

VILLAGE OF MCFARLAND **Sustainability & Natural Resources** *NOTICE OF PUBLIC MEETING*  
**Committee**

**Thursday, October 16, 2025**

**5:30 PM**

**McFarland Municipal Center**  
5915 Milwaukee St, McFarland  
*Community Room*

AGENDA

The public may attend in-person or remotely through the Zoom webinar or telephone options listed below. *Please Note: Virtual attendance is offered as a convenience, but technical difficulties beyond the Village's control may prevent or limit its availability at any meeting. The public is encouraged to attend the meeting in person to assure full access to the proceedings.*

PLEASE CLICK THE LINK BELOW TO JOIN THE ZOOM WEBINAR:

<https://us02web.zoom.us/j/86843249644>

Or by Telephone: +1 (312) 626-6799

Webinar ID: 868 4324 9644

Press \*9 to raise/lower hand. Press \*6 to mute/unmute.

1. CALL TO ORDER, ROLL CALL.
2. PUBLIC APPEARANCES.
  - a. This is an opportunity for members of the public to address the Sustainability and Natural Resources Committee for items that are not on the agenda. Please remember this is a hybrid meeting conducted in person and through the Zoom online meeting platform. Meeting attendees wishing to address the Committee about items not on the agenda may do so at this time. Zoom attendees should type their name and address in the Question and Answer feature within the Zoom online meeting platform at this time. Members of the public who are present in person and wish to address the Committee should fill out a public comment form and turn into the meeting chairperson. When you are called upon to speak, state your name, address, and provide your comments to the Committee for their consideration. Please adhere to the 3-minute time limit. Additionally, you may send your public comments to [sustainability@mcfarland.wi.us](mailto:sustainability@mcfarland.wi.us) to be included as part of the meeting.  
  
Members of the public may also speak during their selected agenda item as they designate on the public comment form or in the Question and Answer feature on Zoom.
3. APPROVAL OF MINUTES.
  - a. Motion to approve the minutes of the September 8, 2025, Sustainability & Natural Resources Committee meeting.
4. BUSINESS.
  - a. Discussion and action to make a recommendation to the Village Board regarding the award of contract for installation of a photovoltaic system for Lift Station #2
  - b. Discussion and action to make a recommendation to the Village Board regarding award of contract for installation of a battery energy storage system at the Public Safety Center.
  - c. Discussion on Seed Library.
5. SCHEDULE NEXT MEETING DATE.
  - a. Monday, November 10, 2025 at 6:00 p.m.

## 6. ADJOURNMENT.

Any person who has a qualifying disability as defined by the Americans with Disabilities Act that requires the meeting or materials at the meeting to be in an accessible location or format should contact the McFarland Municipal Center at (608)838-3153, 5915 Milwaukee Street, McFarland, Wisconsin, or [village.clerk@mcfarland.wi.us](mailto:village.clerk@mcfarland.wi.us) by 2:00 p.m. at least 5 business days prior to the meeting so that any necessary arrangements can be made to accommodate each request. If the meeting or request is less than 5 business days from the meeting, requests for accommodations may still be made and reasonable efforts will be made to accommodate each request.

**Minutes**  
**Sustainability & Natural Resources Committee Meeting**  
**September 8, 2025**

**Committee Members Present:** Miguel Pena, Alisa Leamy, Lori Whitman, Kaci Coconate, Michael Allen (6:05 p.m.)

**Committee Members Absent:** Nathan Berg, Christine Mania

**Staff Present:** Lee Igl, Public Works Director; Kong Thao, Associate Planner; Phil McDade, Utility Clerk

1. CALL TO ORDER

Committee Chairman Miguel Pena called the joint meeting to order at 6:01 p.m.

2. PUBLIC APPEARANCES.

No public appearances.

3. APPROVAL OF MINUTES

**a. Motion to approve the minutes of the August 11, 2025 Sustainability & Natural Resources Committee meeting.**

Motion by Pena, second by Leamy, to approve the minutes of the August 11, 2025, Sustainability & Natural Resources Committee meeting. Motion carried 4-0.

4. BUSINESS

**a. Discussion and action to recommend to the Village Board Resolution 2025-23, a resolution approving electric vehicle Host Site Agreement with Dane County grant at 6001 Broadhead Street and 6001 Exchange Street.**

Thao presented information on the village successfully receiving a grant through Dane County to install up to six electric vehicle (EV) charging stations at the village's Public Safety Center on Broadhead Street and municipal parking lot at the intersection of Exchange and Bashford streets. The county will pay for the initial installation of the stations, along with maintaining the stations for five years after installation. The EV stations will become municipal property after those five years. Motion by Leamy, second by Allen, to recommend to the Village Board Resolution 2025-23, a resolution approving electric vehicle Host Site Agreement with Dane County grant at 6001 Broadhead Street and 6001 Exchange Street. Motion carried 5-0.

- b. Discussion and action to make a recommendation to the Village Board regarding issuing a Request for Proposal for installation of a photovoltaic system for Lift Station #2.**

Igl discussed with the committee a plan to install solar panels at the village's new lift station to help generate power for the operations of the lift station, similar to solar panels on the village's Public Works building and Public Safety Center. Motion by Leamy, second by Allen, to recommend to the Village Board to issue a Request for Proposal for installation of a photovoltaic system for Lift Station #2. Motion carried 5-0.

- c. Discussion regarding establishing a Seed Library.**

The committee discussed re-starting a seed library as part of sustainability initiatives not in the village's long-term Sustainability Plan. Committee members discussed the village's previous seed library program, which ran from 2015-2018 but was discontinued. Committee members requested that staff reach out to communities offering seed libraries – specifically Madison and Oregon – to gather more information on how those program work.

5. SCHEDULE NEXT MEETING DATE.

- a. Thursday, October 16, 2025 at 5:30 p.m.

6. ADJOURNMENT.

Pena motioned to adjourn; Leamy seconded. Motion carried by unanimous consent. Meeting adjourned at 6:29 p.m.

  
**VILLAGE OF**  
**McFarland**  
**SUMMARY SHEET**

**MEETING DATE:** Thursday, October 16, 2025

**SECTION:** Business

**DEPARTMENT:** Public Works

**CONTACT:** Lee Igl, Public Works Director, Andrew Bremer, Comm & Eco Dev Director

**AGENDA ITEM:** Discussion and action to make a recommendation to the Village Board regarding the award of contract for installation of a photovoltaic system for Lift Station #2

**PREVIOUS ACTION:**

August 27, 2025 Public Works and Utility Committee recommended approval to the Village Board of the request for proposals for photovoltaic systems for Lift Station #2.

September 8, 2025 Sustainability & Natural Resources Committee recommended approval to the Village Board of the request for proposals for photovoltaic systems for Lift Station #2.

September 9, 2025 Village Board approves issuing a Request for Proposals for installation of a photovoltaic system for Lift Station #2.

September 10, 2025 Project put out for bid

October 2, 2025 Bid window closes.

**ISSUE SUMMARY:**

The new Lift Station #2 located at 6407 Pheasant Run has been designed to be "solar ready", including the ability to add solar panels to the roof and related electrical components within the building's electrical room. The Village Board approved issuing a Request for Proposal for installation of a photovoltaic system at their September 9, 2025 meeting. The the Village received one submittal, Arch Solar of Plymouth, WI. The installation would be completed in the spring of 2026. The project will start in 2025, making it eligible for a Focus on Energy tax credits.

**FINANCIAL/BUDGET IMPACT:**

The solar portion of the lift station project was budgeted at \$55,000. Funding is through the existing capital borrowing for the entire Lift Station #2 improvement project. The solar project bid was \$45,206.45. There will be some additional administration costs with installation and rebate submittal. The project should also be eligible for Elective Pay from the IRS of up to 30% of the project costs.

**VILLAGE PLAN REFERENCE:**

2021 Sustainability Plan. Includes the goal of achieving 50% of total municipal energy consumed per year generated from renewable by 2030 and 100% by 2040.

**ORDINANCE REFERENCE:**

None.



**BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:**

Recommended motion:

*Motion, second, to recommend to the Village Board awarding of contract to Arch Solar, for installation of a photovoltaic system at Lift Station #2, for \$45,206.45.*

**ATTACHMENTS:**

1. Lift Station 2 Solar Recommendation Letter
2. 6407 Pheasant Run Arch Solar Bid

October 9, 2025

Village of McFarland  
5915 Milwaukee Street, P.O. Box 110  
McFarland, WI 53558

Attention: Mr. Matthew Schuenke, Village Administrator

Subject: Analysis of Proposals and Recommendation for Award of Contract; Lift  
Station 2 Solar Installation; Village of McFarland

RFP Deadline: October 2, 2025 at 12:00 p.m. local time local time

Ladies and Gentlemen:

The purpose of this letter is to analyze the proposal received for the Lift Station 2 Solar Photovoltaic Array and to recommend award of a contract. This project involves the addition of a 14 kW solar array at the Village's Lift Station 2 Site.

The RFP was sent directly to six solar installation contractors and posted on the Village's website. One contractor submitted a bid.

A summary of the bids is as follows:

<b>Contractor</b>	Arch Solar, Inc.
<b>Base Bid</b>	\$45,206.45

The proposal was properly submitted.

Arch Solar is an experienced photovoltaic design and installation contractor that has completed many similar projects in the Dane County area. The bid prices are slightly higher than the pre-bid estimate due to elevated pricing for end-of-year projects. We recommend that Arch Solar, Inc. be awarded a contract for the base proposal for a total of \$45,206.45.

If you have any questions with respect to our thoughts on this matter, I am available at your convenience to discuss them with you.

Respectfully,  
TOWN & COUNTRY ENGINEERING, INC.



Tim Stieve, P.E.  
Project Engineer

TS:sai

J:\TCDead\McFarland\MC-198-W2 Lift Station #2 Improvements\Spec and Reports\Solar\Recommendation Ltr.docx



Dear Mr. Stieve and the Village of McFarland

Arch solar is excited and proud to submit the following response. Our staff of dedicated energy professionals have successfully executed numerous residential, commercial, and utility projects resulting in homeowners, businesses, and non-profits throughout Wisconsin choosing a clean sustainable form of energy. Our mission is to educate, inspire and empower current and future generations to choose a clean, sustainable form of energy. We believe our mission aligns with the Village's desire to utilize solar PV not only for the energy it produces, but also for the educational impact it will have on the community. We are confident Arch Solar is uniquely positioned to ensure the success of these installations.

Arch Solar is more than capable of handling the entire workload outlined in the RFP. We are committed to executing successful installations, and strive to offer unparalleled customer service, industry-leading products and advanced technologies. We've built our company without high pressure tactics or misleading assumptions. Once an owner chooses to go forward with Arch, we have a dedicated Operations and Engineering team that expertly and efficiently guide our customers through the process of going solar. Arch also offers an in-house operations and maintenance team that can quickly be dispatched to handle any future issues with completed projects.

We have responded to all relevant sections of the RFP and would call attention to Arch Solar's established reputation as one of Wisconsin's leading solar installers. We thank you for your consideration and for the opportunity to highlight our capabilities and experience in completing projects of this nature.

