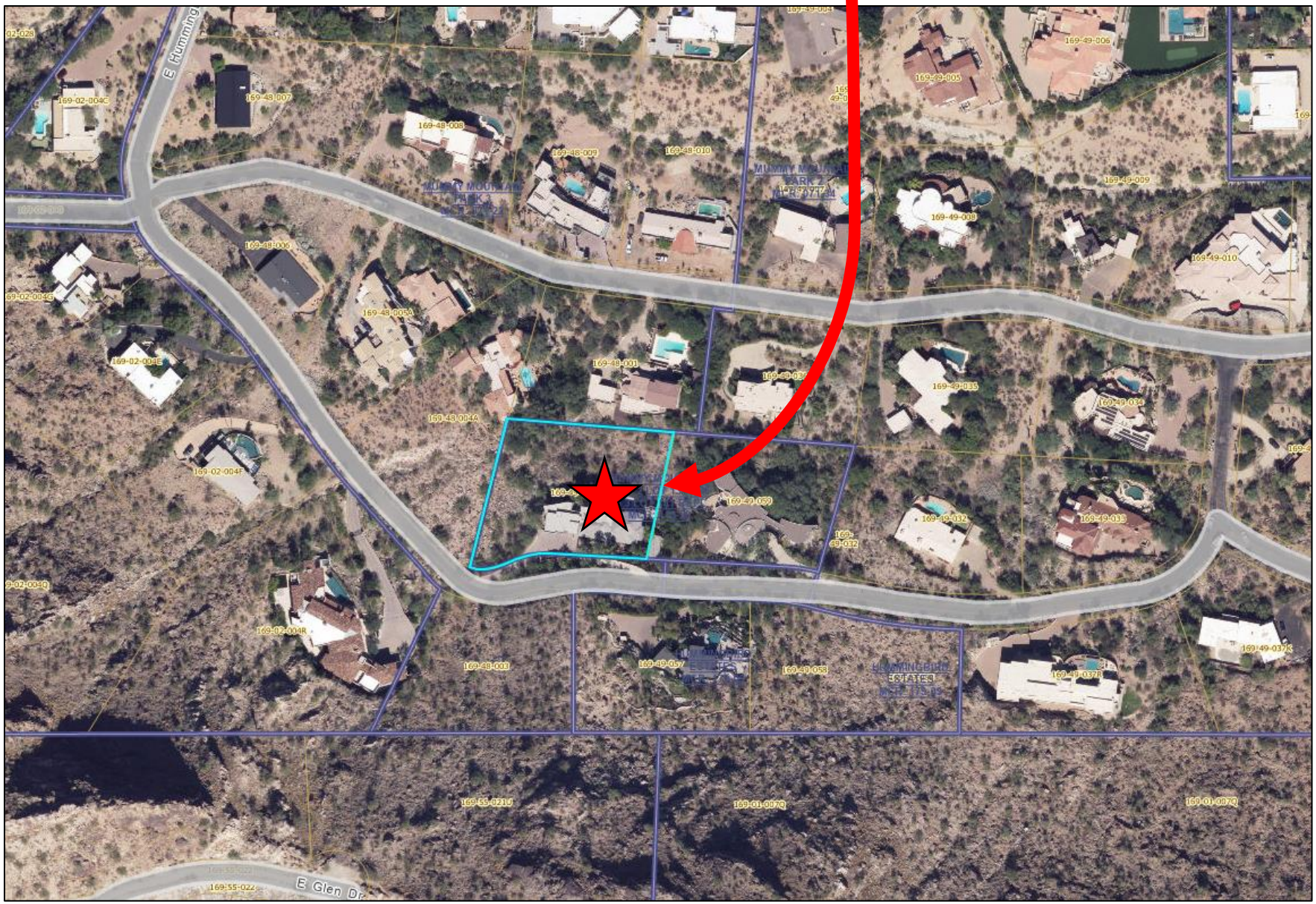
HILLSIDE MAP (ZOOM)

6010 E Hummingbird Lane



VICINITY MAP (ZOOM)

6010 E Hummingbird Lane



TOWN
of
PARADISE VALLEY

Hillside Application
Community Development Department
6401 E Lincoln Drive
Paradise Valley, AZ 85253

(480) 348-3692

HILLSIDE APPLICATION

DATE: 3/31/25

SUBDIVISION NAME: MUMMY MOUNTAIN UNIT 2 LOT 134 & M M 3 LOT 141 REPL

PROPERTY ADDRESS: 6010 E HUMMINGBIRD LN PARADISE VALLEY, AZ 85253

ASSESSOR'S PARCEL NUMBER: 169-49-060

LEGAL DESCRIPTION: MUMMY MOUNTAIN UNIT 2 LOT 134 and MUMMY MOUNTAIN UNIT 3 LOT 141 REPLAT MCR 419-50

SCOPE OF WORK: Installation of a 16.38DC-kW roof-mounted Solar Photovoltaic Grid-Tied System ('System') at the property located at 6010 E Hummingbird Ln, Scottsdale, AZ 85253 (the 'Site').

ARCHITECT:

PRINT NAME	PHONE NUMBER
ADDRESS	

ENGINEER: John Black (Owner of Black Platinum Solar, the company installing solar)

PRINT NAME	PHONE NUMBER 623-434-3340
10651 N Cave Creek Rd #C Phoenix, AZ 85020	
ADDRESS	

OWNER: Fred Tashman 623-434-3340

PRINT NAME	PHONE NUMBER
6010 E HUMMINGBIRD LN PARADISE VALLEY, AZ 85253	
ADDRESS	

John Black — 3/31/25

OWNER OR AUTHORIZED AGENT SIGNATURE — DATE

STATEMENT OF ACCURACY

BUILDING INFORMATION[1]

USE	AREA (SF) OR LENGTH (FT)
LIVABLE AREA (EXISTING)	
LIVABLE AREA (NEW)	
LIVABLE AREA (REMODEL)	
PERCENT NEW + REMODEL	

[1]THE FOLLOWING CONDTIONS MAY APPLY TO REMODELS OR ADDITIONS OF 50% OR GREATER: 1) ZONING ORDINANCE, ARTICLE XXIII – SECTION 2307 REQUIRES THAT NON-CONFORMING STRUCTURES BE BROUGHT INTO COMPLIANCE IF THEY DO NOT MEET CURRENT HEIGHT, SETBACK, FINISH, AND ANY OTHER APPLICABLE ORDINANCE REQUIREMENTS. 2) ZONING ORDINANCE, ARTICLE XXIV – SECTION 2415 REQUIRES THAT NON-CONFORMING WALLS BE BROUGHT BE INTO COMPLIANCE IF THEY DO NOT MEET CURRENT HEIGHT AND/OR SETBACK REQUIREMENTS. 3)TOWN CODE, CHAPTER 13 REQUIRES FIRE SPRINKLER SYSTEMS.

VALUATION CALCULATION[2]

USE	UNIT - AREA (SF), LENGTH (FT), OR COUNT	VALUATION PER (UNIT)	VALUATION TOTAL
LIVABLE AREA (NEW)		$225.00	
LIVABLE AREA (REMODEL)		$112.50	
GARAGE		$50.00	
STORAGE		$50.00	
PATIOS/RAMADAS/PORHCES		$35.00	
FENCES		$30.00	
POOL		1% OF COST	
BBQ		$4,200.00 (EA)	
FIREPLACE		$5,250.00 (EA)	
WATER FOUNTAIN		$1,000.00 (EA)	
WATER FEATURE		$2,500.00 (EA)	
SUM	-	-	

[2]TOWN CODE, CHAPTER 5 REQUIRED IMPROVEMENTS MAY INCLUDE RIGHT-OF-WAY DEDICATION AND STREET IMPROVEMENTS, DRAINAGE IMPROVEMENTS, SEWER IMPROVEMENTS, FIRE HYDRANT INSTALLATION, AND ELECTRICAL UNDERGROUNDING FOR BUILDING PERMIT VALUATIONS OF $500,000 OR GREATER CALCULATED OVER A 730 DAY PERIOD. YOU MAY USE THE TOWN MASTER FEE SCHEDULE TO DETERMINE THE MINIMUM CONSTRUCTION VALUATION: https://www.paradisevalleyaz.gov/DocumentCenter/View/104/Master-Fee-Schedule

CERTIFICATION

- I hereby certify that the above information and the information in this application is true and accurate. I further certify that I will comply with all Federal, State, County and Town laws relating to construction and demolition.
- I understand that any changes made during or after the hillside development process may require a modification to the statement of accuracy. Additional requirements may be required for a modified scope of work.
- The issuance of an approval shall not be considered as an adoption by the inspector of the manifested technical construction or demolition contained in the plans and specifications, if thereafter it can be shown that any portion of the work is in conflict with any portion of the ordinances and laws of the Town of Paradise Valley, Arizona. It is agreed that this work will be done in conformity with the laws of the Town of Paradise Valley, Arizona, Maricopa County, and the State of Arizona.

John Black

OWNER OR AUTHORIZED AGENT SIGNATURE

☑ Authorization Letter for Agent if Value > $25,000

Town of Paradise Valley
6401 E Lincoln Drive
Paradise Valley, AZ 85253
hillside@paradisevalleyaz.gov

SUMMARY OF SUBMITTAL DOCUMENTS

CONCEPT REVIEW:

1. COVER SHEET WITH VICINITY MAP
2. SITE PLAN
3. HISTORIC/NATURAL GRADE EXHIBIT
4. GRADING AND DRAINAGE PLAN (WITH PRELIMINARY DISTURBANCE/CUT/FILL)
5. ARCHITECTURAL RENDERINGS (INCLUDING 3-D MASSINGS)
6. AERIAL PHOTO WITH IMPROVEMENTS AND TOPOGRAPHIC MAP

FORMAL/COMBINED REVIEW:

1. COVER SHEET WITH VICINITY MAP
2. PHOTOGRAPHS OF PROPERTY
3. ARCHITECTURAL RENDERINGS
4. 3-D MODEL
5. AERIAL PHOTO WITH IMPROVEMENTS AND TOPOGRAPHIC MAP
6. LEGAL SURVEY
7. HISTORIC/NATURAL GRADE EXHIBIT
8. GRADING & DRAINAGE PLAN (WITH PRELIMINARY DISTURBANCE/CUT/FILL)
9. SITE PLAN
10. CROSS SECTIONS
11. BUILDING LIGHTING PLAN
12. LANDSCAPE AND LANDSCAPE LIGHTING PLAN(S)
13. MATERIAL SAMPLE BOARD

SOLAR COMBINED REVIEW:

1. COVER SHEET
2. SITE PLAN
3. CROSS SECTIONS
4. AERIAL PHOTO WITH IMPROVEMENTS
5. SITE PHOTOS
6. DETAILS

DEMOLITION-ONLY REVIEW:

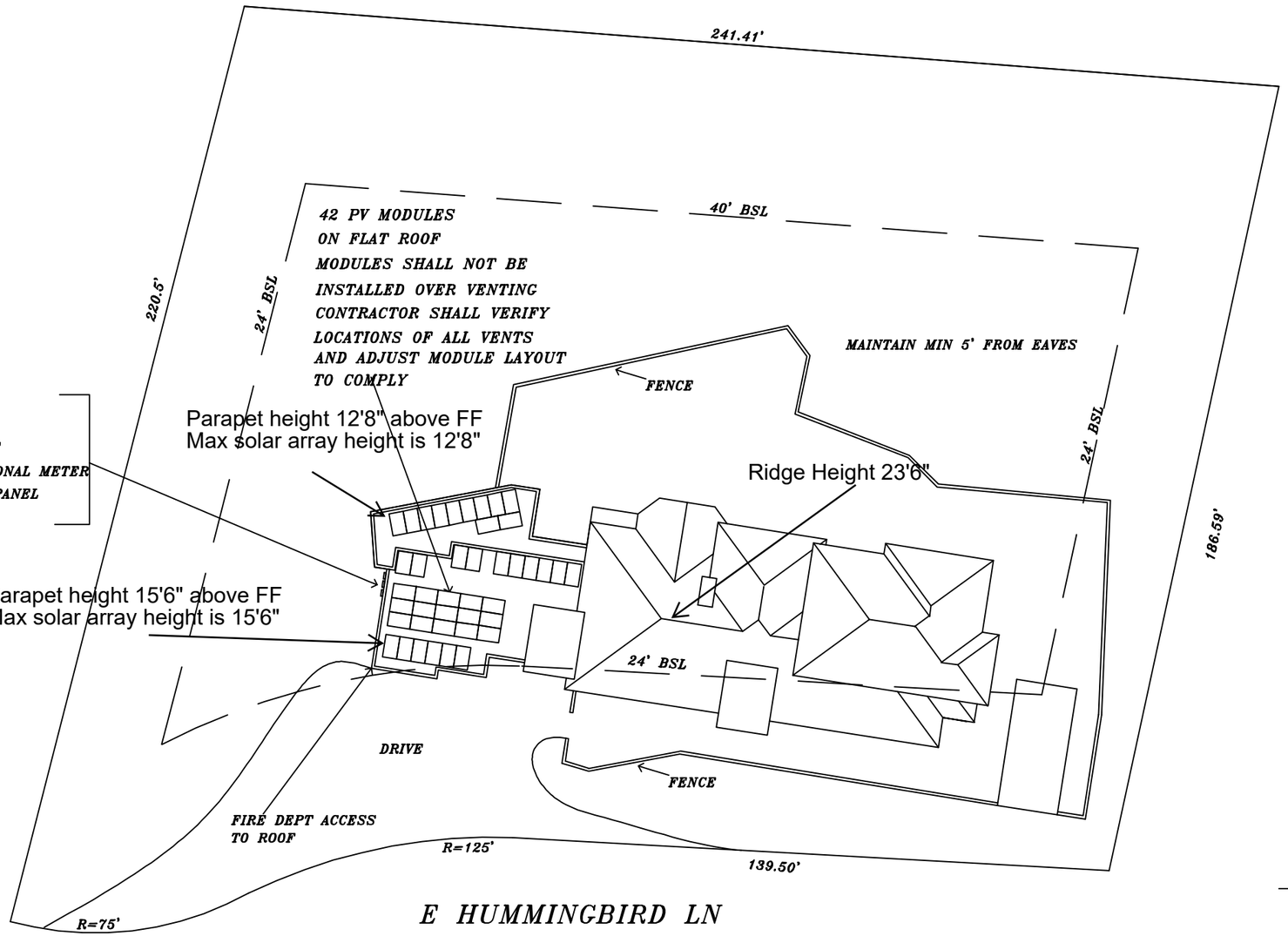
1. LEGAL SURVEY
2. HISTORIC/NATURAL GRADE EXHIBIT
3. GRADING & DRAINAGE PLAN (FOR DEMO DISTURBANCE)
4. STORM WATER POLLUTION PREVENTION PLAN
5. GRADING PERMIT APPLICATION
6. DEMOLITION PERMIT APPLICATION

SAFETY IMPROVEMENT PLAN (FOR FORMAL/COMBINED REVIEWS):

1. SEE HILLSIDE “SAFETY IMPROVEMENT MEASURES AND PROCESS MANUAL” (MUST BE REVIEWED AND APPROVED PRIOR TO FORMAL OR COMBINED HILLSIDE BUILDING COMMITTEE REVIEW)


E Hummingbird Ln
E Hummingbird Ln
E Hummingbird Ln
E Hummingbird Ln
mmingbird Ln


E Quartz Mountain Rd
E Quartz Mountain Rd
E Quartz Mountain Rd
E Quartz Mountain Rd
E Hummingbird Ln
N 61st Pl
E Hummingbird Ln
E Hummingbird Ln
E Hummingbird Ln
E Hummingbird



E HUMMINGBIRD LN

CODES
2014 NATIONAL ELECTRIC CODE (NEC)
2015 INTERNATIONAL RESIDENTIAL CODE (IBC)
2015 INTERNATIONAL BUILDING CODE (IBC)
2015 INTERNATIONAL FIRE CODE (IFC)

INSTALLATION SHALL BE IN
COMPLIANCE WITH NEC 690

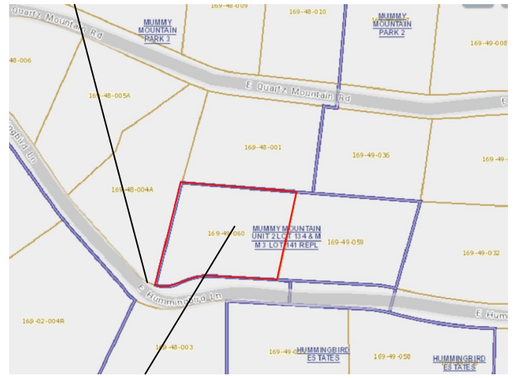
NOTE: NO NAOS OR PROTECTED NATIVE
PLANTS SHALL BE AFFECTED BY
INSTALLATION OF SOLAR PANELS

THE SOLAR INSTALLATION SHALL COMPLY WITH
INTERNATIONAL FIRE CODE (IFC) SEC. 605.11 THRU 605.11.4
MICROINVERTER SYSTEM (NO HAZARDOUS DC VOLTAGE PRESENT)

0 10' 20' 30' 40' 50'

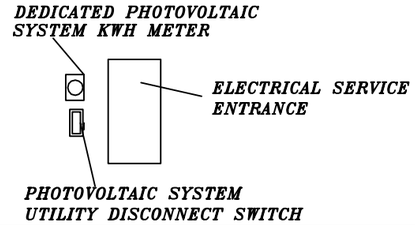
SITE PLAN
1" =30'

APS PLANT LOCATION



SOLAR PROJECT
6010 E HUMMINGBIRD LN
PARADISE VALLEY AZ 85253
APN 169 49 060
ZONING R-43
LOT#141
MUMMY MOUNTAIN UNIT 2
LOT 134 & MM3 LOT 141REPL
MCR 41950

13.65 KWAC PV SYSTEM
16.38 KWDC STC



METER AND SWITCH LAYOUT

NOTE: UTILITY HAS 24 HOUR UNRESTRICTED ACCESS TO ALL PHOTOVOLTAIC SYSTEM COMPONENTS LOCATED AT SERVICE ENTRANCE

NOTE: WORKSPACE IN FRONT OF AC ELECTRICAL SYSTEM COMPONENTS SHALL BE IN ACCORDANCE WITH APS AND NEC REQUIREMENTS. FOR APS REQUIREMENTS REFERENCE SECTION 300 OF THE APS ESRM AND SECTION 8.2 OF THE APS INTERCONNECTION REQUIREMENTS.

NOTE: REFERENCE SECTION 301.15 OF THE APS ESRM FOR ELECTRIC METER SEPARATION BETWEEN WATER AND GAS.

SHEET INDEX:

4714 W WALTANN LANE
GLENDALE AZ 85306
Tel: 623-434-3340
WWW.BLACKPLATINUMSOLAR.COM

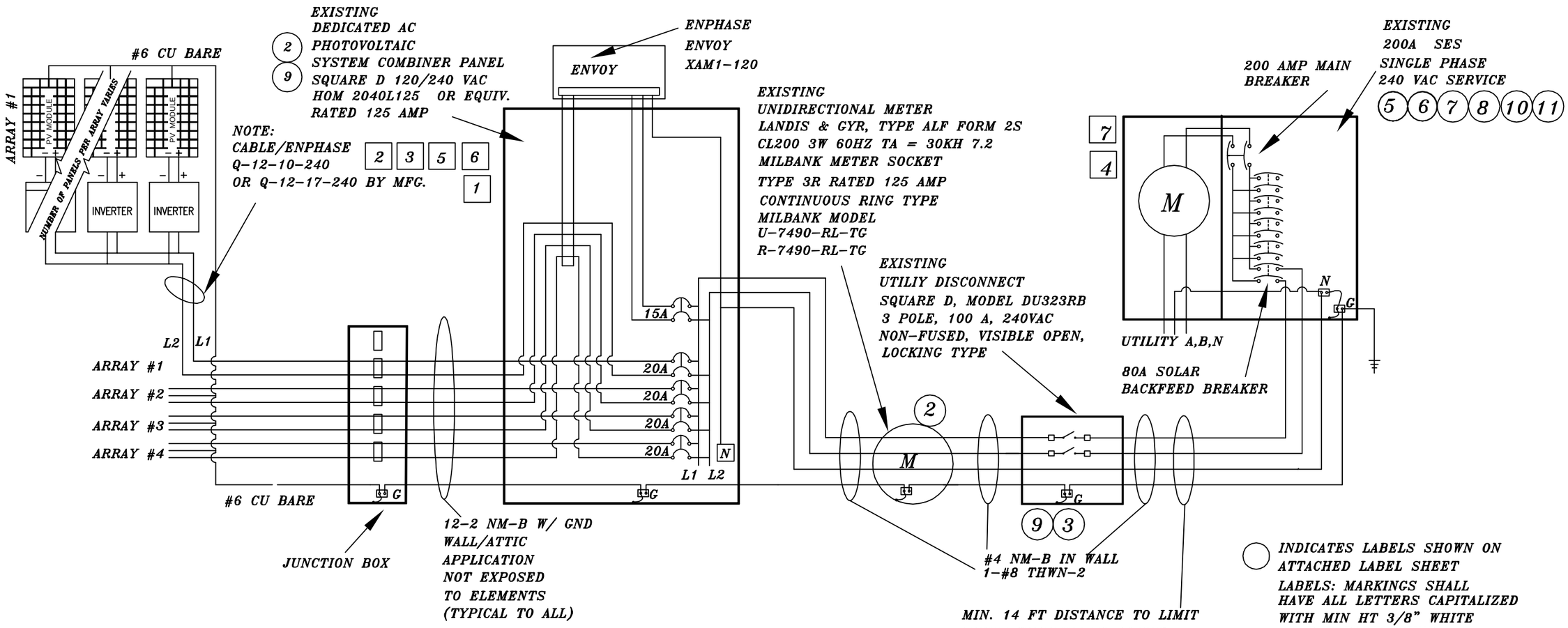
black platinum solar & electric

TASHMAN RESIDENCE
6010 E HUMMIMGBIRD LN
PARADISE VALLEY AZ 85253

DATE: 25-0312
BPSE PROJ.#20-0
APN 169 49 060
APS #

1 REV.
2 REV .2 .

SITE PLAN
S-1



INDICATES LABELS SHOWN ON ATTACHED LABEL SHEET

LABELS: MARKINGS SHALL HAVE ALL LETTERS CAPITALIZED WITH MIN HT 3/8" WHITE ON RED BACKGROUND SEE ATTACHED LABEL EXAMPLE PAGE