Sincerely,  
**Kyle Pockey**  
**Solar Energy Consultant**  
**Arch Solar**



## I. Bidder Qualifications

- Wisconsin Contractor's License number: 1097745
- Focus on Energy Trade Ally
- Member of Amicus Solar Cooperative
- Multiple Master Electricians and NABCEP Certified Installers and Office personnel

## II. Scope of Work

**Location:** McFarland Lift Station 2

**Project Address:** 6407 Marsh Woods Drive, McFarland, WI 53558

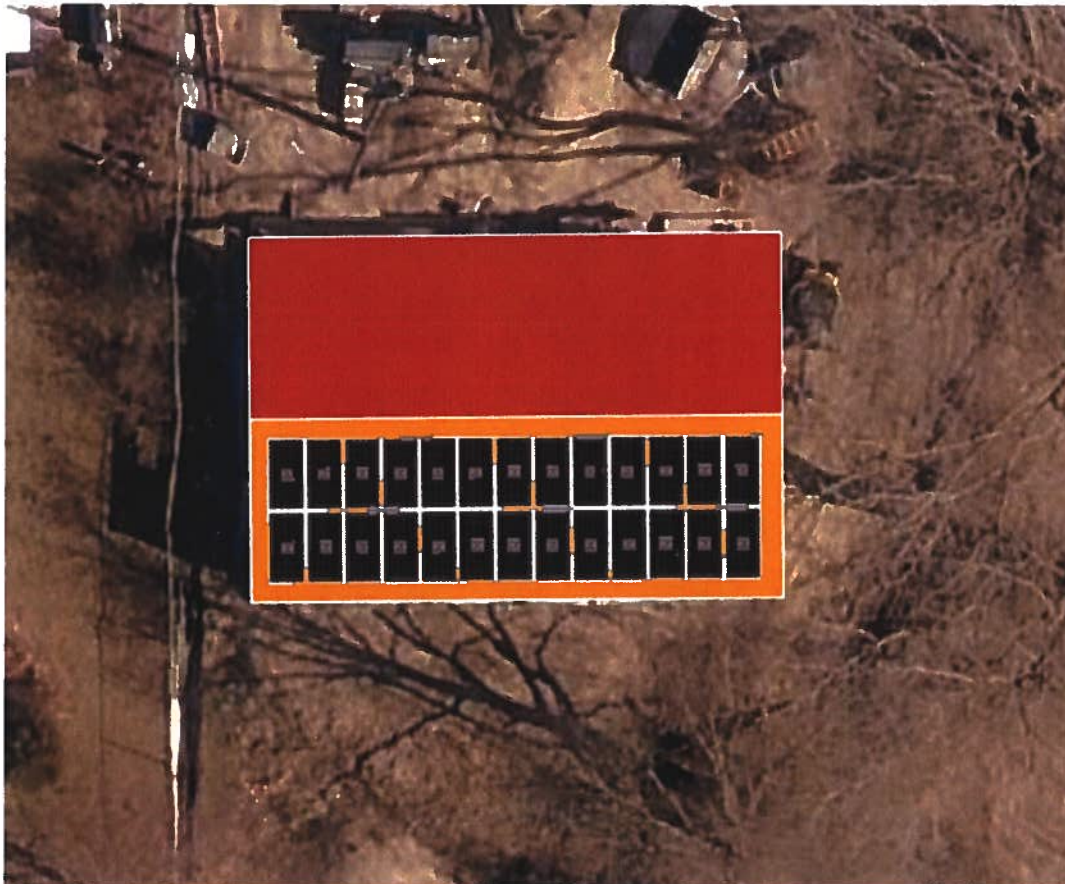
**System Size:** 14.17 (kWdc)

### Project Design Details:

	Quantity	Make/Model
Modules	26	ZNShine ZXM7-SHLD144 545-watt
Inverter	26	Enphase IQ9N-3P microinverters

**Design or other notes:** Layout is subject to change at the request of owner or for technical requirements.

### Approximate Layout of Project:





*This project includes but is not limited to:*

- 1) Install (26) – ZNShine ZXM7-SHLD144 545-watt solar modules.
- 2) Install (26) – Enphase IQ9N-3P microinverters.
- 3) Install IronRidge XR100 module racking
- 4) Install all combiner boxes, disconnect switches, overcurrent protection devices, meters, enclosures, conduit, wire, warning placards and any other equipment required for a code compliant photovoltaic system.
- 5) Install all performance monitoring equipment.
- 6) Obtain all required permits and approvals from any authorities having jurisdiction.
- 7) Complete paperwork for Focus on Energy incentive, if applicable.
- 8) Administer interconnection agreement with local electric utility.



Installed system price - \$45,206.45

Base Bid Pricing Table

SITE AND SYSTEM INFO		DETAILS	
System Type	RM Gable Fixed		
Module	ZNShine ZXM7-SHLD144 545-watt		
Module Quantity	26		
DC Watts	14170		
COMPONENT	PRICE	PRICE PER WATT	
Panels	\$ 7,207.70	\$	0.5087
Inverters	\$ 11,566.74	\$	0.8163
Racking	\$ 6,712.00	\$	0.4737
Ballast Block	\$ -	\$	-
BOS	\$ 4,618.46	\$	0.3259
Add On Items	\$ -	\$	-
Labor	\$ 6,145.00	\$	0.4337
Shipping	\$ 430.00	\$	0.0303
Rental Equipment	\$ 1,550.00	\$	0.1094
Permitting	\$ 2,580.00	\$	0.1821
Engineering	\$ 4,396.55	\$	0.3103
<b>Total</b>	<b>\$ 45,206.45</b>	<b>\$</b>	<b>3.1903</b>

Components and warranties:

Modules – ZNShine ZXM7-SHLD144

- 545-watt output
- 12-year product warranty
- 30-year linear power performance warranty

Inverters – Enphase IQ9N-3P microinverters

- 427-watt output
- 25-year limited warranty
- Includes panel level production-monitoring

Racking – IronRidge XR100

- 25-year product warranty



### **Bid Documents:**

Receipt of the following bid documents is included in Contractor's pricing:

- Bid Specifications
- Roof Layout Plan

## **Logistics of project**

### **A. Anticipated Contractor installation timeline:**

Arch's anticipated installation would have substantial completion of the project to take place in Q1-Q2 of 2026, with commissioning to follow.

### **B. Anticipated material lead times:**

All PV panels, inverters, racking, and balance-of-system components are stocked in our Plymouth and Milwaukee warehouses. When the stock of any component is depleted, we utilize local vendors to fulfill orders and restocking.

### **C. Rebates or incentives associated with the project:**

Owner will be eligible for all incentives included within the 2022 Inflation Reduction Act, namely the 30% Federal Tax Credit for renewables as well as the 10% Domestic Content Bonus Credit.

Owner will also be eligible for Focus on Energy Prescriptive Renewable Incentives. Arch Solar will apply for and provide support with the Owner's application for the Focus incentives, with incentives being paid directly to the Owner.

The project will meet all criteria required by Focus on Energy to qualify for the Prescriptive Renewable Incentives.



### III. Arch Solar Profile

#### A. Company Profile

Arch Electric Inc. was founded by Ed and Mindy Zinthefer in 2003. Arch is headquartered in Plymouth, WI with an office and warehouse in Milwaukee, WI and Madison, WI as well. Arch's Wisconsin State Electrical Contractor License number is WI # 1097745. Beginning in 2022, Arch Solar subdivided as the business unit focused on primarily residential and small commercial customers. In 2023, Arch developed what were originally departments into independent, but collaborative, business units. Arch Solar Inc. works on primarily residential solar with some non-profit, agricultural and small commercial projects.

Arch is an equal opportunity employer that invests in its staff development and encourages diversity and inclusiveness in accordance with the Wisconsin Fair Employment Act. We have women and minorities in key leadership positions. Our Professional Employment Organization is Empower HR, which is a nationally recognized expert in all facets of workplace compliance, leadership development, career development, and HR best practices training.

Currently, Arch as a whole has over 170 full-time employees including Master, Journeymen, and Apprentice Electricians. We have 29 NABCEP-trained professionals on staff, nine of whom are in the field. The Certifications vary from NABCEP Associate to NABCEP Certified Installers and NABCEP Technical Sales. Arch Solar Inc itself has over 30 employees, many with NABCEP credentials and other specializations. Every person our customers interact with is an Arch employee, and we're proud of that fact!

#### B. Efficiency

Our experienced operations staff allows for us to manage the significant workload that residential, commercial, and utility solar projects represent. We utilize a CRM to efficiently track where customers are at in the decision-making process, and have integrated our project management tool into our CRM so there is seamless handoff from our sales to operations team.

Arch has an excellent website and growing social media presence that we can leverage to promote the renewable project throughout your community. We can easily add landing pages or customized forms to our website, and have community partnerships that we can leverage to bring more awareness to the project, i.e. Madison Mallards sponsorship.

#### C. Financial profile

Arch is a financially stable company with good cash-to-asset ratio and excellent credit. In 2018 we purchased the building we had been leasing in Plymouth. Arch also opened its Milwaukee office in December of 2018 to better serve the market there. There was tremendous growth in 2018 for Arch that has strengthened our longevity and commitment as a long term player in the Wisconsin solar industry. In early 2020 Arch opened its Madison office and warehouse on Vondron Rd in Madison. In 2022 Arch solar leased a larger building with warehouse in Milwaukee and has been growing our team in that area and throughout the southern half of our great state. Arch's approach to growth is measured and our financial position is strong. More information on our financial situation available upon request. Arch Solar Inc. was originally a department of Arch Electric Inc, but is now an independent business focused on residential, small commercial and non-profit solar.



#### *D. Additional benefits*

Arch is excited to offer educational sessions throughout the project for interested citizens of Verona and beyond. We'd love to facilitate such opportunities to ensure the program's success as well as leveraging our existing community partnerships such as our partnership with non-profit groups like RENEW Wisconsin, the MREA, and our sponsorship of the Madison Mallards to bring more awareness to the program overall.

Arch Solar believes in providing a living wage for all employees. We ensure our employees are well-trained, well-compensated, and highly qualified for the work we ask them to do. Rather than simply post to social media about equity and inclusion, we're busy participating. Arch has also been a long-term supporter of non-profit groups like the MREA and RENEW WI. Arch Solar Inc. was founded by Ed and Mindy Zinthefer in 2003. Arch is a Woman Owned Business Enterprise with Mindy Zinthefer being the owner and CEO. There is also a second generation succession plan for the company as Jolynn and Cody VanGinkel, have become integral leaders of the management team. Arch is headquartered in Plymouth, WI with offices in Milwaukee and Madison, Wisconsin. Their Wisconsin State Electrical Contractor License number is WI # 1097745.



## IV. Qualifications of Project Team

Key personnel and their qualifications for this project are as follows, and more info can be found about our fantastic team at <https://archelec.com/about-our-team/>

### A. Arch Management Team



#### **Mindy Zinthefer – Chief Executive Officer**

Mindy has been with Arch since its inception in 2003. She encouraged Ed to take a giant leap of faith and follow their vision for a company with the utmost regard to quality, service, and environmental stewardship. Her role in Arch now centers on administration, strategic development and overall business sustainability.



#### **Ed Zinthefer – Chief Technical Officer and Director of Operations WI Master Electrician # 270617 and NABCEP #032407-74**

Ed is a 20+ year Master Electrician. In 2005, Ed became one of the first Wisconsin NABCEP Certified Solar PV Installers. He is also one of nine IREC Certified Master PV Trainers. In the past, he was been a Compliancy Agent for Focus on Energy and an instructor at the MREA. Ed is involved in system design, procurement and overall quality control.



#### **Jolynn Van Ginkel – Vice President**

Jolynn grew up in the family business and is the second- generation preparing to continue to lead the company toward its ambition of serving the underserved solar market in Wisconsin. She is intrinsically engaged with all aspects of the business and has done everything from driving a forklift while unloading semis, to managing the parts and pieces of inventory to creating Arch's digital presence.

**Angie Kochanski – Director of Business Development**



Angie has been in the solar industry since 2012 and has a diverse background in various sectors of the industry. In early 2022 Angie was promoted to Director of Arch Solar, the team responsible for residential and small-scale solar projects. She takes pride in assisting people as they make a commitment to invest in solar and ensures they feel confident through the process. Angie has a 3kw solar installation on her home in Milwaukee and enjoys sharing her personal solar experience with others. Angie has had experience leading 6 group buys in recent years.

**Justin Van Camp – Head of Design and Engineering**



Justin began his career at Arch in 2019 as a Solar Designer / Engineer. He graduated from UW-Oshkosh with a BS in Environmental Engineering and has also received his NABCEP PV Design Specialist degree and FAA Part 107 Drone Pilot Certification. He loves that he can come to work and make the world a better, cleaner, more sustainable place and fight against climate change. When he is not working, he enjoys golfing, hiking/backpacking/camping, and playing video games.

**Kyle Pockey – Solar Energy Consultant**



Kyle graduated in Spring of 2022 with a degree in Electrical Engineering Technology from Waukesha County Technical College and joined Arch later that fall. Kyle has an extensive sales and support background in both the automotive repair and construction equipment industries. He is eager to align his skills with his passion for sustainability at Arch! He is a resident of Madison and loves helping his neighbors evaluate their solar potential.



## *Operations, Maintenance, Design & Admin Team*

Arch Solar has a talented team of solar professionals that make up our O&M, Design and Operations teams. They manage every aspect of project setup, including permitting, interconnection applications and post installation service.