INDICATES NOTES ON SHEET 1 OF 3

KEYED NOTES:

1. CONDUIT WILL BE USED, WHERE REQUIRED FOR AC WIRING OF PV SYSTEM WITHIN BUILDING PER NEC 690.31 (E)
2. PHOTOVOLTAIC ARRAY DC DISCONNECT IS ACCOMPLISHED VIA THE MC4 CONNECTOR AT EACH PANEL AND INVERTER LOCATION
3. LISTING AGENCY NAMES AND NUMBERS TO BE INDICATED ON POWER CONVERTERS ANDSOLAR MODULES PER NEC 110.3 (b)
4. BI-DIRECTIONAL UTILITY METER TO BE INSTALLED BY THE UTILITY COMPANY (WHEN REQUIRED)
5. ALL ROOFTOP CONDUITS SHALL BE IN CONDUIT MIN. 7/8" ABOVE THE ROOF TOP (NEC 310.15 (B)(3)(C)
6. ALL EXPOSED PV ROOFTOP CONDUCTORS NOT UNDER THE ARRAY SHALL BE PROTECTED BY A RACEWAY WITH LISTED JUNCTION BOX AT BOTH ENDS NEC 690.31(A)
7. PV BACK FED BREAKERS SHALL BE 22K A/C FULLY RATED OR A LISTED SERIES RATED BREAKER WITH THE MAIN OCP FOR 22/10K FOR 200A THROUGH 400A, SINGLE PHASE, 240VCH END. (NEC 690.31α) NEC 110.9, NEC 240.86(B)

NOTE:
ALL EQUIPMENT SPECIFIED IN THIS SCHEMATIC IS NEW UNLESS INDICATED AS EXISTING

CALCULATION

ARRAY #1 10 INVERTERS X 1.35A = 13.50A X 1.25 = 16.88A = 20A BREAKER
ARRAY #2 10 INVERTERS X 1.35A = 13.50A X 1.25 = 16.88A = 20A BREAKER
ARRAY #3 11 INVERTERS X 1.35A = 14.85A X 1.25 = 18.56A = 20A BREAKER
ARRAY #4 11 INVERTERS X 1.35A = 14.85A X 1.25 = 18.56A = 20A BREAKER

42 INVERTERS X 1.35A = 56.70A X 1.25 = 70.88A = 80A SOLAR BREAKER

SYSTEM SIZE

13.65 KWAC PV SYSTEM
16.38 KWDC STC

SPECIFICATIONS

SOLAR MODULES- MEYER BERGER MB-B120AYB-390 (390W)
MODULE FIRE PERFORMANCE TYPE 1 (UL 1703)
INVERTERS - ENPHASE IQ8M-72-2-US

NOTE:
ALL TERMINATIONS RATED MIN. 75 DEGREES C
ART 110.14 (C) (1) (α)
TABLE 310.15 (B) (6)
75 DEG COLUMN

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TASHMAN RESIDENCE
6010 E HUMMIMGBIRD LN
PARADISE VALLEY AZ 85253

DATE: 25-0312
BPSE PROJ.#20-0
APN 169 49 060
APS #

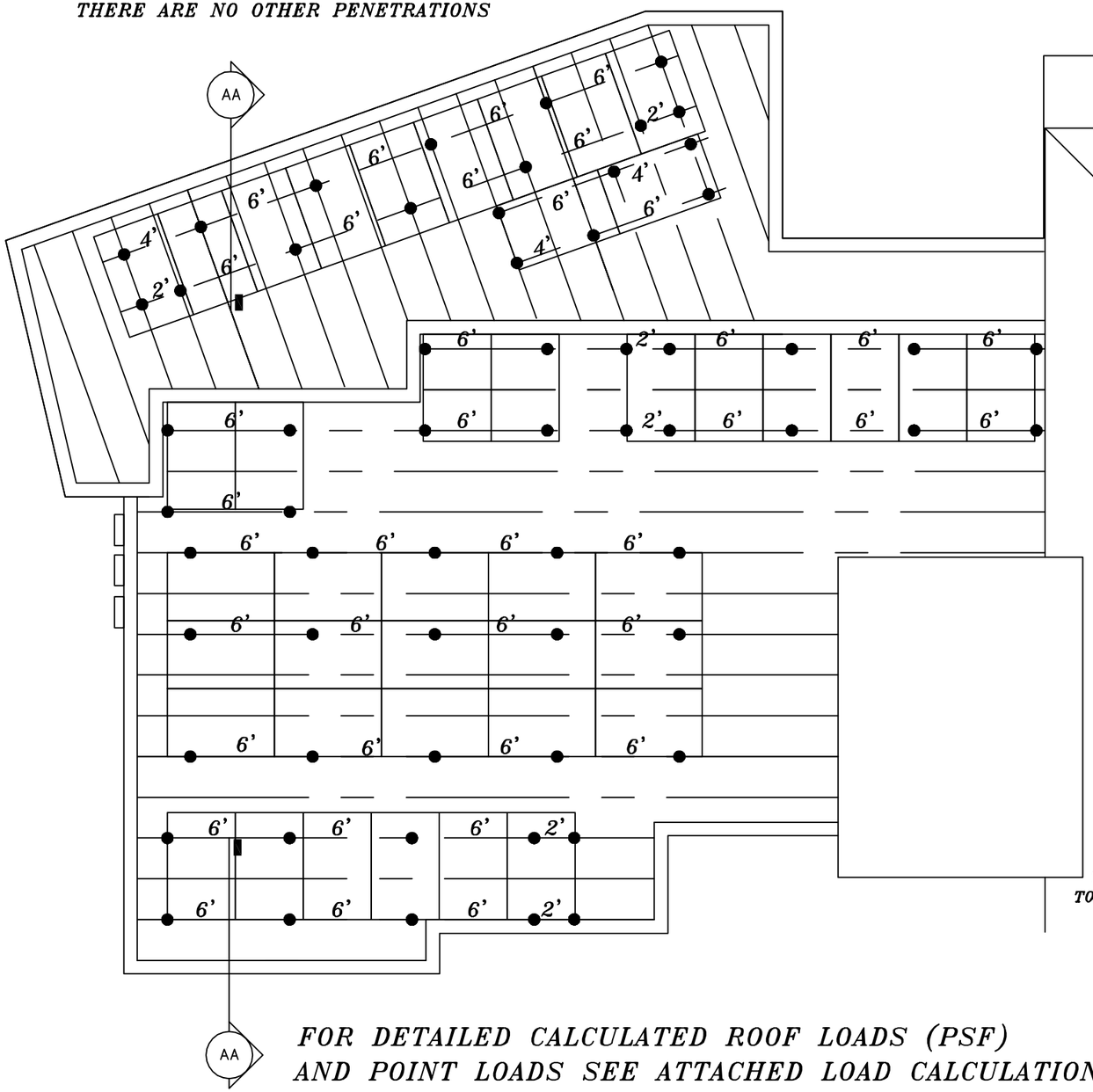
1 REV.
2 REV .2 .

3 LINE DIAGRAM
1 of 3

NOTE:
ALL PENETRATIONS OF SUPPORT BOLTS
AND CONDUIT SHALL BE SEALED
WITH NP1 ROOFING SEALANT (OR EQUAL)
THERE ARE NO OTHER PENETRATIONS

42 PV MODULES

DO NOT INSTALL OVER VENTS



FOR DETAILED CALCULATED ROOF LOADS (PSF)
AND POINT LOADS SEE ATTACHED LOAD CALCULATIONS

MOUNTS SHALL BE SPACED 6 FT O.C. OR LESS
STAGGER MOUNTS ON TRUSSES (TYPICAL)
TRUSSES 24" O.C. (TYPICAL)

ROOF MOUNTS PLAN

KEYED NOTES:

1. CONDUIT WILL BE USED, WHERE REQUIRED FOR AC WIRING OF PV SYSTEM WITHIN BUILDING PER NEC 690.31 (E)
2. PROVIDE WARNING SIGN PER NEC 690.17 READING "WARNING–ELECTRIC SHOCK HAZARD–DO NOT TOUCH TERMINALS–TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OFF POSITION.
3. PHOTOVOLTAIC ARRAY DC DISCONNECT IS ACCOMPLISHED VIA THE MC4 CONNECTOR AT EACH PANEL AND INVERTER LOCATION
4. LABEL "PHOTOVOLTAIC POWER SYSTEM DEDICATED KWH METER".
5. LABEL "PHOTOVOLTAIC SYSTEM UTILITY DISCONNECT SWITCH". SWITCH COVER TO BE LOCKED AT ALL TIMES. SWITCH TO BE VISABLE BLADE AND ACCESSABLE PER UTILITY REQUIREMENTS AND CONFORM TO NEC 705.22.
6. LABEL BREAKER "PHOTOVOLTAIC ELECTRIC POWER SOURCE" PER NEC 705.10, AND "BREAKERS ARE BACK FED" PER NEC 690.64 (b) (5). LABEL WITH MAXIMUM AC OUTPUT OPERATING CURRENT AND THE OPERATING VOLTAGE PER NEC 690.54.
7. LISTING AGENCY NAMES AND NUMBERS TO BE INDICATED ON POWER INVERTERS AND SOLAR MODULES PER NEC 110.3 (b)
8. BI–DIRECTIONAL UTILITY METER TO BE INSTALLED BY THE UTILITY COMPANY (WHEN REQUIRED).
9. LABLE "PV SYSTEM COMBINER PANEL WITH "DO NOT ADD LOADS TO THIS PANEL""
10. TAG AT SOLAR BREAKER INDICATING MAX AMPS AND SYSTEM AC VOLTAGE
11. PHOTOVOLTAIC POWER SOURCE BREAKERS ARE BACKFEEDING
12. WARNING! INVERTER OUTPUT CONNECTION. DO NOT RELOCATE THIS OVERCURRENT DEVICE
13. PHOTOVOLTAIC SYSTEM IS EQUIPPED W/ RAPID SHUTDOWN

ADDITIONAL NOTES:

A. EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE NEC AND ALL APPLICABLE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.

B. GROUND WIRE MUST BE CONTINUOUS AND INSTALLED TO ALLOW FOR PANEL REMOVAL WITHOUT DISRUPTING CONTINUITY. ALL MODULE GROUND CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH NEC 690–4 (C).

C. FOLLOW MANIFACTURERS SUGGESTED INSTALLATION PRACTICES AND WIRING SPECIFICATIONS.

D. WIRES SHALL BE RATED AND LABELED "SUNLIGHT RESISTANT" WHERE EXPOSED TO AMBIENT CONDITIONS.

E. DC DISCONNECT SHALL BE ACHEIVED VIA THE MC4 CONNECTOR AT EACH PANEL

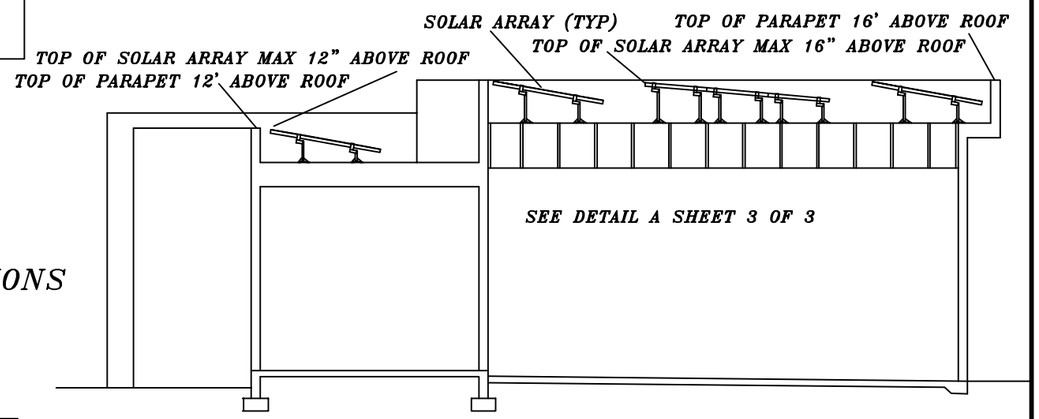
F. EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE NEC AND ALL APPLICABLE REQUIREMENTS OF THE SERVING ELECTRIC UTILITY COMPANY AND AUTHORITY HAVING JURISDICTION.

G. PHOTOVOLTAIC SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH NEC 690 AND POSTED WITH APPLICABLE WARNINGS, SIGNS, AND PLAQUES PER NEC 705–10, 690–17 AND 690–64(b)(5)

H. EXISTING VENTS/FLUES THROUGH ROOF SHALL NOT BE COMPROMISED BY THE INSTALLATION OF THE SOLAR SYSTEM

I. THE COLLECTORS AND SUPPORTING STRUCTURE SHALL BE CONSTRUCTED OF NONCOMBUSTABLE MATERIALS

MANTAIN TOP OF PANELS BELOW PARAPET
WHERE VISABLE FROM THR STREET



SECTION AA

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TASHMAN RESIDENCE
6010 E HUMMIMGBIRD LN
PARADISE VALLEY AZ 85253

DATE: 25-0312
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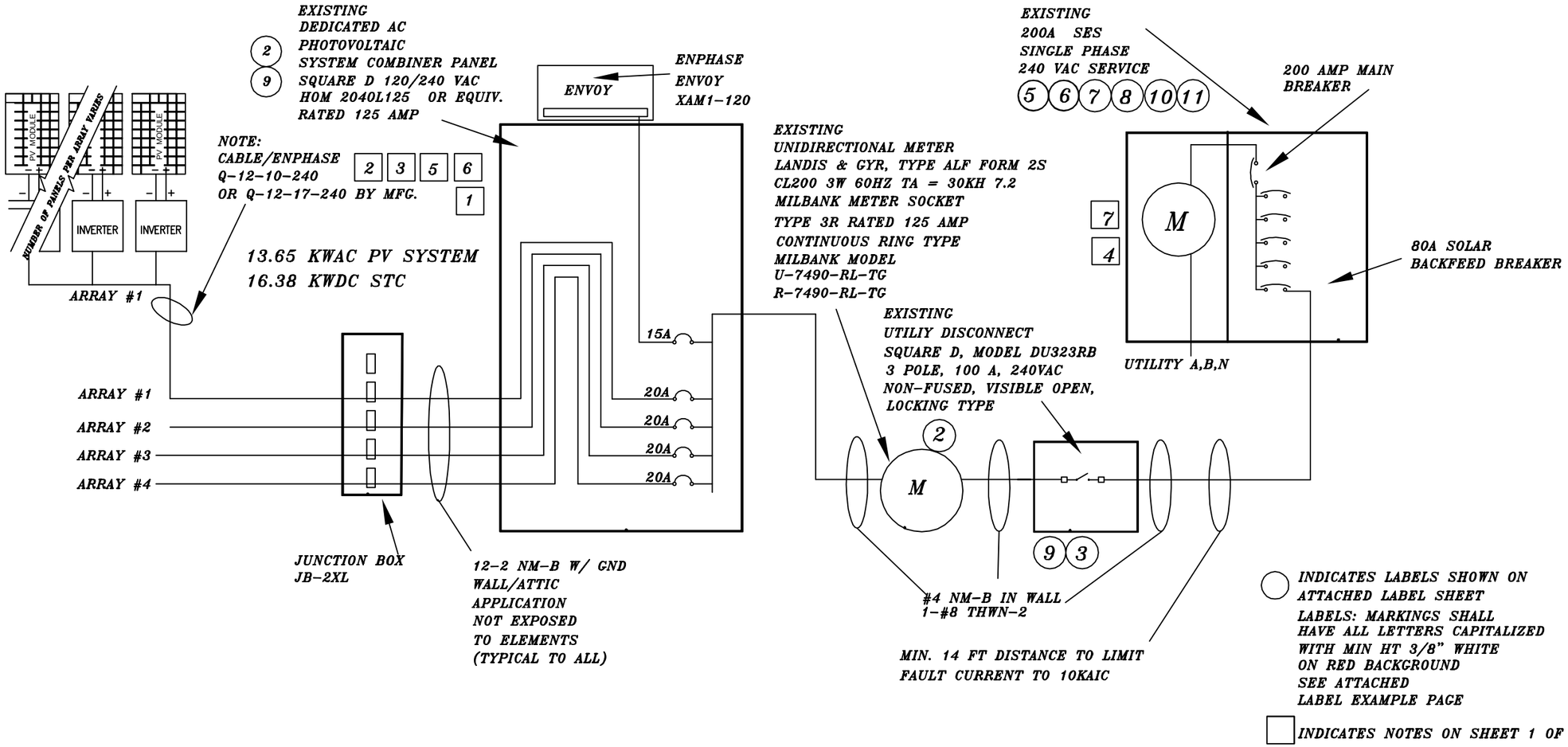
1 REV.
2 REV .2 .

GENERAL NOTES
2 of 3



NOTES:

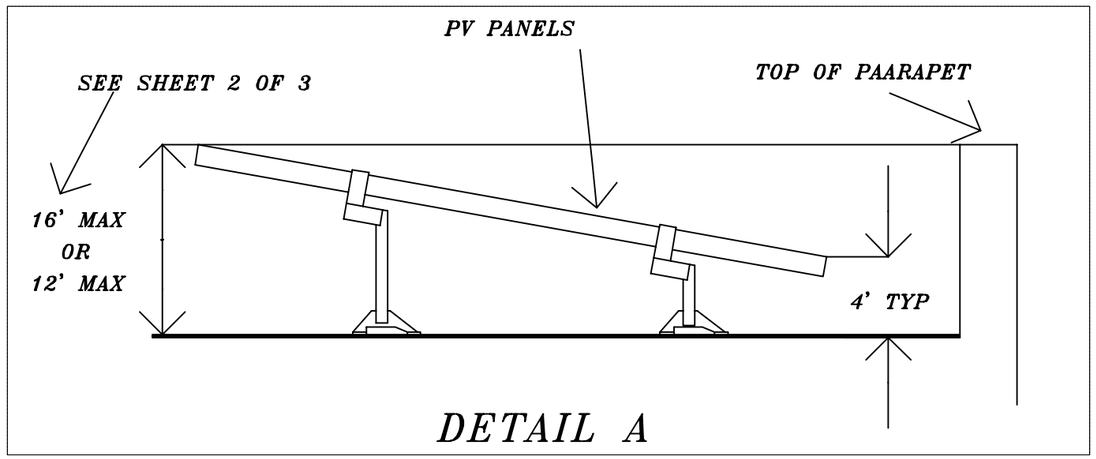
A. EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE NEC AND ALL APPLICABLE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION

B. GROUND WIRE MUST BE CONTINUOUS AND INSTALLED TO ALLOW FOR PANEL REMOVAL WITHOUT DISRUPTING CONTINUITY. ALL MODULE GROUND CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH NEC 690-4 (C).

C. FOLLOW MANIFACTURERS SUGGESTED INSTALLATION PRACTICES AND WIRING SPECIFICATIONS.

D. WIRES SHALL BE RATED AND LABELED "SUNLIGHT RESISTANT" WHERE EXPOSED TO AMBIENT CONDITIONS.

NOTE:
ALL EQUIPMENT SPECIFIED IN THIS SCHEMATIC IS NEW UNLESS INDICATED AS EXISTING



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DATE: 25-0312
BPSE PROJ.#20-0
APN 169 49 060
APS #

1 REV.
2 REV .2 .

1 LINE DIAGRAM
3 of 3

1

WARNING
ELECTRICAL SHOCK HAZARD
DO NOT TOUCH TERMINALS
TERMINALS ON BOTH LINE
AND LOAD SIDES MAY BE
ENERGIZED IN THE OFF POSITION

2

UNI-DIRECTIONAL METER

3

UTILITY DISCONNECT

4

NOTICE

DEDICATED PHOTOVOLTAIC
SYSTEM COMBINER PANEL
DO NOT ADD LOADS TO THIS
PANEL

5

PHOTOVOLTAIC ELECTRIC
POWER SOURCE
MAXIMUM AC CURRENT ____ A
SYSTEM AC VOLTAGE ____ V

6

PHOTOVOLTAIC POWER SOURCE
BREAKERS
ARE BACKFEEDING

7

⚠ WARNING

INVERTER OUTPUT CONNECTION
DO NOT RELOCATE THIS
OVERCURRENT DEVICE

8

SOLAR PV SYSTEM EQUIPPED
WITH RAPID SHUTDOWN

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

9

⚠ WARNING

ELECTRICAL SHOCK
HAZARD
-DO NOT TOUCH TERMINALS-
TERMINALS ON BOTH THE LINE AND
LOAD SIDES MAY BE ENERGIZED IN
THE OPEN POSITION