**Dani Beierschmitt – Solar PV Designer**



**Laura Schneider – Solar Project Coordinator**



**Tyler Weber- Service & Quality Management Specialist**



**Ryan Punzenberger – Head of Estimating and Procurement**



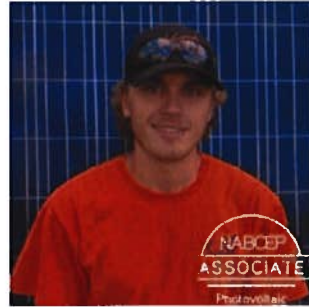
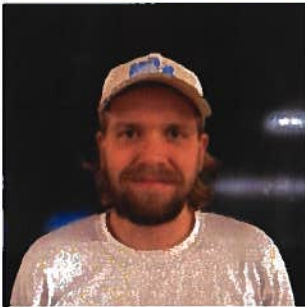
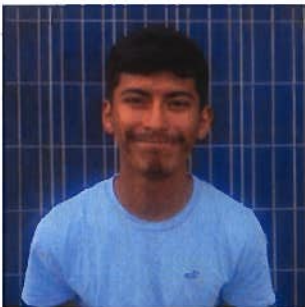
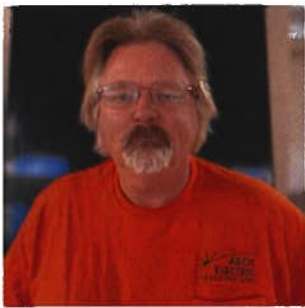
**Josh Wall – Asset Manager**





### Installation Crews

Arch has grown our installation team in size and number over the past few years. Arch has 3 full-time electricians on staff and several individuals pursuing an electrical license as part of our apprenticeship program. Our installers are essential to our success, and we've been able to grow this team to over a dozen of the hardest working folks you'll meet. Subcontractors are not used by Arch Solar for the design, installation or maintenance of your system.





## V. Business Practices

### *A. Permitting and interconnection:*

Arch operations staff ensure that one-line diagrams and other permitting requirements are submitted in a timely manner. This should enable the permitting process to move quickly, depending on the workload and turnaround time for permitting agencies. Interconnection timing in many ways is determined by the utility and their workload, but we will have staff and/or subcontractors ready for commissioning when they are scheduled.

### *B. Financing and incentives*

Arch staff are happy to help facilitate successful Focus on Energy incentive reservation and follow-up. We will provide all relevant solar information required by lenders and incentive providers in a timely manner.

### *C. Change Orders*

We will make every effort to minimize or eliminate change orders, but they do happen occasionally. If a change order is needed, we notify the customer before any work has begun and provide them with the cost and other change order details.

### *D. Work practices*

Arch Solar takes safety incredibly seriously. Many of our staff have taken (or are in the process of taking) OSHA 10 and OSHA 30 training courses. Our teams discuss safety hazards and follow all OSHA required safety practices. We have regular unannounced safety audits performed by consultants and staff.



## VI. Work Quality

### A. Warranties:

#### **Installation Warranty:**

*Workmanship:* All Arch Solar installations include a 5-year workmanship warranty that is detailed in the example contract found in the appendix (exhibit C).

**Equipment Warranties:** Please refer to the appendix for spec sheet & warranty information.

### B. Installations

Arch Solar shows that they take pride in their work by returning to a job site to broom-clean condition upon completion of the installations. During installations we take all necessary steps to reduce negative impacts to the property, and our in-house operations team keeps the customers well informed of the work schedule so they can plan accordingly. In most cases residential installations take 2 days to complete, minimizing the disturbance for all involved. The addition of batteries or ground mounting will increase the time required.

### C. Project completion

Arch Solar monitors quality throughout the installation and interconnection process. We have quality control procedures and checklists that we require for all our installations, no matter how small.

In addition to our own quality control procedures, we have vast experience working with inspectors, AHJ's and utilities, which gives our technicians the ability to anticipate questions and challenges before they occur.

## Commercial References

### References

Mike O'Connor – Dominion Properties

<https://dominion-properties.com/Development/SageOnJackson/>

Cell: (414) 406-8888

Mike Schneider – School Sisters of St. Francis

<https://www.jsonline.com/story/money/2017/07/20/school-sisters-saint-francis-get-largerooftop-solar-array/493253001/>

Cell: (414) 588-0540

David Nankin – Fairfield Marriot Hotel – Pleasant Prairie

<https://archelec.com/fairfield-marriot-in-pleasant-prairie-goes-solar/>

Cell: (847) 910-5055

Cliff Canovi – IKEA Oak Creek

<https://www.jsonline.com/picture-gallery/money/2018/08/01/foxconn-solarpanels/878732002/>

Office: (414) 766-0560 x1200

Ken Manninen - Alliance Manufacturing, Inc.

<https://www.alliancemfginc.com/alliance-goes-green-with-solar-energy/>

Office: (920) 922-8100





**Acknowledgement:**

The undersigned represents that it has examined the sites, read the RFP and understands the documents and conditions affecting the project. The undersigned understands and will perform all work associated with this project within all applicable laws, ordinances, rules and regulations that may affect cost, progress or performance of the work. The undersigned accordingly submits the following proposal. The undersigned has examined any and all Addenda if any issued during the Proposal period and is familiar with all the contents thereof and acknowledges all Addenda.

<u>Arch Solar</u>	<u>2302 Vondron Rd</u>
Legal Name of Company	Street Address
<u><i>Kyle Pockey</i></u>	<u>Madison, WI 53718</u>
By (signature)	City, State Zip
<u>Solar Energy Consultant</u>	<u>(608) 228-3347</u>
	<u>kyle@archsolar.com</u>
Title	Telephone
	Email

# ZXM7-SHLD144 Series



Znshinesolar 10BB HALF-CELL Light-Weight  
Double Glass Monocrystalline PERC PV Module

525W | 530W | 535W | 540W | 545W | 550W



## Excellent Cell Efficiency

MBB technology decreases the distance between busbar and finger grid line which is benefit to power increase.



## Better Weak Illumination Response

More power output in weak light condition, such as haze, cloudy, and early morning.



## Anti PID

Ensured PID resistance through the quality control of cell manufacturing process and raw materials.



## Adapt To Harsh Outdoor Environment

Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity environment.



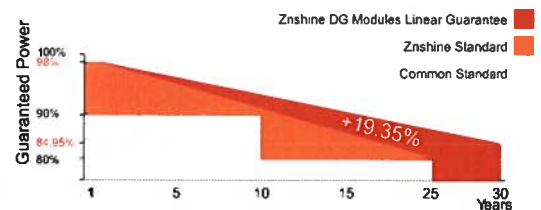
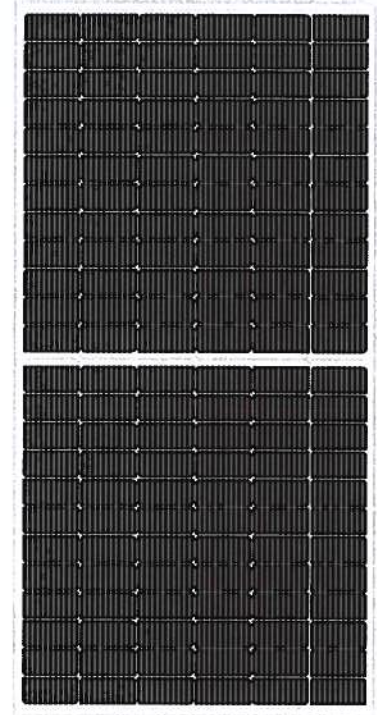
## TIER 1

Global, Tier 1 bankable brand, with independently certified state-of-the-art automated manufacturing.



## Excellent Quality Management System

Warranted reliability and stringent quality assurances well beyond certified requirements.



12 years product guarantee  
30 years output guarantee



0.45% annual degradation  
after the first year



IEC61215/IEC61730/IEC61701/IEC62716/UL61730

ISO 9001: Quality Management System

ISO 14001: Environmental Management System

ISO45001: Occupational Health and Safety Management System

Founded in 1988, Znshinesolar is a world's leading high-tech PV module manufacturer. With the state-of-the-art production lines, the company boasts module capacity of 6GW. Bloomberg has listed Znshinesolar as a global Tier 1 PV module maker. Today Znshinesolar has distributed its sales to more than 60 countries around the globe.



## Limited Warranty for Double Glass Solar PV Modules

### 1. Limited Product Warranty – Twelve Years Repair, Replacement or Refund Remedy

Subject to the below exclusions, ZNSHINE PV-Tech Co., Ltd. (hereinafter referred to as “ZNSHINE PV”) warrants to the original buyer (the “Buyer”) that the modules shall be free from defects in materials and workmanship that have an effect on module functionality under normal application, installation, use and service conditions as specified in ZNSHINE PV’s standard product documentation and are hence endowed with a Limited Product Warranty of twelve (12) years, and only the modules installed on rooftop, where the minimum clearance between rooftop surface and backside of module is less than 500mm, are hereby endowed with a limited product warranty of fifteen (15) years valid for shipment date ex. ZNSHINE factory from January 1st, 2020 to December 31st, 2020.

ZNSHINE PV guarantees that the module will maintain the mechanical integrity and stability in accordance with approved operation methods described in our installation instructions; the glass of a module will maintain its integrity provided there are no indications of localized impacts or external forces; and that the cable and connector plug of a module will remain safe and operational provided modules are professionally installed. Any damages caused by abrasion, improper installation or animals are exempt from this warranty.

Claims under the warranty can only be accepted if the Buyer can provide proof that the malfunctioning or non-conformity of a module results exclusively from defects in materials and/or product under normal application, installation, use and service conditions specified in ZNSHINE PV’s standard product documentation. To this end, the Buyer shall also provide evidence such as module purchase date, transportation, storage, and deployment information. Any color change on module or any other changes on module appearance do not represent defects, insofar the change in appearance does

not stem from defects in material and/or product, and does not cause degradation of functionality of the module. If the product fails to conform to this warranty, ZNSHINE PV will, at its option, either repair or replace the product, or provide an appropriate residual market value of the product(s) as compensation.

## **2. 30-Year Limited Peak Power Warranty (Linear Warranty)**

If, within a period of thirty (30) years from the date shown in the invoice to the customer (Warranty Start Date), any module exhibits a power output inferior to the lowest value of nominal power output indicated by ZNSHINE PV in their Product Information Sheet, provided that such loss in power is determined by ZNSHINE PV (at its sole and absolute discretion) to be due to defects in material or product, ZNSHINE PV will replace such loss in power by either providing additional modules to the customer to make up for such loss in power, or by replacing the defective module(s) at the option of ZNSHINE PV.

ZNSHINE PV guarantees that the loss of power output with respect to the nominal power output specified in the relevant Product Data Sheet and measured at Standard Test Conditions (STC) for the Product(s) shall not exceed:

(1) for poly-crystalline Double-Glass Modules: 2.5% in the first year, thereafter 0.5% per year ending with 83% in the 30<sup>th</sup> year from the Warranty Start Date

(2) for mono-crystalline Double-Glass Modules: 3.0% in the first year, thereafter 0.5% per year ending with 82.5% in the 30<sup>th</sup> year from the Warranty Start Date

(3) for PERC-monocrystalline Double-Glass Modules: 3.0% in the first year, thereafter 0.5% per year ending with 82.5% in the 30<sup>th</sup> year from the Warranty Start Date

## **3. Exclusions and Limitations**

1) In any event, all warranty claims must be filed within the applicable warranty period.

2) The “Limited Product Warranty” and the “Limited Peak Power Warranty” do not apply to any modules which have been subjected to:

- Misuse, abuse, neglect or accident;
- Alteration, improper installation or application;
- Non-observance of ZNSHINE PV’s installation and maintenance instructions;
- Repair or modifications by someone other than an approved service technician of ZNSHINE PV;
- Power failure surges, lighting, flood, fire, accidental breakage or other events outside ZNSHINE PV’s control.

3) Both the “Limited Product Warranty” and the “Limited Peak Power Warranty” do not cover any transportation charge, custom clearance or any other costs for return of the modules, or for reshipment of any re- paired or replaced modules, or costs associated with installation, removal or re-installation of the PV-modules.

4) Warranty claims will not be honored if the type or serial number of the modules have been altered, removed or made illegible.

#### **4. 4.Limitation of Warranty Scope**

These “Limited Warranties for PV Modules” set forth herein are expressly in lieu of and exclude all other express or implied warranties, including but not limited to warranties of merchant ability and of fitness for particular purpose, use or application, and all other obligations or liabilities on the part of ZNSHINE PV, unless such other obligations or liabilities are expressly agreed to in writing signed and approved by ZNSHINE PV. ZNSHINE PV shall have no responsibility or liability whatsoever for damage or injury to persons or property, or for other loss or injury resulting from any cause whatsoever arising out of or related to the modules, including, without limitation, any defects in the module, or from use or installation. Under no circumstances shall ZNSHINE PV be liable for incidental, consequential or special damages, howsoever caused. Loss of use, loss of profits, loss of production, and loss of revenues are

specifically and without limitation excluded. As for the single unit of module, ZNSHINE PV's aggregate liability, if any, in damages or otherwise, shall not exceed the invoice value as paid by the customer.