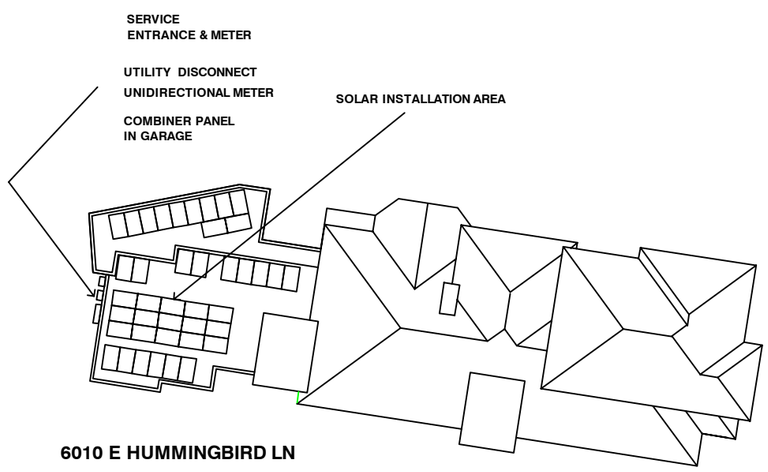
10

PHOTOVOLTAIC SYSTEM
EQUIPPED WITH RAPID
SHUTDOWN

11

⚠ CAUTION ⚠

POWER TO THIS BUILDING IS SUPPLIED FROM THE FOLLOWING SOURCES WITH DISCONNECTS LOCATED AS SHOWN



6010 E HUMMINGBIRD LN
PARADISE VALLEY AZ 85253

13.65 KWAC PV SYSTEM
16.38 KWDC STC

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DATE: 25-0312
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APS #

1 REV.
2 REV .2 .

1 LINE DIAGRAM
3 of 3

10651 N Cave Creek Rd #C
Phoenix, AZ 85020
Office: 623-434-3340
AZ ROC 232364

Date: 03/12/2025

RE: Photovoltaic System for:

GM HUNT/Tashman Residence

6010 E Hummingbird Ln

Paradise Valley, AZ 85253

SUBJEC Calculated roof load and point load calculations for the proposed photovoltaic system:

Equipment	Model #	Count	Weight in Lb	Total Lbs
Solar Modules	Meyer Burger MB-B120AYB-390	42	39.7	1,667.4
Microinverters	Enphase Energy **IQ8M -72-2-US [240V]**	42	2.38	100.0
Mounting Hardware	IronRidge rails and mounting hardware	42	4.2	176.4
				1,943.8

Solar module dimensions (L x W):	66.38 " X 40.00 "		=	18.4 sf		
Solar panel installation square footage:	42 modules	X 18.4	= System sf:	774.4		
Applied weight per square foot:	Total System Weight:	1,943.8	÷ System sf:	774.4	=	**2.5 lb/sf**
Point load calculation 62 mounts @	1,943.8 lbs		**31.4** lbs/mount point			

NOTES:

Mounts are fastened in staggered truss attachments, thereby equalizing load and mounts over all trusses in the roof section

Spacing of supports not to exceed 6.0' point of attachment. Minimum lag bolt embed of 2 1/2 inches required.

Roof framing: TRUSS

Roof pitch: 5:20

Roof Covering: FLAT FOAM

Regards,

John A Black
ROC 232364

MEYER BURGER

Meyer Burger Black

Product type: MB_B120AyB_XXX

375 – 395 Wp

For maximum yields combined with outstanding design: Heterojunction high-performance solar module with SmartWire Connection Technology (SWCT®).

Made in Germany. Designed in Switzerland.
Production and development according to the highest quality standards.

Highly profitable
More energy yield over the same area even on cloudy or hot days.

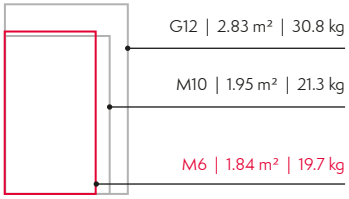
Extremely durable
Outstanding cell stability and high breakage resistance thanks to patented SmartWire Connection Technology.

Consistently sustainable
Regional value creation, made without lead and produced using 100 % renewable energy.

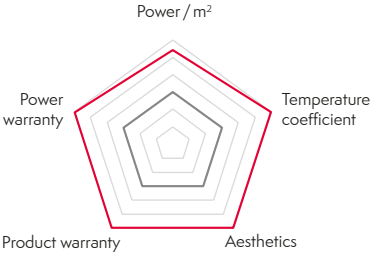
Guaranteed reliability
Industry-leading 25-year product and performance warranty.

Extremely aesthetic
Elegant Swiss design suitable for all roof shapes and sophisticated architecture.

Extremely practical
Convenient handling, maximum layout flexibility and maximum system performance thanks to compact format.



* Size formats compared



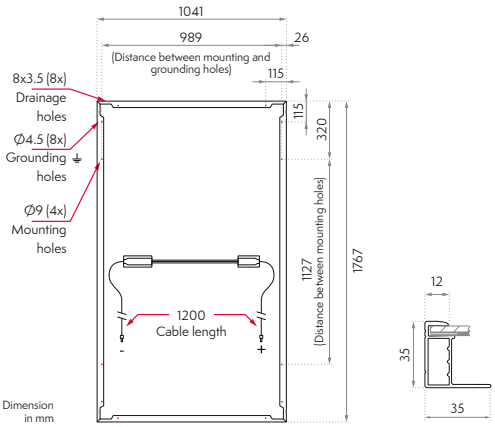
○ Meyer Burger
○ Market average

MEYER BURGER

Residential rooftop

Mechanical specification

Dimensions [mm]	1767 x 1041 x 35
Weight [kg]	19.7
Front cover	Tempered solar glass, 3.2 mm, with anti-reflective surface
Back cover	Black water-barrier backsheet
Frame	Black anodized aluminum
Solar cell type	120 half-cells, mono n-Si, HJT with SWCT®
Junction boxes	3 diodes, IP68 rated in accordance with IEC 62790
Cable	PV cable 4 mm², 1.2 m length in accordance with EN 50618
Connectors	1: MC4; 2: MC4-Evo2; 3: UKT Energy PV-CO02; 4: TE Connectivity PV4-S1 in accordance with IEC 62852, IP68 rated only when connected



Packages

1780 mm	1050 mm	1300 mm	650 kg	30 modules	max. 2 pallets	28 pallets	26 pallets

Delivery by container or truck. For truck freight, 0.78 loading meters per pallet and stacking factor 2 apply.

Electrical specification[1]

Product type: MB_B120AyB_XXX*

Power class	Efficiency	Power**		Short circuit current		Open circuit voltage		Current at MPP		Voltage at MPP	
	η	P_{max}		I_{sc}		V_{oc}		I_{mpp}		V_{mpp}	
	[%]	[W]		[A]		[V]		[A]		[V]	
	STC[2]	NMOT[3]	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC
375	**20.4**	283	**375**	8.5	**10.6**	42.2	**44.4**	7.9	**9.9**	35.7	**37.8**
380	**20.7**	287	**380**	8.5	**10.6**	42.2	**44.5**	8.0	**10.0**	36.1	**38.2**
385	**20.9**	291	**385**	8.5	**10.6**	42.3	**44.6**	8.0	**10.0**	36.4	**38.5**
390	**21.2**	294	**390**	8.5	**10.6**	42.4	**44.6**	8.0	**10.1**	36.7	**38.9**
395	**21.5**	298	**395**	8.5	**10.6**	42.4	**44.7**	8.1	**10.1**	37.0	**39.2**

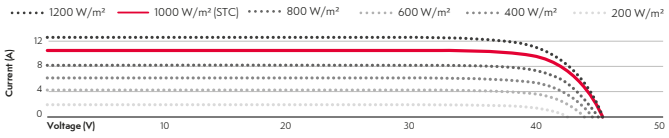
* XXX = power class, y = connector type | ** Power tolerance -0 W / +5 W for STC

Temperature coefficients

Temperature coefficient of I_{SC}	α	[%/K]	+0.033
Temperature coefficient of V_{OC}	β	[%/K]	-0.234
Temperature coefficient of P_{MPP}	γ	[%/K]	-0.259
Nominal Module Operating Temperature	NMOT[3]	[°C]	44±2

The temperature coefficients stated are linear values.

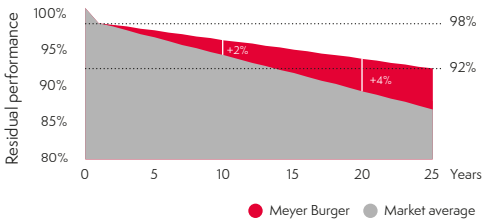
I-V curves at different irradiations



Properties for system design

Max. system voltage	[V]	1000
Overcurrent protection rating	[A]	20
Max. test load +/- (Safety factor for test load = 1.5)	[Pa]	6000/4000
Max. design load +/-	[Pa]	4000/2666
Safety class		II
Fire class (EN 13501-1 / EN 13501-5)		$E/B_{ROOF}(t1)$
Operation temperature	[°C]	-40 to +85

Meyer Burger warranty



2.0% Degradation in 1st year

0.25% Annual degradation

25 years Product & power warranty

Certificates

IEC 61215:2016, IEC 61730:2016, PID (IEC 62804), Salt Mist (IEC 61701), MCS 010 & MCS 005

Certification pending: Ammonia Resistance (IEC 62716), Dust & Sand (IEC 60068)

Test procedure according to IEC standard

Market standard	1× IEC
Meyer Burger materials testing	3× IEC

[1] Measurement according to IEC 60904-3, measurement tolerance: ±3%
[2] STC: Irradiance 1000 W/m², module temperature 25°C, AM1.5G Spectrum
[3] NMOT: Nominal Module Operating Temperature, with irradiance 800 W/m², AM1.5G spectrum, ambient temperature 20°C

Made in Germany. Designed in Switzerland.

Lead-free

Notice: All data and specifications are preliminary and subject to change without notice.

Visit us at meyerburger.com

WEEE Reg. No. DE 18170271

As of: Version Q2_2024_V7_en

Enphase IQ 8M and IQ 8A Microinverters

The high-powered smart grid-ready **Enphase IQ 8M™ and Enphase IQ 8A™ Series microinverters** are single-phase power conversion platforms that convert power in either direction: AC to DC or DC to AC, at up to 325VA (IQ 8M) or 349VA (IQ 8A), and which can operate in grid-tied or off-grid modes.

Part of the Enphase Ensemble™ energy management technology, the IQ 8M and IQ 8A microinverters integrate with the Enphase IQ Envoy™ and the Enphase Enlighten™ monitoring and analysis software.

IQ Series microinverters extend the reliability standards set forth by previous generations and undergo over a million hours of power-on testing, enabling Enphase to provide an industry-leading warranty of up to 25 years.

Easy to Install

- Lightweight and simple
- Faster installation with improved, lighter two-wire cabling
- Built-in rapid shutdown compliant (NEC 2014, 2017, & 2020)

Productive and Reliable

- Optimized for high-powered 60-cell/120 half-cell and 72-cell/144 half-cell PV modules
- More than a million hours of testing
- Class II double-insulated enclosure
- UL listed

Smart Grid Ready

- Complies with advanced grid support, voltage and frequency ride-through requirements
- Remotely updates to respond to changing grid requirements
- Configurable for varying grid profiles
- Meets CA Rule 21 (UL 1741-SA)

1. Enphase adapters are available for use with other connectors. Consult Enphase for more information.

CERTIFIED

To learn more about Enphase offerings, visit **enphase.com**

ENPHASE

Enphase IQ 8M and IQ 8A Microinverters

PRELIMINARY

INPUT DATA (DC)	IQ8M-72-2-US	IQ8A-72-2-US
Commonly used module pairings[2]	235 W - 460 W +	235 W - 510 W +
Module compatibility	60-cell/120 half-cell and 72-cell/144 half-cell PV modules	60-cell/120 half-cell and 72-cell/144 half-cell PV modules
Maximum input DC voltage	50 V	60 V
Peak power tracking voltage	33 V - 45 V	36 V - 45 V
Operating range	25 V - 48 V	25 V - 58 V
Min/Max start voltage	30 V / 48 V	30 V / 58 V
Max DC short circuit current (module Isc)	15 A	15 A
Overvoltage class DC port	II	II
DC port backfeed current	0 A	0 A
PV array configuration	1 x 1 ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit	

OUTPUT DATA (AC)	IQ8M-72-2-US	IQ8A-72-2-US
Peak output power	330 VA	366 VA
Maximum continuous output power	325 VA	349 VA
Nominal (L-L) voltage/range[3]	240 V / 211-264 V	240 V / 211-264 V
Maximum continuous output current	1.35 A	1.45 A
Nominal frequency	60 Hz	60 Hz
Extended frequency range	50 - 68 Hz	50 - 68 Hz
AC short circuit fault current over 3 cycles	4.36 Arms	4.36 Arms
Maximum units per 20 A (L-L) branch circuit[4]	11	11
Overvoltage class AC port	III	III
AC port backfeed current	3mA	3mA
Power factor setting	1.0	1.0
Off-grid power factor	-1 to 0 to +1	-1 to 0 to +1
Grid-tied power factor (adjustable)	0.85 leading ... 0.85 lagging	0.85 leading ... 0.85 lagging

EFFICIENCY	@240 V	@240 V
Peak efficiency	97.7 %	97.1 %
CEC weighted efficiency	97.0 %	96.5 %

MECHANICAL DATA	
Ambient temperature range	-40°C to +60°C (-40°F to +140°F)
Relative humidity range	4% to 100% (condensing)
Connector type	Enphase Q™ Connector
Adapters (optional)	Q-DCC-5 Amphenol H4 UTX
Dimensions (HxWxD)	212 mm (8.3”) x 175 mm (6.9”) x 30.2 mm (1.2”) - without bracket
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
Environmental category / UV exposure rating	NEMA Type 6 / outdoor

FEATURES	
Communication	Power Line Communication (PLC)
Monitoring	Enlighten Manager and MyEnlighten monitoring options. Both options require installation of an Enphase IQ Envoy.
Disconnecting means	The AC and DC connectors have been evaluated and approved by UL for use as the load-break disconnect means required by NEC 690 and C22.1-2018 Rule 64-220.
Compliance (pending)	CA Rule 21 (UL 1741-SA) UL 62109-1, UL1741/IEEE1547, FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 107.1-01 This product is UL Listed as PV Rapid Shut Down Equipment and conforms with NEC 2014, NEC 2017, and NEC 2020 section 690.12 and C22.1-2018 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, when installed according to manufacturer’s instructions.

2. No enforced DC/AC ratio. See the compatibility calculator at https://enphase.com/en-us/support/module-compatibility.
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.

To learn more about Enphase offerings, visit **enphase.com**

ENPHASE.

Foam Jack™

Patent #6,360,491

Laboratory tested to 2,870 lbs.* (pullout) 2,615 lbs.* (axial side pull)

The patented design of the Fast Jack® is now available in an easy-to-foam version designed for use on commercial and metal rooftops! This industrial grade stanchion offers a full 2,870 lbs. of vertical strength using one 3/8" x 6" lag bolt!* It also offers an impressive 2,615 lbs. of axial (side) strength. Like the Commercial and Residential Fast Jack®, the primary connection to the roof is made directly under the point of load. *(Pat. #6,360,491)*

The Foam Jack™ base accepts one fastener up to 3/8" diameter. The post is available in a 1/2" thread version which fully integrates with commercially available steel strut using the optional Commercial Leveling Kit. The 3/8" threaded post version integrates with the Roof Trac® support rail.

6" High-1/2" Threaded Post

Part# FMJ-612L (Lag Bolt Version)
Part# FMJ-612T (Self tapping Screw Version)
For use with the 1/2" commercial leveling kit (sold separately)

6" High-3/8" Threaded Post

Part# FMJ-638L (Lag Bolt Version) *Pictured Left*
Part# FMJ-638T (Self tapping Screw Version)
Use this version when setting the Roof Trac® support rail directly on the post.

Leveling kit

Part# CFJ-LEVEL
For use with the FMJ-612L & FMJ-612T in conjunction with standard outdoor rated strut to adjust for minor roof variances

Benefits of the Foam Jack™

- Patented design locates the lag bolt or self tapping screw directly under the removable post for superior strength
- Use of foam versus a flashing provides leak-free connections at a fraction of the cost of conventional flashings
- Precision machined from extruded aluminum and tumbled clean for proper foam adhesion
- Significantly lighter than steel for installer convenience and reduced shipping costs
- Cylinder base design allows for even distribution of foam around the stanchion

LEVELING OPTION
PART #FMJ-612L / #FMJ-612T

Like the best-selling Commercial Fast Jack®, the Foam Jack™ is available in a 1/2" thread version to accept the Commercial Leveling Kit.

TYPICAL INSTALLATION SEQUENCE FOR FOAMING:

Step 1: Locate rafter/beam

Step 2: Use drill guide (sold separately) to drill a pilot hole.

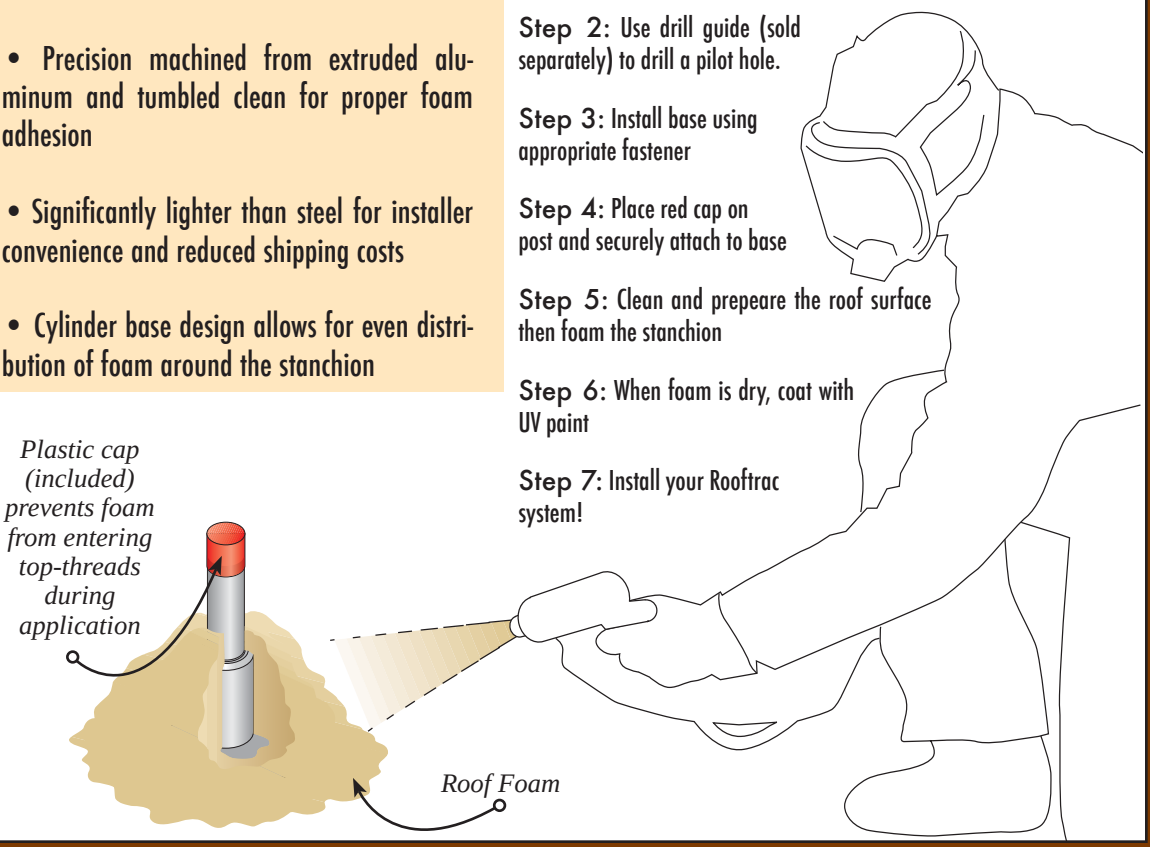
Step 3: Install base using appropriate fastener

Step 4: Place red cap on post and securely attach to base

Step 5: Clean and prepeare the roof surface then foam the stanchion

Step 6: When foam is dry, coat with UV paint

Step 7: Install your Rooftrac system!



Used for mounting:
- Solar Panels
- Communication Equipment
- Virtually anything needing structural attachment to a roof!

professional SOLAR products inc.
(800) 84-SOLAR
(805) 486-4700
(805) 486-4799 - fax
1551 S. Rose Ave.
Oxnard, CA 93033

View more info on our website at:

www.prosolar.com

*Tested using a 3/8" x 6" Stainless Steel Lag bolt in a 4" x 6" Douglas Fir wood beam.

Specifications

professional SOLAR products inc.

Test Data Available

Pull tested by an independent and accredited ICC approved testing laboratory to 2,870 lbs vertical and 2,615 axial (side) pull. Test conducted with a 3/8″ x 6″ lag bolt in a 4″ x 6″ Douglas Fir wood beam. Test report available upon purchase.