## **5. Obtaining Warranty Performance**

If the Customer feels a justified claim covered by this "Limited Warranty for PV Modules", an immediate notification directly to ZNSHINE PV shall be filed by mailing a (registered/certified) letter in writing to the addresses of ZNSHINE PV listed here under, or, sending an email letter to the email account of ZNSHINE PV listed here under. Together with the notification, the Customer should enclose the evidence of the claim with the corresponding serial number of the module(s) and the invoice on which the modules have been purchased. The return of any PV modules will not be accepted unless prior written authorization has been given by ZNSHINE PV.

## **6. Severability**

If a part, provision or clause of this "Limited Warranty for PV Modules", or the application thereof to any person or circumstance, is held invalid, void or unenforceable, such holding shall not affect and shall leave all other parts, provisions, clauses or applications of this "Limited Warranty for PV Modules", and to this end such other parts, provisions, clauses or applications of this "Limited Warranty for PV Modules" shall be treated as severable.

## **7. Disputes**

In case of any discrepancy in a warranty claim, a first-class international testing institute such as Fraunhofer ISE in Freiburg, Germany, TÜV Rhineland in Cologne, Germany or ASU Arizona State University shall be involved to judge the claim finally.

All fees and expenses shall be borne by the losing party, unless otherwise awarded. The final explanation right shall be borne by ZNSHINE PV.

## **8. Various**

The repair or replacement of the modules or the supply of additional modules does not cause the beginning of new warranty terms, nor shall the original terms of this “Limited Warranty for PV Modules” be extended. Any replaced modules shall become the property of ZNSHINE PV made for their disposal. ZNSHINE PV has the right to deliver another type (different in size, color, shape and/or power) in case ZNSHINE PV discontinued producing the replaced modules at the time of the claim.

## **9. Warranty transfer**

This warranty is transferable when the product remains installed in its original location at the warranty registration.

## **10. Claim Verification and Remediation Process**

If the Buyer believes that it has a justified claim covered by the limited warranties set forth above, then the Buyer shall comply with the following Return Material Authorization (“RMA”) process. The Buyer must submit such claim in writing to ZNSHINE PV within the applicable warranty period specified above to the following addresses:

Global:

ZNSHINE PV TECH Co., Ltd.

#1 Zhixi Industry Zone, Jintan, Jiangsu Province People’s Republic of China

ZIP code: 213251



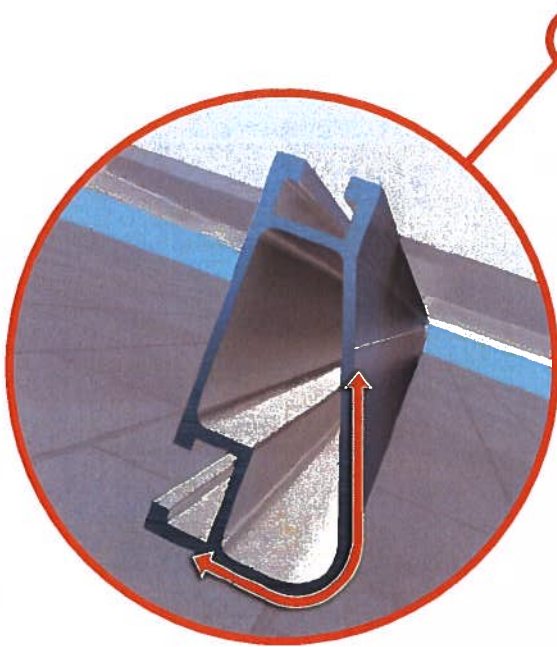
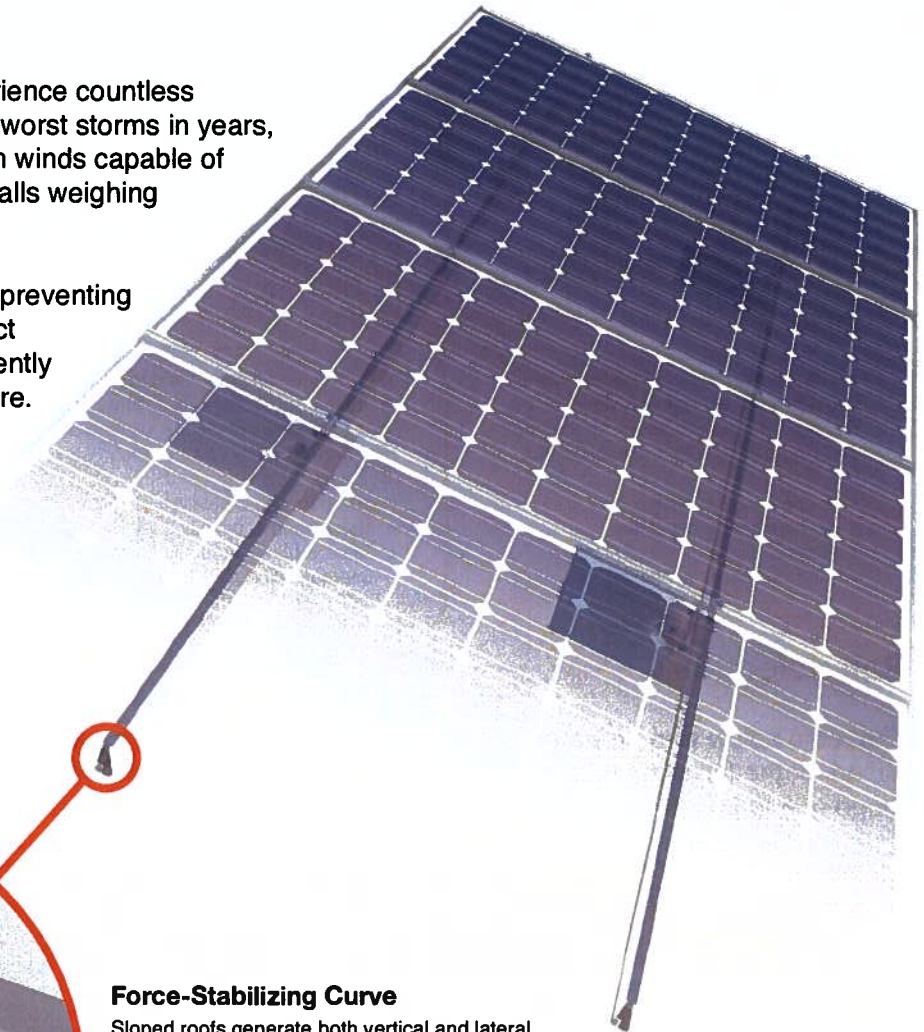


# XR Rail Family

## Solar Is Not Always Sunny

Over their lifetime, solar panels experience countless extreme weather events. Not just the worst storms in years, but the worst storms in 40 years. High winds capable of ripping panels from a roof, and snowfalls weighing enough to buckle a panel frame.

XR Rails are the structural backbone preventing these results. They resist uplift, protect against buckling and safely and efficiently transfer loads into the building structure. Their superior spanning capability requires fewer roof attachments, reducing the number of roof penetrations and the amount of installation time.



### Force-Stabilizing Curve

Sloped roofs generate both vertical and lateral forces on mounting rails which can cause them to bend and twist. The curved shape of XR Rails is specially designed to increase strength in both directions while resisting the twisting. This unique feature ensures greater security during extreme weather and a longer system lifetime.

**Compatible with Flat & Pitched Roofs**



XR Rails are compatible with FlashFoot and other pitched roof attachments.



IronRidge offers a range of tilt leg options for flat roof mounting applications.

**Corrosion-Resistant Materials**

All XR Rails are made of 6000-series aluminum alloy, then protected with an anodized finish. Anodizing prevents surface and structural corrosion, while also providing a more attractive appearance.



# XR Rail Family

The XR Rail Family offers the strength of a curved rail in three targeted sizes. Each size supports specific design loads, while minimizing material costs. Depending on your location, there is an XR Rail to match.



### XR10

XR10 is a sleek, low-profile mounting rail, designed for regions with light or no snow. It achieves spans up to 6 feet, while remaining light and economical.

- 6' spanning capability
- Moderate load capability
- Clear & black anodized finish
- Internal splices available



### XR100

XR100 is the ultimate residential mounting rail. It supports a range of wind and snow conditions, while also maximizing spans up to 10 feet.

- 10' spanning capability
- Heavy load capability
- Clear & black anodized finish
- Internal splices available



### XR1000

XR1000 is a heavyweight among solar mounting rails. It's built to handle extreme climates and spans up to 12 feet for commercial applications.

- 12' spanning capability
- Extreme load capability
- Clear anodized finish
- Internal splices available

## Rail Selection

The table below was prepared in compliance with applicable engineering codes and standards.\* Values are based on the following criteria: ASCE 7-16, Gable Roof Flush Mount, Roof Zones 1 & 2e, Exposure B, Roof Slope of 8 to 20 degrees and Mean Building Height of 30 ft. Visit [IronRidge.com](http://IronRidge.com) for detailed certification letters.

Load		Rail Span					
Snow (PSF)	Wind (MPH)	4'	5' 4"	6'	8'	10'	12'
None	90	XR10	XR100	XR100	XR1000	XR1000	XR1000
	120						
	140						
	160						
20	90	XR10	XR100	XR100	XR1000	XR1000	XR1000
	120						
	140						
	160						
30	90	XR10	XR100	XR100	XR1000	XR1000	XR1000
	160						
40	90	XR10	XR100	XR100	XR1000	XR1000	XR1000
	160						
80	160	XR10	XR100	XR100	XR1000	XR1000	XR1000
120	160	XR10	XR100	XR100	XR1000	XR1000	XR1000

\*Table is meant to be a simplified span chart for conveying general rail capabilities. Use approved certification letters for actual design guidance.

## Limited Warranties and Disclaimer

THIS LIMITED WARRANTY CAN ALSO BE FOUND ONLINE AT [WWW.IRONRIDGE.COM](http://WWW.IRONRIDGE.COM).

IRONRIDGE WARRANTS THAT DURING THE WARRANTY PERIOD, THE PRODUCT WILL BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP, AS FURTHER PROVIDED BELOW.

IRONRIDGE'S RESPONSIBILITY FOR DEFECTIVE GOODS IS LIMITED TO REPAIR, REPLACEMENT, OR REFUND AS DESCRIBED IN THIS WARRANTY STATEMENT.

### Who may use this Warranty?

IronRidge extends this limited warranty only to the party who originally purchased IronRidge or QuickMount PV (the "**Products**"), and any subsequent owner of the Products, subject to assignability below ("**Purchaser**"), provided the Products are installed properly and used for the purpose for which the Products are designed.

This limited warranty is assignable by Purchaser and any subsequent owner of the Products, provided that the Products remain installed at the original installation location, and provided that any subsequent owner agrees in writing to be bound by the terms of this IronRidge Limited Warranties and Disclaimer document and provides proof of purchase of the Products. Change in ownership of the Products or assignment of this Warranty will not cause the warranty periods provided herein to be reset. Any subsequent owners to whom this limited warranty is assigned shall be considered a subsequent Purchaser for purposes of this limited warranty during the period of ownership of the Products.

### What does this Warranty cover?

This limited warranty provides that Products will be free of materials and manufacturing defects that materially impair the use of the Product for its designed purpose.

### This Warranty excludes:

- a) any defect that has not been reported to IronRidge in writing (i) within the warranty periods set forth below and (ii) within ten (10) days after discovery of such defect;
- b) normal wear (including discoloration, rusting or corrosion of any pre-plated steel, or staining of any aluminum); cosmetic damage; damage resulting from negligence, accident, misuse, overloading, abuse, or improper installation (including failure to follow professional instruction and/or certification); the failure to comply with applicable laws including local building code limits; or damage from acts of God, war, criminal acts, explosions, fire, vandalism, or any other events of force majeure as may apply in accordance with applicable law;

- c) Products that have been altered, modified, or repaired without IronRidge's prior written authorization;
- d) damage to or caused by, or defects in, third party parts or materials not sold by IronRidge (irrespective of IronRidge documentation);
- e) any defect that arises as a result of any third party products, components, or materials used by the Purchaser in conjunction with the Product, which third party products or materials have not been provided for such use by or on behalf of IronRidge or the use of which has not been expressly authorized by IronRidge;
- f) Products installed, used, or maintained in a manner contrary to IronRidge documentation, including any defect that arises from the faulty handling, storage, assembly, loading, or installation of the Product, or any handling, storage, assembly, loading, or installation not in accordance with the instructions given by IronRidge, or any defect that arises from mounting the Product on a solar module, building, roof, or other construction that is unsuitable for the mounting of the Product;
- g) damage to the Products during shipment, storage, or installation;
- h) any defect that does not materially impair the use of the Product for the purpose for which it was designed, including without limitation non-structural accessories.

Further, the Finish Warranty (as defined below) shall not apply to surface oxidation or to any foreign residue deposited on a Product finish, or to Products installed in corrosive atmospheric conditions, and shall be void if the practices specified in AAMA 609 and 610-02, *Cleaning and Maintenance for Architecturally Finished Aluminum*, or ASTM 780/A780M-09, *Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings*, as applicable, are not followed.

**What is the period of coverage?**

This limited warranty shall commence on the date of shipment of the Products and last for a period of twenty-five (25) years (the "**Warranty Period**"). Notwithstanding the foregoing, the Warranty Period for accessories and electrical junction boxes shall be limited to a period of ten (10) years from the date of shipment. IronRidge further warrants that all Products with finishes will be free of visible defects, peeling, and cracking for a period of five (5) years from the date of shipment (the "**Finish Warranty**"); provided, however, that no Finish Warranty shall apply to mill aluminum, pre-plated steel, and/or polymeric Products. IronRidge may change the availability of this limited warranty at its discretion, but any changes will not be retroactive.

**What are your remedies under this warranty?**

With respect to any defective product during the Warranty Period, IronRidge will, in its sole discretion, either (a) repair or replace such Product (or defective part) free of charge or (b) refund the purchase price of the product. Such repair, replacement, or refund will not cause the Warranty Periods to be reset, will completely satisfy and discharge IronRidge's liability and obligation with respect to this

limited warranty, and will not create an expectation of warranty coverage beyond the Warranty Period. A refurbished Product may be used to repair or replace the defective components. Transportation, installation, labor, or any other costs or losses associated with failure of warranty compliance, or Product replacement or repair, are not covered by this limited warranty and are not reimbursable.

If IronRidge's warranty assessment reveals that a Product is not defective, IronRidge shall return the Product (if such Product was shipped to IronRidge for the assessment) and the Purchaser shall promptly reimburse IronRidge for all reasonable costs incurred by IronRidge in performing the assessment.

### **How do you obtain warranty service?**

To report any defect or warranty claim or to obtain warranty services, Purchaser must call (800) 227-9523 ext. 1 or contact IronRidge at <https://www.ironridge.com/company/contact-us/> during the Warranty Period.

IronRidge may request Purchaser to provide information reasonably known to the Purchaser in respect of the alleged defect or warranty claim, including, as appropriate, photographs or video recordings of the alleged defect. Purchaser shall provide IronRidge without undue delay with all additional information and cooperation (including access to facilities and premises) reasonably requested by IronRidge in respect of any warranty claim to enable IronRidge to assess each claim under this limited warranty.

### **LIMITATION OF LIABILITY**

Except as set forth above, IronRidge sells the Products on an "AS IS" basis, which may not be free of errors or defects, and ALL EXPRESS OR IMPLIED REPRESENTATIONS AND WARRANTIES, INCLUDING ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, COURSE OF PERFORMANCE, OR TRADE PRACTICE, ARE HEREBY DISCLAIMED.

THE REMEDIES DESCRIBED ABOVE ARE PURCHASER'S SOLE AND EXCLUSIVE REMEDIES AND IRONRIDGE'S ENTIRE LIABILITY FOR ANY BREACH OF THIS LIMITED WARRANTY. IRONRIDGE'S LIABILITY SHALL UNDER NO CIRCUMSTANCES EXCEED THE ACTUAL AMOUNT PAID BY PURCHASER FOR THE DEFECTIVE PRODUCT, NOR SHALL IRONRIDGE UNDER ANY CIRCUMSTANCES BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL OR PUNITIVE DAMAGES OR LOSSES, WHETHER DIRECT OR INDIRECT, INCLUDING WITHOUT LIMITATION, CLAIMS BY PURCHASER FOR DAMAGES SUFFERED BY PURCHASER'S CUSTOMERS OR CLAIMS OF THIRD PARTIES.

**Force Majeure.** IronRidge shall not be responsible for delays or failures in its performance resulting from acts or omissions beyond its reasonable control, whatever the source or cause.



# IQ9 Commercial Microinverters

The high-powered, smart grid-ready IQ9 Commercial Microinverters support 480 VAC and 208/220 VAC three-phase commercial PV systems. They boost energy harvesting and integrate with the IQ Gateway Commercial Pro, Enphase App, and analysis software for easy operation and maintenance.<sup>1,2</sup>



Key specifications	IQ9N-3P-277-A-US/ IQ9N-3P-277-A-DOM-US	IQ9N-3P-208-A-US/ IQ9N-3P-208-A-DOM-US
	Peak output power	427 VA
Nominal grid voltage	277 V (L-N)	208 V (L-L)/220 V (L-L)
Nominal frequency	60 Hz	
CEC weighted efficiency	97.5%	
Operating voltage	16–80 V	
Peak power tracking voltage	28–45 V	
Max. short-circuit DC input current	25 A	
Ambient air temperature range	–40°C to 65°C (–40°F to 149°F)	



### Easy

- Lightweight design with easy plug-and-play connectors
- Power line communication (PLC) for quick and hassle-free setup



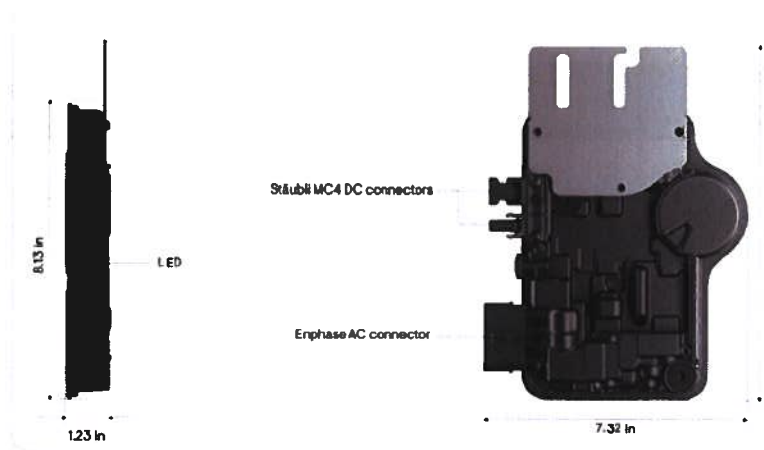
### Smart

- Complies with the latest advanced grid support standards
- Remote automatic updates for current grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA) and IEEE 1547 (UL 1741-SB) requirements (pending)



### Reliable

- Over one million cumulative hours of testing
- Class II double-insulated enclosure
- Optimized for the latest high-powered PV modules
- Tailored solutions for different grid configurations, including 480 VAC WYE and 208 VAC/220 VAC DELTA
- Industry-leading limited warranty of up to 25 years



This is a preliminary product data sheet. The products mentioned are yet to be certified. Specifications are subject to change without notice.

<sup>1</sup> IQ9N-3P Microinverters are made in the USA. The PCBA, electrical parts, and enclosure are domestically manufactured to meet the eligibility requirements for the ITC domestic content bonus adder.

Input data (DC)	Units	IQ9N-3P-277-A-US/ IQ9N-3P-277-A-DOM-US	IQ9N-3P-208-A-US/ IQ9N-3P-208-A-DOM-US
Commonly used module power for pairing	W		340–600 <sup>3</sup>
Operating voltage	V		16–60
Min./Max. startup input voltage	V		21/60
Peak power tracking voltage	V		28–45
Max. DC continuous current (module I <sub>mp</sub> )	A		16
Max. DC short-circuit current (module I <sub>sc</sub> )	A		20
Max. short-circuit DC input current	A		25
DC port backfeed current	A		0

Output data (AC)	Units	IQ9N-3P-277-A-US/ IQ9N-3P-277-A-DOM-US	IQ9N-3P-208-A-US/ IQ9N-3P-208-A-DOM-US
Peak output power <sup>4</sup>	VA		427
Max. continuous output power <sup>4</sup>	VA		427
Nominal grid voltage <sup>5</sup>	–	277 V (L-N)	208 V (L-L)/220 V (L-L)
Min.–Max. grid voltage	–	243–305 V (L-N)	183–229 V (L-L)/198–242 V (L-L)
Max. continuous output current	A	1.54	2.05/1.94
Nominal frequency	Hz		60
Max. microinverters per 20 A 480 V WYE (277 L-N) three-phase branch circuit	–	30	–
Max. microinverters per 20 A, 208 V/220 V DELTA three-phase branch circuit	–	–	12
Total harmonic distortion	%		<5
Power factor setting	–		1
Power factor range	–		0.85 leading ... 0.85 lagging
CEC weighted efficiency	%		97.5
Nighttime power consumption (tare loss)	mW	<150	<80

Mechanical data	IQ9N-3P-277-A-US/ IQ9N-3P-277-A-DOM-US	IQ9N-3P-208-A-US/ IQ9N-3P-208-A-DOM-US
Ambient air temperature range	–40°C to 65°C (–40°F to 149°F)	
Relative humidity range	4% to 100% (condensing)	
Overvoltage class AC port	III	
AC connector type	Enphase QD 4-pin connector	
DC connector type	MC4	
Dimensions (H × W × D)	206.48 mm (8.12") × 186.03 mm (7.32") × 31.25 mm (1.23") (without mounting brackets)	
Weight	1.2 kg (2.65 lb)	
Cooling	Natural convection – no fans	
Enclosure	Class II double-insulated, corrosion-resistant polymeric enclosure	

<sup>3</sup> Pairing PV modules with wattage above the limit may result in additional clipping losses. See the compatibility calculator at <https://enphase.com/installers/microinverters/calculator>.

<sup>4</sup> IQ9 Commercial Microinverters generate a single-phase AC output. A three-phase configuration with phase balancing is achieved through the use of a three-phase QD cable.

<sup>5</sup> The nominal voltage range can be configured if required by the utility. For interconnection with other system voltages, a transformer is required to connect to the grid.

Mechanical data	IQ9N-3P-277-A-US/ IQ9N-3P-277-A-DOM-US	IQ9N-3P-208-A-US/ IQ9N-3P-208-A-DOM-US
Environmental category/UV exposure rating	NEMA Type 6; outdoor	
Altitude	<3000 m (<9842 ft)	
Approved for wet locations	Yes	
Communication	IQ9N-3P-277-A-US/ IQ9N-3P-277-A-DOM-US	IQ9N-3P-208-A-US/ IQ9N-3P-208-A-DOM-US
Communication	Power line communication (PLC)	
Monitoring	Enphase App monitoring and analysis software	
Gateway compatibility	IQ Gateway Commercial Pro ( GW0-1CL-1N-D0-OR)	IQ Gateway Commercial Pro (GW0-1CL-1N-D0-OR) and IQ Gateway Commercial 2 (ENV2- IQC2-AM3-3P)
Standards	IQ9N-3P-277-A-US/ IQ9N-3P-277-A-DOM-US	IQ9N-3P-208-A-US/ IQ9N-3P-208-A-DOM-US
Grid compliance (pending)	CA Rule 21 (UL 1741-SB), UL 62109-1, UL 1741/IEEE 1547, 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 shutdown equipment and conforms with NEC 2014, NEC 2017, NEC 2020 and NEC 2023 section 690.12 and C22.1-2018 Rule 64-218 rapid shutdown of PV systems for AC and DC conductors, when installed according to the manufacturer's instructions.	





For purposes of this Limited Warranty, “**Activation Date**” means the earlier of (i) the date the Covered Product is registered with Enphase, or (ii) the date the Covered Product is activated at the Original Location via the Enphase’s Installer Portal. A Covered Product is considered “activated” when the solar system has received “permission to operate” by authorities having jurisdiction.

2. **Registration.** Subject to Section 3, this Limited Warranty is also conditioned on the Covered Owner registering the Covered Product within forty-five (45) days from the date of first installation (the “**Registration**”) by either (a) completing and returning the registration card (found at the end of this Limited Warranty) to the address set forth in this Section 2; (b) registering on-line at [www.enphase.com/register-my-product](http://www.enphase.com/register-my-product); or (c) registering through the Enphase Installer Platform or the Enphase® application when an IQ Gateway product is purchased and installed as part of the PV solar system.