Measurements / Specifications

BASE: 1.5″ dia. x 2.6″ #6061 Aluminum
- 1/4″ hole for self tapping-screw base
- 3/8″ hole for lag bolt base

POSTS: 1″ dia. x 3″ #6061 Aluminum
- 3/8″ drilled & tapped (non-leveling version)
- 1/2″ threaded 2″ deep (leveling version)

HARDWARE: Red Plastic caps included - installer to supply appropriate fasteners. Leveling kits are available upon request

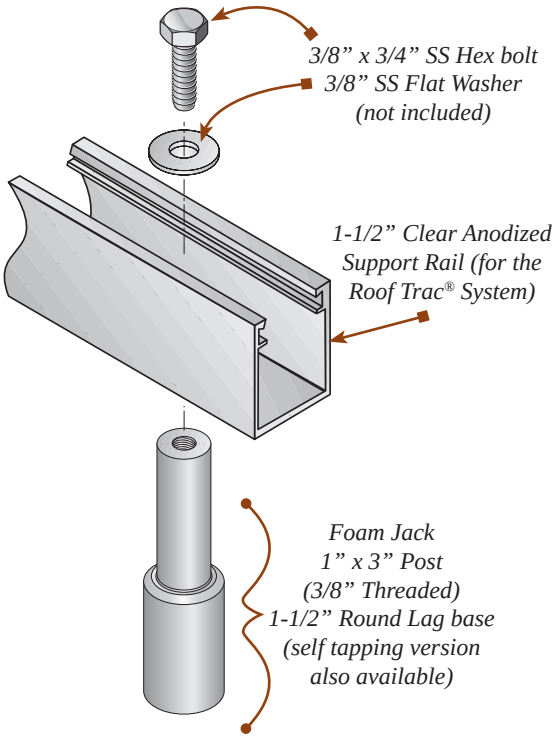
LEVELING KIT: leveling kit components
1/2″ x 4″ Stainless Steel all-thread (qty. 1)
1/2″ Stainless Steel hex nuts (qty. 3)
1/2″ Stainless Steel flat washers (qty. 2)
2″ x 3″ Anodized aluminum strut support (qty. 1)

DRILL GUIDE

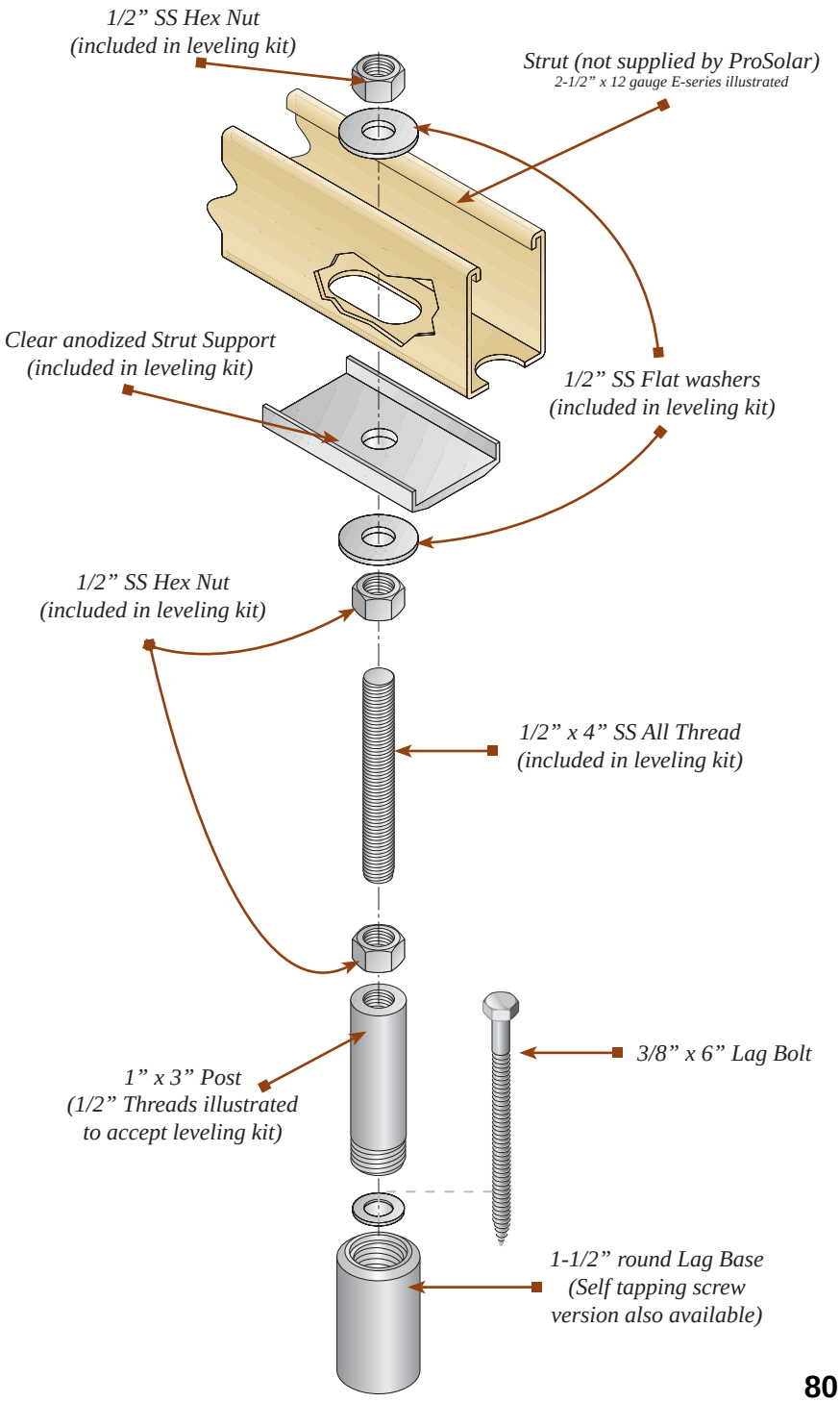
PART #FMJ-DRILL

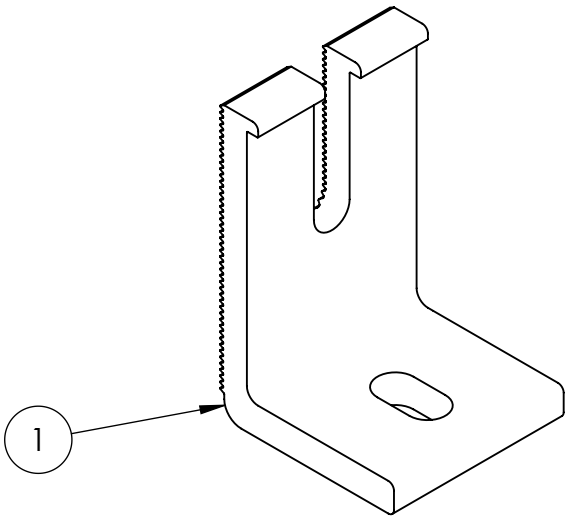
Optional drill guide available with hardened drill guide bushing. Using the drill guide insures the installer will create a perfectly straight pilot hole into the rafter or structural member greatly enhancing strength.

INSTALLATION FOR NON-LEVELING VERSION EXPLODED VIEW



INSTALLATION FOR LEVELING KIT VERSION - EXPLODED VIEW

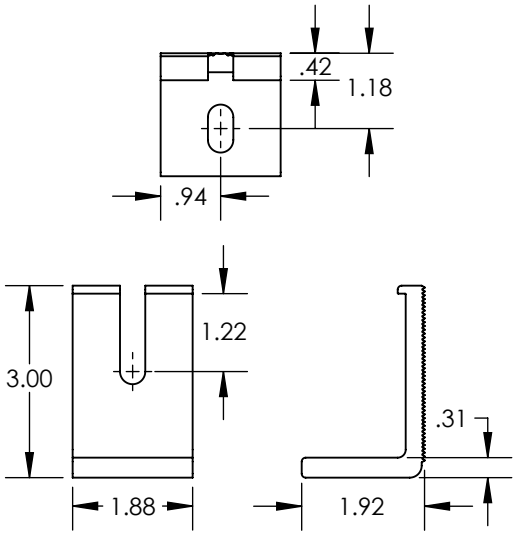




Item Number	Component	Qty in Kit
1	FOOT, EXTRUDED L - SLOTTED	4

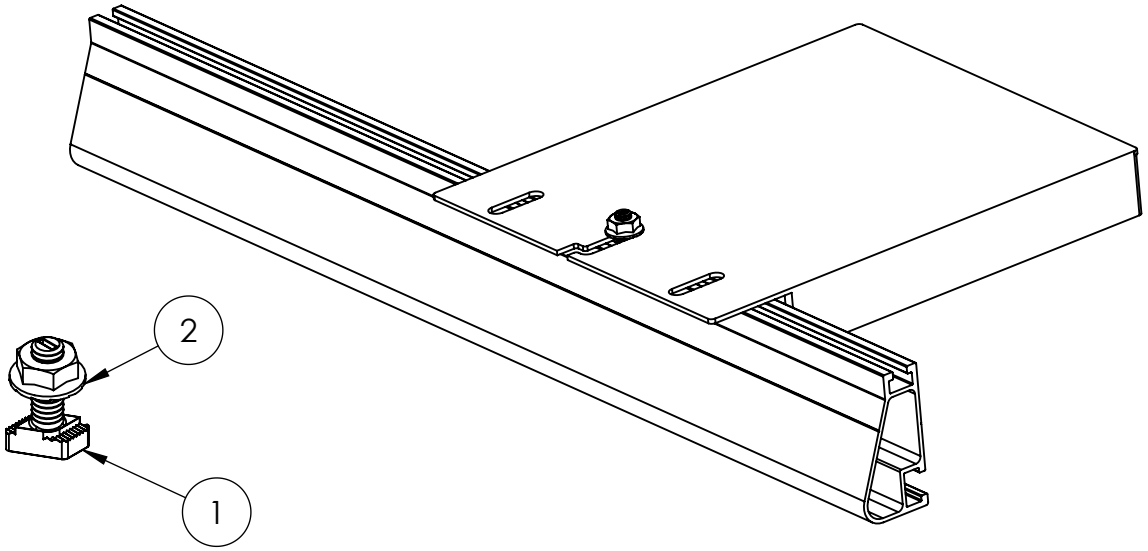
Part Number	Description
FM-LFT-003	Kit, 4Pcs, Slotted L-Foot, Mill
FM-LFT-003-B	Kit, 4Pcs, Slotted L-Foot, Black

1) Foot, Extruded L - Slotted



Property	Value
Material	Aluminum
Finish	Mill / Black

v1.0

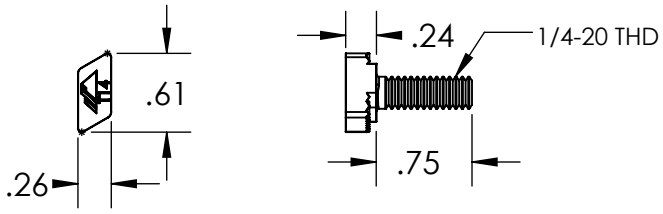


Item Number	Description	Qty. in Kit
1	Bolt, T CSTM 1/4-20 X .75" Lock SS	2
2	Nut, Flange, Hex 1/4-20 SS	2

Microinverter Kit

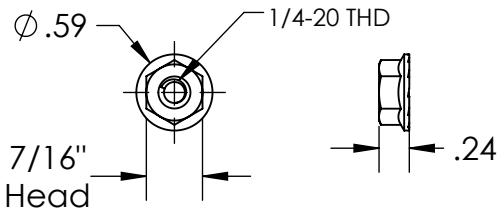
Part Number	Description
MI-BHW	Kit, 1/4 X 3/4 Microinverter Bonding Hardware, T-Bolt