**Return Registration Card to:**

Enphase Energy, Inc.  
Attn: Product Registration NA Customer Service  
1819 S. Cobalt Point Way  
Meridian, ID 83642  
United States of America

3. **REGISTRATION EXCEPTION.** IF THE COVERED OWNER IS A RESIDENT OF CALIFORNIA, CONNECTICUT, OR ANY OTHER STATE OR PROVINCE THAT FORBIDS THE RETURN OF A REGISTRATION CARD AS A CONDITION PRECEDENT TO ANY WARRANTY COVERAGE OFFERED UNDER THIS LIMITED WARRANTY, THEN THE REGISTRATION REQUIREMENTS DESCRIBED IN SECTION 2 ABOVE SHALL NOT APPLY.
4. **Covered Owner.** For the purposes of this Limited Warranty, the “**Covered Owner**” shall mean the person or entity that purchases a Covered Product from Enphase or an Enphase-authorized reseller and installs (or has installed) such Covered Product at the Original Location. In addition, Covered Owner shall include subsequent transferees (each, a “**Transferee**”) as long as (a) the Covered Product remains at the Original Location, (b) the Transferee submits to Enphase a completed “Change of Ownership Form,” which Enphase may modify from time to time in its sole discretion (c) the Transferee pays the applicable transfer fee (“**Transfer Fee**”) set forth in the Change of Ownership Form within 30 days from the date of transfer from the Covered Owner to the Transferee, and (d) subject to Section 3, the Transferee complies with the Registration requirement in Section 2. The submission of a Change of Ownership Form is required in order for the Transferee to receive continued Limited Warranty coverage on the transferred Covered Product. The Transfer Fee is subject to reasonable adjustment from time to time (as determined at Enphase’s discretion). The Change of Ownership Form and payment instructions for the Transfer Fee are available at <https://enphase.com/en-us/support/how-to-transfer-ownership>.
5. **Continuous Connectivity.** The Covered Products should be continuously connected to the internet during the warranty period, except where interrupted by causes outside of the Covered Owner’s reasonable control. This will help ensure that potential defects in the Product can be diagnosed remotely and that the Product can receive over-the-air firmware updates.
6. **How to Obtain Warranty Service.**
  - a. To obtain warranty service for a Covered Product, the Covered Owner must comply with the Return Merchandise Authorization (RMA) Procedure available at <https://enphase.com/en-us/support/return-merchandise-authorization-procedure>. Unless Enphase specifically instructs the Covered Owner otherwise, the Covered Owner must return the allegedly defective Covered Product to Enphase in the original packaging or equivalent. If the allegedly defective Covered Product is not received by Enphase within 60 days of Enphase providing an RMA number to Covered Owner, pursuant to the RMA Procedure, Enphase will invoice the Covered Owner, and the Covered Owner will pay, the then-current list price for such new product or product part. We recommend that Covered Owners use a tracking service for their protection. The RMA Procedure allows Covered Owners to generate a prepaid mailing label for the return.
  - b. If a Covered Owner returns a Covered Product to Enphase (i) without an RMA from Enphase or (ii) without all parts included in the original package, Enphase retains the right to either (1) refuse delivery of such return; or (2) charge a restocking fee equal to the higher of fifteen (15) per cent of the original Covered Owner’s purchase price of the Covered Product or the retail value of the missing parts.

- c. By returning a Covered Product, Covered Owner hereby acknowledges that ownership of the Covered Product is transferred to Enphase upon Enphase's receipt of the Covered Product. If the claim is justified based on this Limited Warranty, Enphase will bear the cost of shipping the repaired or replacement Covered Product to
- d. Covered Owner (or to the installer authorized by Covered Owner to replace the Covered Product) at the Original Location. Any Covered Product returned to Enphase that Enphase determines is not covered under this Limited Warranty, or that is returned to Enphase without a valid RMA, may be rejected, and returned at the Covered Owner's cost (subject to prepayment), or kept for 30 days for pick-up by the Covered Owner, and then disposed of in Enphase's sole discretion without further liability or obligation to Covered Owner.
- e. Once a returned Covered Product is received and inspected, Enphase will notify Covered Owner (or the installer authorized by Covered Owner to replace the Covered Product) that Enphase has received the returned Covered Product.

**7. Remedies.**

- a. During the applicable Warranty Period, if Enphase confirms the existence of a defect that is covered by the Limited Warranty, Enphase will, at Enphase's option, either (i) repair or replace the Covered Product free of charge, or (ii) refund the Covered Owner the actual purchase price for the Covered Product less reasonable depreciation based on use at the time the Covered Owner notifies Enphase of the defect. Enphase will not elect to issue a refund unless (1) Enphase is unable to provide a replacement and repair is not commercially practicable or cannot be timely made, or (2) Covered Owner is willing to accept such a refund. In the event of a defect, to the extent permitted by law, these are the Covered Owner's sole and exclusive remedies.
- b. If Enphase repairs or replaces the Covered Product pursuant to this Limited Warranty, (i) Enphase will, at its option, use new and/or reconditioned parts or products of the Covered Product's original or improved design, and (ii) the Limited Warranty will continue to apply to the repaired or replacement product for the remainder of the original Limited Warranty Period or ninety (90) days from the date Covered Owner receives the repaired or replacement product, whichever is later.
- c. If Enphase issues a refund (rather providing a repaired or replacement Covered Product), such refund will be processed and paid within 2 weeks of Enphase's receipt of the Covered Product.

**8. Limited Warranty Limitations and Exclusions.**

- a. This Limited Warranty does not include any cost of labor related to (i) un-installing Covered Product; (ii) re-installing a repaired or replacement product, or (iii) the removal, installation or troubleshooting of the Covered Owner's electrical systems.
- b. The Limited Warranty does not cover, and Enphase will not be responsible for any delays, lost or damage or any other damage to any Covered Product caused by a freight carrier.
- c. This Limited Warranty does not apply to, and Enphase will not be responsible for, any defect in or damage to any Covered Products: (i) that have been misused, neglected, tampered with, altered, or otherwise damaged, either internally or externally; (ii) that have been improperly installed, operated, handled or used, including use under conditions for which the product was not designed, use in an unsuitable environment, or use in a manner contrary to the Enphase User Manual or applicable laws or regulations; (iii) that have been subjected to fire, water, generalized corrosion, biological infestations, acts of nature, or input voltage that creates operating conditions beyond the applicable maximum or minimum limits listed in the applicable Covered Product Data Sheet (as published online at [www.enphase.com](http://www.enphase.com)), including high input voltage from generators or lightning strikes; (iv) that have been subjected to damage caused by third party components not provided by Enphase and used with the Covered Products or any damage to the Covered Products caused by service performed by anyone who is not a representative of Enphase; (v) if the original identification markings (including trademark or serial number) of such products have been defaced, altered, or removed (other than by fading through regular wear and tear); (vi) if the Grid Profile (utility approved operating parameters) of the Covered Product has been altered, and such alteration causes the product to malfunction, fail, or fail to optimally perform; or (vii) if the Covered Product is not using the most up-to-date software or firmware version made available by Enphase and the defect or damage could have been avoided by using such firmware or software version.
- d. The Limited Warranty does not cover cosmetic, technical or design defects, or shortcomings which do not

materially influence or affect energy production or degrade form, fit, or function of the Covered Products, or any defects or parts requiring replacement due to ordinary wear and tear, corrosion, rust or stains, scratches, dents on the casing or paintwork of the Covered Product. The Limited Warranty does not cover costs related to the removal, installation or troubleshooting of the Covered Owner's electrical systems.

- e. The Limited Warranty does not apply to, and the term "Covered Product" shall not include, any third-party products that may be installed with the Covered Products at the Original Location.
  - f. For the avoidance of doubt, software programs installed in the Covered Products and the recovery and reinstallation of such software programs and data are not covered under this Limited Warranty. Enphase does not warrant that the operations of the Covered Product will be uninterrupted or error-free. No Enphase employee or authorized reseller is authorized to make any modification, extension, or addition to this Limited Warranty. If any term of this Limited Warranty is held to be illegal or unenforceable, the legality or enforceability of the remaining terms shall not be affected or impaired.
9. **Assignment.** Enphase expressly reserves the right to novate or assign its rights and obligations under this Limited Warranty to a third party with the demonstrated expertise and requisite resources needed to effectively discharge the obligations hereunder.
10. **Disclaimer of Warranties.** THIS LIMITED WARRANTY IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY ENPHASE AND, EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, ALL OTHER WARRANTIES AND CONDITIONS, WHETHER EXPRESS OR IMPLIED, STATUTORY, OR OTHERWISE, ARISING BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE USAGE OF TRADE, OR OTHERWISE (INCLUDING WARRANTIES AND CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, OR WARRANTIES AS TO THE ACCURACY, SUFFICIENCY OR SUITABILITY OF ANY TECHNICAL OR OTHER INFORMATION PROVIDED IN MANUALS OR OTHER DOCUMENTATION) SHALL BE LIMITED IN DURATION TO THE DURATION OF THIS LIMITED WARRANTY.

THE GRANT OF THIS LIMITED WARRANTY BY ENPHASE IS CONDITIONED UPON AGREEMENT BY THE COVERED OWNER TO THE TERMS, CONDITIONS AND REQUIREMENTS HEREIN. THE LAWS OF CERTAIN JURISDICTIONS DO NOT ALLOW FOR THE EXCLUSIONS ON THE DURATION OF AN IMPLIED WARRANTY OR FOR EXCLUSIONS OR LIMITATIONS ON LEGAL WARRANTIES. WHERE SUCH LAWS APPLY TO THE COVERED OWNER, SOME OR ALL OF THE EXCLUSIONS OR LIMITATION MAY NOT APPLY TO COVERED OWNER, AND SUCH COVERED OWNER MAY HAVE ADDITIONAL RIGHTS. THIS LIMITED WARRANTY GIVES COVERED OWNER SPECIFIC LEGAL RIGHTS, AND COVERED OWNER MAY ALSO HAVE OTHER RIGHTS THAT VARY FROM JURISDICTION TO JURISDICTION.

11. **Limitation of Liability.** EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, IN NO EVENT WILL ENPHASE BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSSES, COSTS OR EXPENSES HOWEVER ARISING, WHETHER IN CONTRACT OR TORT, INCLUDING WITHOUT LIMITATION ANY ECONOMIC LOSSES OF ANY KIND, ANY LOSS OR DAMAGE TO PROPERTY, OR ANY PERSONAL INJURY.

SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO COVERED OWNER AND COVERED OWNER MAY HAVE ADDITIONAL RIGHTS.

12. **Governing law.** This Limited Warranty shall be governed by the laws of the State of California, USA, without giving effect to any conflict of laws principles that may require the application of the law of another jurisdiction.

13. **Arbitration.**

a. ***Please read the following arbitration agreement in this Section ("Arbitration Agreement") carefully. It requires Covered Owner ("you") to arbitrate disputes with ENPHASE and limits the manner in which you can seek relief from Enphase ("us"). THE LAWS OF CERTAIN JURISDICTIONS DO NOT PERMIT THE USE OF MANDATORY ARBITRATION CLAUSES. WHERE SUCH LAWS APPLY TO THE COVERED OWNER, THIS ARBITRATION CLAUSE MAY NOT APPLY.***

b. **Applicability of Arbitration Agreement.** You agree that any dispute or claim relating in any way to your access or use of the Covered Products, or to any aspect of your relationship with Enphase, will be resolved by binding arbitration, rather than in court, except that (i) you may assert claims in small claims court if your

claims qualify; and (ii) you or Enphase may seek equitable relief in court for infringement or other misuse of intellectual property rights (such as trademarks, trade dress, domain names, trade secrets, copyrights, and patents).

- c. **Arbitration Rules and Forum.** For any dispute with Enphase in connection with this Limited Warranty, Covered Owner agrees to first contact Enphase at the email address identified below and attempt to resolve the dispute with us informally. If the dispute has not been resolved after 60 days, both parties agree to resolve such dispute through binding arbitration under the Optional Expedited Arbitration Procedures then in effect for the Judicial Arbitration and Mediation Services (“JAMS”). JAMS may be contacted at [www.jamsadr.com](http://www.jamsadr.com). The existence, content and result of the arbitration shall be held in confidence by all participants. The arbitration will be conducted by a single arbitrator selected by agreement of the parties or, failing such agreement, appointed in accordance with the JAMS rules. The arbitration shall be conducted in English and in Santa Clara County, California. If JAMS is not available to arbitrate, the parties will select an alternative arbitral forum. If the arbitrator finds that Covered Owner cannot afford to pay JAMS’s filing, administrative, hearing and/or other fees and cannot obtain a waiver from JAMS, Enphase will pay them for Covered Owner. In addition, Enphase will reimburse all such JAMS’s filing, administrative, hearing and/or other fees for claims totaling less than \$10,000 unless the arbitrator determines the claims are frivolous. Any judgment on the award rendered by the arbitrator may be entered in any court of competent jurisdiction. The arbitrator shall have exclusive authority to determine the scope and enforceability of this Arbitration Agreement, and (b) resolve any dispute related to the interpretation, applicability, enforceability or formation of this Arbitration Agreement including, but not limited to any claim that all or any part of this Arbitration Agreement is void or voidable. The arbitration will decide the rights and liabilities, if any, of the parties. The arbitration proceeding will not be consolidated with any other matters or joined with any other cases or parties. The arbitrator shall have the authority to grant motions dispositive of all or part of any claim. The arbitrator shall have the authority to award monetary damages and to grant any non-monetary remedy or relief available to an individual under applicable law, the arbitral forum’s rules, and the Limited Warranty. The arbitrator shall issue a written award and statement of decision describing the essential findings and conclusions on which the award is based, including the calculation of any damages awarded. The arbitrator has the same authority to award relief on an individual basis that a judge in a court of law would have. The award of the arbitrator is final and binding upon the parties.
- d. **Waiver of Jury Trial.** YOU AND ENPHASE HEREBY WAIVE ANY CONSTITUTIONAL AND STATUTORY RIGHTS TO SUE IN COURT AND HAVE A TRIAL IN FRONT OF A JUDGE OR A JURY. You and ENPHASE are instead electing that all claims and disputes shall be resolved by arbitration under this Arbitration Agreement, except as specified in sections above. An arbitrator can award on an individual basis the same damages and relief as a court and must follow this Agreement as a court would. However, there is no judge or jury in arbitration, and court review of an arbitration award is subject to very limited review.
- e. **Waiver of Class or Other Non-Individualized Relief.** ALL CLAIMS AND DISPUTES WITHIN THE SCOPE OF THIS ARBITRATION AGREEMENT MUST BE ARBITRATED ON AN INDIVIDUAL BASIS AND NOT ON A CLASS OR COLLECTIVE BASIS, ONLY INDIVIDUAL RELIEF IS AVAILABLE, AND CLAIMS OF MORE THAN ONE COVERED OWNER CANNOT BE ARBITRATED OR CONSOLIDATED WITH THOSE OF ANY OTHER COVERED OWNER. If a decision is issued stating that applicable law precludes enforcement of any of this subsection’s limitations as to a given claim for relief, then such claim must be severed from the arbitration and brought into the State or Federal Courts located in San Francisco, California. All other claims shall be arbitrated.
- f. **30-Day Right to Opt Out.** You have the right to opt out of the provisions of this Arbitration Agreement by sending written notice of your decision to opt out to Enphase Energy, Inc., 47281 Bayside Parkway, Fremont, California, 94538, attention: General Counsel, within 30 days after first becoming subject to this Arbitration Agreement. You may also opt-out of the provisions of this Arbitration Agreement by sending written notice of your decision to the following email address: [legal@enphaseenergy.com](mailto:legal@enphaseenergy.com). Your notice must include your name and address, and an unequivocal statement that you want to opt out of this Arbitration Agreement. If you opt out of this Arbitration Agreement, all other parts of this Agreement will continue to apply to you. Opting out of this Arbitration Agreement has no effect on any other arbitration agreements that you may currently have, or may enter in the future, with us.
- g. **Severability.** Except as provided above, if any part or parts of this Arbitration Agreement are found under the law to be invalid or unenforceable, then such specific part or parts shall be of no force and effect and shall

be severed and the remainder of the Arbitration Agreement shall continue in full force and effect.

**h. Survival of Agreement.** This Arbitration Agreement will survive the termination of your relationship with Enphase.

Customer Support:

United States, US Territories and Canada  
Puerto Rico

<https://support.enphase.com/s/contact-us>

<https://www4.enphase.com/es-lac/contact-support-es-lac>

(877) 797-4743

+1 (800) 821-1487

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# Product Registration Form



**Failure to complete and return this Product Registration Form does not diminish your warranty rights.**

Please return this form to:

Enphase Energy, Inc.  
Attn: Product Registration  
NA Customer Service  
1819 S. Cobalt Point Way  
Meridian, ID 83642  
United States of America

(or, you may register on-line at <https://enphase.com/en-us/product-registration-en-us>)

First Name \_\_\_\_\_ Last Name \_\_\_\_\_  
E-mail \_\_\_\_\_  
Phone Number (Area Code) \_\_\_\_\_

### Contact Address

Street Address: \_\_\_\_\_  
Street Address (line 2) \_\_\_\_\_  
City \_\_\_\_\_  
State/Province \_\_\_\_\_ Zip Code \_\_\_\_\_

Address of installation: same as Contact Address? Yes / No  
(If, "Yes", Enphase will use Contact Address as Address of Installation)

### Address of Installation

Street Address: \_\_\_\_\_  
Street Address (line 2) \_\_\_\_\_  
City \_\_\_\_\_  
State/Province \_\_\_\_\_ Zip Code \_\_\_\_\_

### Installer Information

Installer Name \_\_\_\_\_  
Installer Contact Info \_\_\_\_\_  
E-mail \_\_\_\_\_  
Phone Number (Area Code) \_\_\_\_\_

### Product Information

Microinverter SKU (e.g.: IQ7-60-2-US) \_\_\_\_\_  
Number of Units Installed \_\_\_\_\_  
Serial Numbers of Units installed \_\_\_\_\_

Purchased from \_\_\_\_\_  
Purchase Date (MM/DD/YY) \_\_\_\_\_  
Installation Date (MM/DD/YY) \_\_\_\_\_  
Permitted to Operate Date (MM/DD/YY) \_\_\_\_\_

I agree to receive critical product information about the registered products at the email and/or contact provided above.





ARCHELE-05

KMILLER01

# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
12/31/2024

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> <b>AVID Risk Solutions</b> 2501 Parmenter Street Suite 200A Middleton, WI 53562	<b>CONTACT NAME:</b> <b>PHONE (A/C, No, Ext):</b> (608) 827-4525 <b>FAX (A/C, No):</b> (608) 827-4712 <b>E-MAIL ADDRESS:</b> certificates@avidrisk.com
	<b>INSURER(S) AFFORDING COVERAGE</b> <b>NAIC #</b> <b>INSURER A:</b> Travelers Property Casualty Company of America      25674 <b>INSURER B:</b> <b>INSURER C:</b> <b>INSURER D:</b> <b>INSURER E:</b> <b>INSURER F:</b>
<b>INSURED</b>  <b>Arch Electric Inc</b> 1237 Pilgrim Rd STE Plymouth, WI 53073	

**COVERAGES**      **CERTIFICATE NUMBER:**      **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN. THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSD WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR  GEN L AGGREGATE LIMIT APPLIES PER <input checked="" type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC OTHER		CO-6X273467	1/1/2025	1/1/2026	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Per occurrence) \$ 300,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COM/OP AGG \$ 2,000,000 \$
A	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY		810-6X28636A	1/1/2025	1/1/2026	COMBINED SINGLE LIMIT (Per accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS MADE DED <input checked="" type="checkbox"/> RETENTION \$ 10,000		CUP-6X29292A	1/1/2025	1/1/2026	EACH OCCURRENCE \$ 10,000,000 AGGREGATE \$ 10,000,000 \$
A	<input checked="" type="checkbox"/> WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ALL EMPLOYERS PARTNER EXECUTIVE OFFICERS/EMPLOYERS (Mandatory in WI) If yes describe under DESCRIPTION OF OPERATIONS below	Y IN N/A	UB-6X292076	1/1/2025	1/1/2026	<input checked="" type="checkbox"/> PER STATUTE <input checked="" type="checkbox"/> OTHER EL EACH ACCIDENT \$ 1,000,000 EL DISEASE - EA EMPLOYEE \$ 1,000,000 EL DISEASE - POLICY LIMIT \$ 1,000,000
A	Rented/Leased Equip		QT-630-8X471836-TIL-25	1/1/2025	1/1/2026	Limit \$ 250,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

**CERTIFICATE HOLDER**      **CANCELLATION**

Arch Solar, Inc. 1553 S 38th St Milwaukee, WI 53215	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.  AUTHORIZED REPRESENTATIVE 
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VILLAGE OF  
**McFarland**  
**SUMMARY SHEET**

**MEETING DATE:** Thursday, October 16, 2025

**SECTION:** Business

**DEPARTMENT:** Community Development

**CONTACT:** Andrew Bremer, Comm & Eco Dev Director

**AGENDA ITEM:** Discussion and action to make a recommendation to the Village Board regarding award of contract for installation of a battery energy storage system at the Public Safety Center.

**PREVIOUS ACTION:**

January 9, 2023 - S&NR recommended approval to the Village Board for the submittal of two OEI Energy Innovation Grant Program Applications

April 19, 2023 - Staff presented to the Committee, award of grant application by the PSC for Battery Storage and Microgrid technology at the Public Safety Center.

May 8, 2023 - S&NR recommended approval to the Village Board for HGA's proposal design, bid and construction administration services for installation of battery and microgrid at the Public Safety Center.

May 9, 2023 - Village Board approval of HGA contract.

September, 2023 - Grant contract signed with OEI.

February 22, 2024 - S&NR and Village Board project update meeting.

March 11, 2024 - S&NR unanimously recommended approval of the bid documents.

March 26, 2024 - Village Board approval to bid project.

May 1, 2024 - Bid opening

May 28, 2024 - Village Board rejects bids.

July 8, 2024 - S&NR unanimously recommends submitting the proposed grant amendments with a preferred alternative to reallocate the funding to the Community Center.

July 23, 2024 - Village Board approves submitting the proposed grant amendments with a preferred alternative to reallocate the funding to the Community Center.

April 14, 2025 - S&NR recommends to Village Board the existing OEI Grant Agreement for the Public Safety Center.

April 22, 2025 - Village Board approves to amend existing OEI Grant Agreement for the Public Safety Center to an energy storage system-only project.

August 11, 2025 - S&NR unanimously recommends to Village Board release of request for bids for the energy storage system.

August 26, 2025 - Village Board approves release of request for bids for the energy storage system.

September 2, 2025 - Bid opens for battery energy storage systems.

September 30, 2025 - Bid submittal deadline.

**ISSUE SUMMARY:**

The Village Board approved amending the OEI grant agreement for the Public Safety Center to



an energy storage system-only (grid-connected battery) project at their April 22, 2025 meeting. The Village's energy consultant, HGA, has completed an update for construction and bid documents to reflect the revised project scope. The S&NR Committee recommended approval of the updated bid documents to the Village Board at their August 11, 2025 meeting. The Village Board approved the bid documents at the August 26th meeting. Similar to the previous bid announcement, the announcement of the bid lasted 30 days and ran through the month of September. During that time, the Village received four bids for the project. The packet includes a summary of the bids received. Michael Barnett from HGA and Staff have reviewed the bid documents and recommend the submittal from All Energy Solar, conditioned on pre-approval by the Public Service Commission that the proposed products will meet the ARRA By American requirements of the Village's project grant. HGA has requested All Energy provide the ARRA compliance form.

Previously discussed at the [March 10, 2025 S&NR committee meeting](#), HGA presented the Public Safety Center's 2024 energy data and the benefits of renewable energy use and on-site generation. At the following April 14, 2025 S&NR committee meeting, those key takeaways were summarized within the [staff report](#) stating that the solar and geothermal for the building performed as modeled. However, the building appeared to use more energy than expected. The function of the battery energy storage system is to optimize the building's energy use during peak times throughout the day while addressing the overall observed energy use intensity of the building. At the [April 22, 2025 Village Board meeting](#), HGA presented additional information regarding utility costs and benefits of a battery system. One of those benefits is to reduce the amount of energy the Village needs to buy from the grid when on-site solar production is lower than building demand. When excess on-site energy is being generated at the Public Safety Center it is sold back to the grid at wholesale prices. However, when additional energy is required from the grid it is purchased at retail prices. As utility rates increase, so to do the operational costs to the Village. Noting at that time, the Public Safety Center was on Alliant's utility rate GS-1 but has since been moved to Alliant's Cg-2 (time of use rate structure) which has a higher cost per kWh. In addition, Alliant is currently finishing up their rate case and have reached a [settlement](#) with intervenors that may be approved by the [Public Service Commission](#) later this year. If approved, the Cg-2 rates would increase by 7.1% in 2026 and a 12.8% incremental increase by 2027.

**FINANCIAL/BUDGET IMPACT:**

The revised 2025 grant budget is \$432,150, which includes a \$250,000 grant from the Office of Energy and Innovation and a minimum \$182,150 local share, including \$5,000 in-kind Village labor. The project costs roughly breaks down as follows:

- \$177,150 Contractual (includes \$82,000 for HGA design and commissioning services)
- \$250,000 Equipment
- \$5,000 in-kind Village labor for grant administration

The Village originally budgeted a local share of \$255,000, including \$5,000 in-kind Village labor. With the OEI grant match the project budget is \$432,150 (with minimum local share) to \$505,000 (within original budgeted local share). Subtracting the HGA design services and in-



kind labor leaves a remaining project budget for construction and installation of the battery system between \$345,150 to \$418,000. The recommended bid from All Energy Solar is \$366,929, for a final project cost of \$453,929. Subtracting the OEI grant of \$250,000 leaves a final local share of \$203,929 (including \$5,000 in-kind staff support).