1) Bolt, T CSTM 1/4-20 x .75



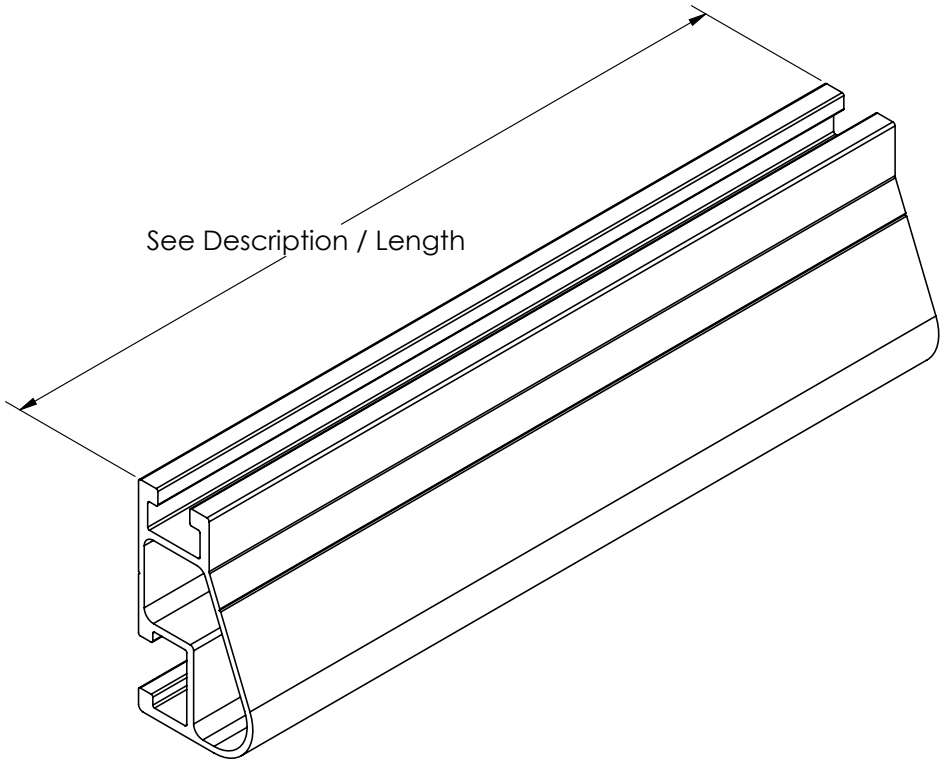
Property	Value
Material	300 Series Stainless Steel
Finish	Clear

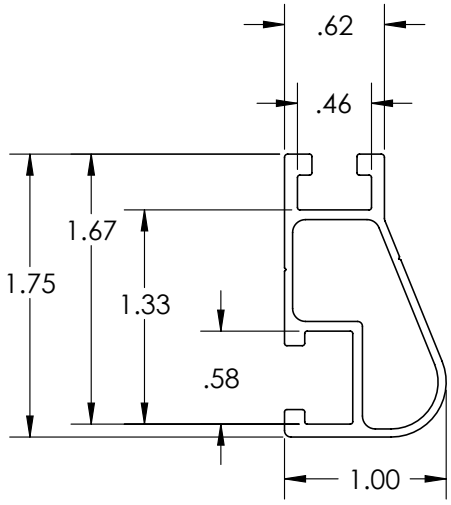
2) Nut, Flange Hex 1/4-20



Property	Value
Material	300 Series Stainless Steel
Finish	Clear

v1.0





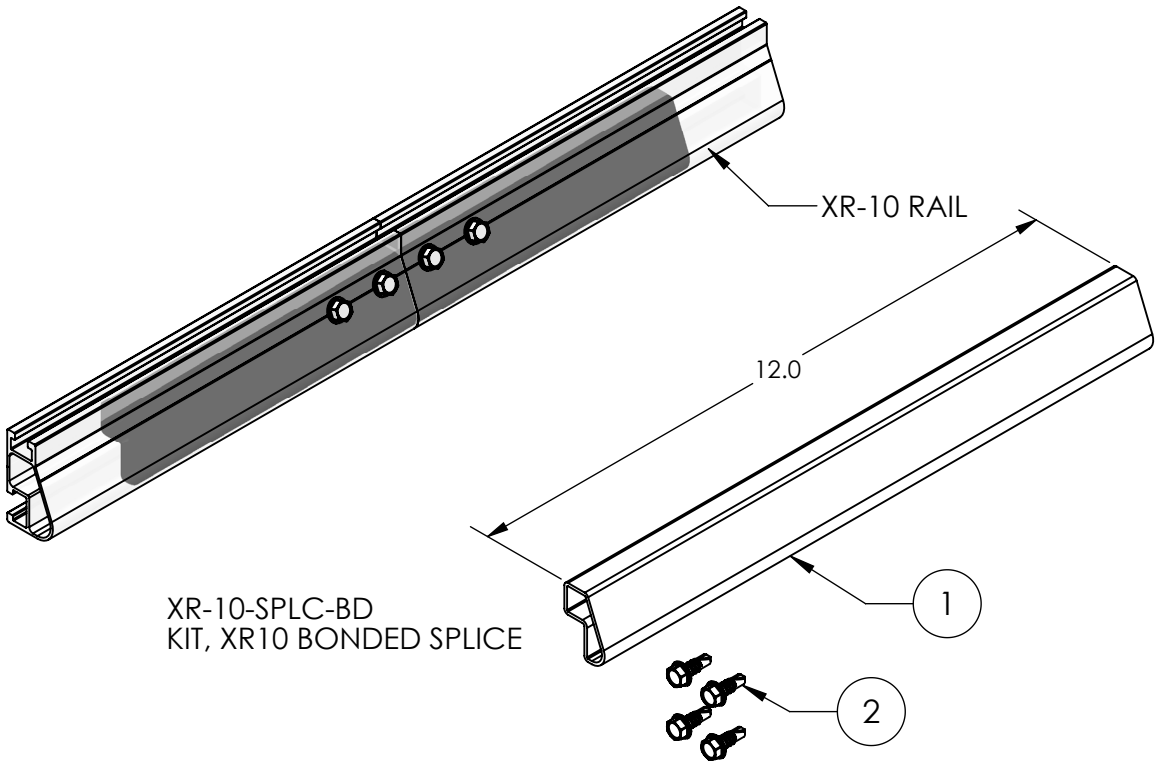
Rail Section Properties	
Property	Value
Total Cross-Sectional Area	0.363 in^2
Section Modulus (X-axis)	0.136 in^3
Moment of Inertia (X-axis)	0.124 in^4
Moment of Inertia (Y-axis)	0.032 in^4
Torsional Constant	0.076 in^3
Polar Moment of Inertia	0.033 in^4

Clear Part Number	Black Part Number	Description / Length	Material	Weight
XR-10-132A	XR-10-132B	XR10, Rail 132" (11 Feet)	6000-Series Aluminum	4.67 lbs.
XR-10-168A	XR-10-168B	XR10, Rail 168" (14 Feet)		5.95 lbs.
XR-10-204A	XR-10-204B	XR10, Rail 204" (17 Feet)		7.22 lbs.

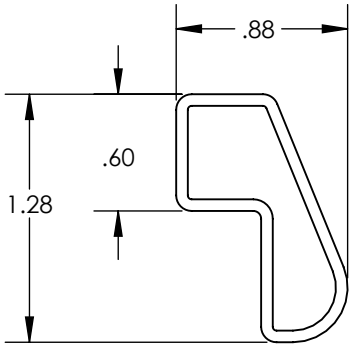
v1.0

IRONRIDGE

XR10 Bonded Splice

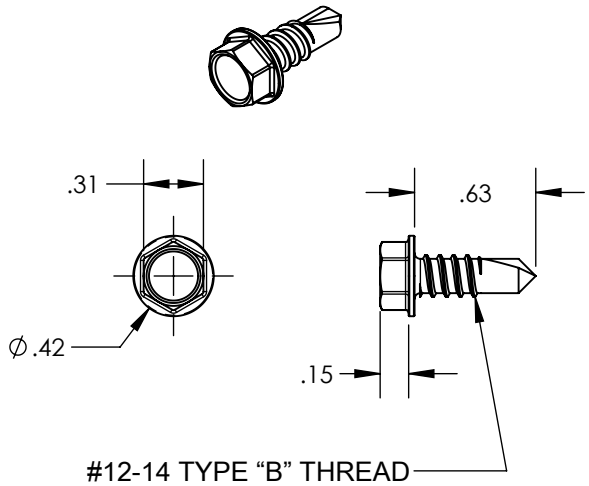


1) Splice, XR10, Mill 12" long



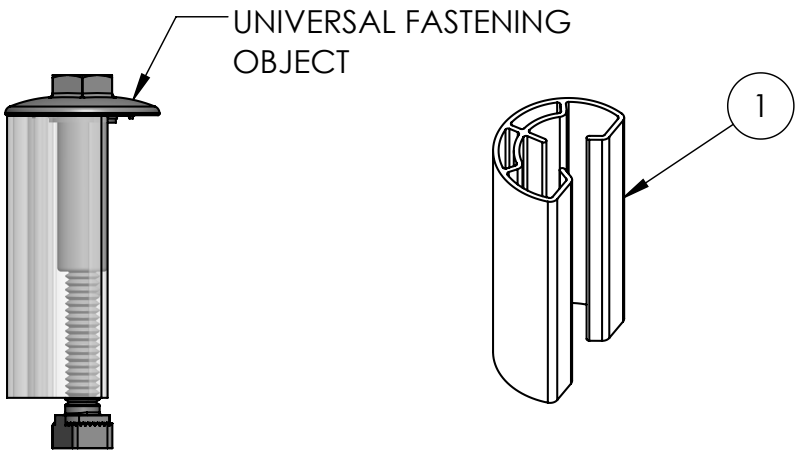
Property	Value
Material	6000 Series Aluminum
Finish	Mill

2) Screw, Self Drilling



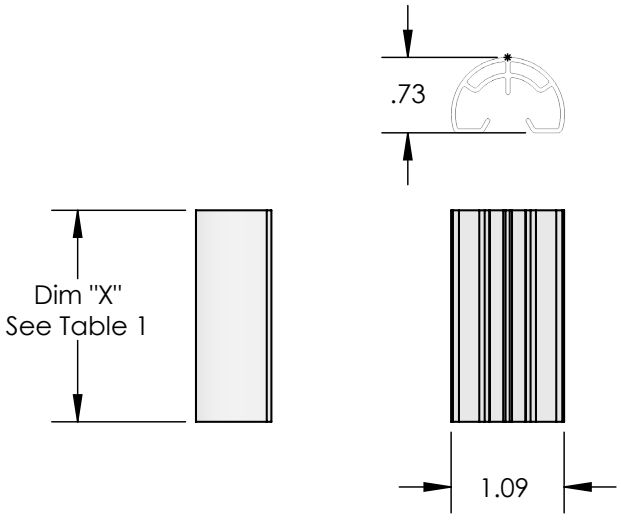
Property	Value
Material	300 Series Stainless Steel
Finish	Clear

v1.0



ITEM NO.	COMPONENT	QTY. IN KIT
1	STOPPER SLEEVE	4

TABLE 1: STOPPER SLEEVE PART NUMBES AND HEIGHT		
MILL PART NUMBER	**BLACK PART NUMBER**	**HEIGHT "X" (mm)**
UFO-STP-32 mm	UFO-STP-32 mm-B	32
UFO-STP-33 mm	UFO-STP-33 mm-B	33
UFO-STP-35 mm	UFO-STP-35 mm-B	35
UFO-STP-38 mm	UFO-STP-38 mm-B	38
UFO-STP-40 mm	UFO-STP-40 mm-B	40
UFO-STP-46 mm	UFO-STP-46 mm-B	46



Property	Value
Material	6000 Series Aluminum
Finish	Mill or Black

v1.0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