**VILLAGE PLAN REFERENCE:**

**2023/2024 Strategic Implementation Plan.** Goal B, Action Step VI, Install battery storage at Public Safety Center through OEI grant award for excess power created in solar array.

**2021 Sustainability Plan.** Includes the goal of achieving 50% of total municipal energy consumed per year generated from renewables by 2030 and 100% by 2040.

**ORDINANCE REFERENCE:**

**BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:**

Recommended motion:

*Motion, second, to recommend to the Village Board awarding of contract to All Energy Solar for installation of a battery energy storage system at the Public Safety Center, for \$366,929, conditioned on pre-approval by the Public Service Commission that the proposed products will meet the ARRA By American requirements of the Village's project grant.*

**ATTACHMENTS:**

1. PSC BESS Bid Summary
2. All Energy Solar - bid - 9.30.25

		Spec (75kW, 125kwh)				Spec (125kW, 250kwh)
<b>Company</b>	<b>Base bid</b>	<b>BESS Capacity (Base)</b>	<b>BESS Model</b>	<b>BESS Dispatch Control</b>	<b>Alternate #1 Price</b>	<b>BESS Capacity (Alternate)</b>
All Energy Solar	\$366,929	60kw-ac / 120kwh-ac	SolArk 60K-3Ph-480V	muGrid Redcloud	\$588,425	120kw-ac / 240kwh-ac
Arch Solar C&I	\$446,285	70 kw-ac / 143 kwh-ac	Kronus Engineering	muGrid Redcloud	\$515,952	Current ESS 125kW / 261kWh
Eagle Point Solar	\$447,260	70 kw-ac / 143 kwh-ac	Kronus Engineering	muGrid Redcloud	\$499,048	Current ESS 125kW / 261kWh
Universal Power Systems	\$498,000	?	?	?	\$573,000	?

**DOCUMENT 004113**  
**BID FORM - STIPULATED SUM (SINGLE-PRIME CONTRACT)**

**1.1 BID INFORMATION**

- A. Bidder: \_\_\_\_\_.
- B. Project Name: Public Safety Building Microgrid.
- C. Project Location: 6001 Broadhead Street, McFarland, Wisconsin 53558.
- D. Owner: Village of McFarland.
- E. Architect/Engineer: Hammel, Green and Abrahamson, Inc., 333 East Erie Street, Milwaukee, Wisconsin 53202.
- F. Architect Project Number: 4715-004-00.

**1.2 CERTIFICATIONS AND BASE BID (MICROGRID)**

A. Base Bid, Single-Prime (All Trades) Contract: The undersigned Bidder, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda, as prepared by Hammel, Green and Abrahamson, Inc. and Architect's consultants, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the construction of the above-named project, according to the requirements of the Procurement and Contracting Documents, for the stipulated sum of:

- 1. \_\_\_\_\_ Dollars (\$ \_\_\_\_\_).
- 2. The above amount may be modified by amounts indicated by the Bidder on the below "Alternate Bids" article.

All trades not included below.....Dollars (\$ \_\_\_\_\_).  
Electrical.....Dollars (\$ \_\_\_\_\_).  
BESS Equipment Cost.....Dollars (\$ \_\_\_\_\_).

**1.3 MUNICIPAL CODE BIDDER QUALIFICATIONS**

- A. The undersigned Bidder, has carefully examined the Village of McFarland Municipal Code 23-95 "Bidder Qualifications" in its entirety. In addition, complete the Village of McFarland Affidavit of Qualifications form following this section and submit with Bid Form.
  - 1. Village Municipal Code Path: Village of McFarland : Municipal Code (municipalcodeonline.com)

**1.4 ALTERNATE BIDS**

- A. Refer to Section 012300 "Alternates" for full descriptions.
- B. Alternate Bid No. 1 - **Grid Connected BESS (125 kW)** - State the addition to/deduction from the base bid (75 kW BESS) to achieve a grid connected BESS.  
  
ADD /~~DEDUCT~~ \_\_\_\_\_ Dollars (\$ \_\_\_\_\_).

**1.5 SALES AND USE TAX**

- A. Contractors are to follow State Law regarding sales and use tax exemption for the purchase of building materials.

- B. The Village of McFarland is an exempt entity for sales tax purposes pursuant to §77.54(9a)(b), Wis. Stats. and materials purchased by contractors for incorporation into any Village of McFarland facility (other than roads, highways or streets) under a contract with the Village of McFarland are similarly exempt from the imposition of sales taxes pursuant to §77.54(9m), Wis. Stats. Bids should not include sales tax on exempt materials or other tangible personal property which will become components of the facility. A copy of the Village of McFarland Certificate of Tax Exempt Status (CES) will be provided to the successful bidder at the time of contracting for use in documenting tax-exempt purchases.

**1.6 BID GUARANTEE**

- A. The undersigned Bidder agrees to execute a contract for this Work in the above amount and to furnish surety as specified within 10 days after a written Notice of Award, if offered within 60 days after receipt of bids, and on failure to do so agrees to forfeit to Owner the attached cash, cashier's check, certified check, U.S. money order, or bid bond, as liquidated damages for such failure, in the following amount constituting five percent (5%) of the Base Bid amount above:
  - 1. \_\_\_\_\_ Dollars (\$\_\_\_\_\_).
- B. In the event Owner does not offer Notice of Award within the time limits stated above, Owner will return to the undersigned the cash, cashier's check, certified check, U.S. money order, or bid bond.

**1.7 PRODUCTS, SUBCONTRACTORS AND SUPPLIERS**

- A. The bidder shall submit as part of their bid itemized product manufacturers, model numbers, capacities, locations, and quantities of products that are proposed for the major equipment (BESS, inverter, microgrid controller).
- B. The following companies shall execute subcontracts for the portions of the Work indicated
- C. List the various portions of the work and the names and business addresses of the subcontractors and major material suppliers proposed to perform work, furnish materials or render service on or about the project. Subcontractors with subcontracts of \$5,000 or less need not be listed. Work for which a subcontractor is not listed will be performed by this Contractor. Submit Affidavit of Qualifications from each subcontractor. Subcontractors not meeting the qualifications established by Sec. 23-95 of the McFarland Municipal Code as evidenced by the affidavit will be rejected.

CLASS OF WORK

NAME AND ADDRESS OF SUBCONTRACTOR

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**1.8 TIME OF COMPLETION**

- A. The undersigned Bidder proposes and agrees hereby to commence the Work of the Contract Documents on a date specified in a written Notice to Proceed to be issued by Architect, and shall fully complete the Work within 200 calendar days.

**1.9 ACKNOWLEDGEMENT OF ADDENDA**

- A. The undersigned Bidder acknowledges receipt of and use of the following Addenda in the preparation of this Bid:

- 1. Addendum No. 1, dated \_\_\_\_\_.

**1.10 BID SUPPLEMENTS**

- A. The following supplements are a part of this Bid Form and are attached hereto.

- 1. Bid Form Supplement - Bid Bond Form (AIA Document A310-2010).

**1.11 CONTRACTOR'S LICENSE**

- A. The undersigned further states that it is a duly licensed contractor, for the type of work proposed, in the State of Wisconsin, and that all fees, permits, etc., pursuant to submitting this proposal have been paid in full.

**1.12 REJECTION OF BIDS**

- A. The Owner reserves the right to accept or reject any or all of the above proposals.

**1.13 SUBMISSION OF BID**

- A. Respectfully submitted this \_\_\_\_ day of \_\_\_\_\_, 2025.

- B. Submitted By: \_\_\_\_\_ (Name of bidding firm or corporation).

- C. Authorized Signature:  \_\_\_\_\_ (Handwritten signature).

- D. Signed By: \_\_\_\_\_ (Type or print name).

- E. Title: \_\_\_\_\_ (Owner/Partner/President/Vice President).

- F. Witnessed By:  \_\_\_\_\_ (Handwritten signature).

- G. Attest:  \_\_\_\_\_ (Handwritten signature).

- H. By: \_\_\_\_\_ (Type or print name).

- I. Title: \_\_\_\_\_ (Corporate Secretary or Assistant Secretary).

- J. Street Address: \_\_\_\_\_.

- K. City, State, Zip: \_\_\_\_\_.

- L. Phone: \_\_\_\_\_.

M. License No.: \_\_\_\_\_.

N. Federal ID No.: \_\_\_\_\_ (Affix Corporate Seal Here).

**END OF DOCUMENT**



# REQUEST FOR BID

Public Safety Building Microgrid Ready Energy Storage System  
6001 Broadhead Street, McFarland, WI 53558

Pricing for this Proposal is valid for (30) days.

September 30th, 2025

**RE: Request for Bid - PSB Microgrid Ready Energy Storage System**

Attn: Andrew Bremmer, AICP - Community & Economic Development Director

*On behalf of HGA, All Energy Solar is prepared to execute the design, installation and commissioning of the described Energy Storage System for the Base Bid Public Safety Building Microgrid Ready Energy Storage System Project at 6001 Broadhead Street, McFarland, Wisconsin 53558 USA.*

**Proposed System BASE BID**

Storage System AC kW : 60.00

Storage System AC kWh : 120.00

**Main System Components**

(1) 60K-3 Ph.-480V Hybrid Inverter Charger

277/480V Y or D Output, 60kW AC Output

200A Grid Pass Through, 4x 1000V/36A

Includes MPPT Inputs, Compatible with SOL-ARK L3 HV-60 and L3 HVR-60 BESS

PAIRED WITH :

(2) 60kWh Outdoor DC Battery Energy Storage System

0.5C Continuous Charge / Discharge

Compatible with SOL-ARK 30K-3 Ph.-208V and 60K-3 Ph.-480V Inverters

**Base Bid Project Cost : \$366,929.00**

*On behalf of HGA, All Energy Solar is prepared to execute the design, installation and commissioning of the described Energy Storage System for the Alternate Bid #1 Public Safety Building Microgrid Ready Energy Storage System Project at 6001 Broadhead Street, McFarland, Wisconsin 53558 USA.*

### **Proposed System ALTERNATE BID 1**

Storage System AC kW : 120.00

Storage System AC kWh : 240.00

### **Main System Components**

(2) 60K-3 Ph.-480V Hybrid Inverter Charger

277/480V Y or D Output, 60kW AC Output

200A Grid Pass Through, 4x 1000V/36A

Includes MPPT Inputs, Compatible with SOL-ARK L3 HV-60 and L3 HVR-60 BESS

PAIRED WITH :

(4) 60kWh Outdoor DC Battery Energy Storage System

0.5C Continuous Charge / Discharge

Compatible with SOL-ARK 30K-3 Ph.-208V and 60K-3 Ph.-480V Inverters

**Base Bid Project Cost : \$588,425.00**

### **Interconnection Plan**

DC conductors from Sol-Ark LFP Battery Modules will be wired via integrated wire management within Sol-Ark BESS Cabinet(s) System to cabinet-mounted Sol-Ark inverter(s), where AC conductors transition to underground PVC. AC conductors then connect the remaining Balance of Systems equipment (BESS Transformer, DER Switchboard) as shown on sheets E050 & E060 of HGA Drawings. Equipment to be approximately located per sheet E030.

### **Bid Inclusions**

1. BESS Warranty, expires at 6000 cycles OR 10-Year Term, whichever occurs first
2. 2 Year Installation Warranty per Bid Requirements
3. Davis Bacon Act Wages per Bid Requirements
4. RedCloud EMS Site Controller
5. 1 Year RedCloud Operational Support from Date of Substantial Completion
  - a. charged at \$2,500.00 annually thereafter
6. Interconnection submissions and approvals, based on provided Drawings / Plans
7. Procurement of Full BESS Installation equipment, wires and conduit
8. Off-loading and on-loading of equipment, including necessary rental equipment
9. Material Handling for BESS Installation
10. Performing of the Full Mechanical and Electrical Scopes of Work
11. Building and Electrical Permits and Inspections
12. Coordination of any and all Required Testing and Certifications
13. Safety Procedures and Planning
14. Apprentice, Journeyman and Master Electricians to perform Scopes of Work
15. Abiding by Davis Bacon Act Wages Reporting and Payroll
16. All BESS Project Management Provided by All Energy Solar
17. Training & Demonstration Session for Owner's Maintenance Personnel
18. As-built Shop Drawings

### **Bid Exclusions**

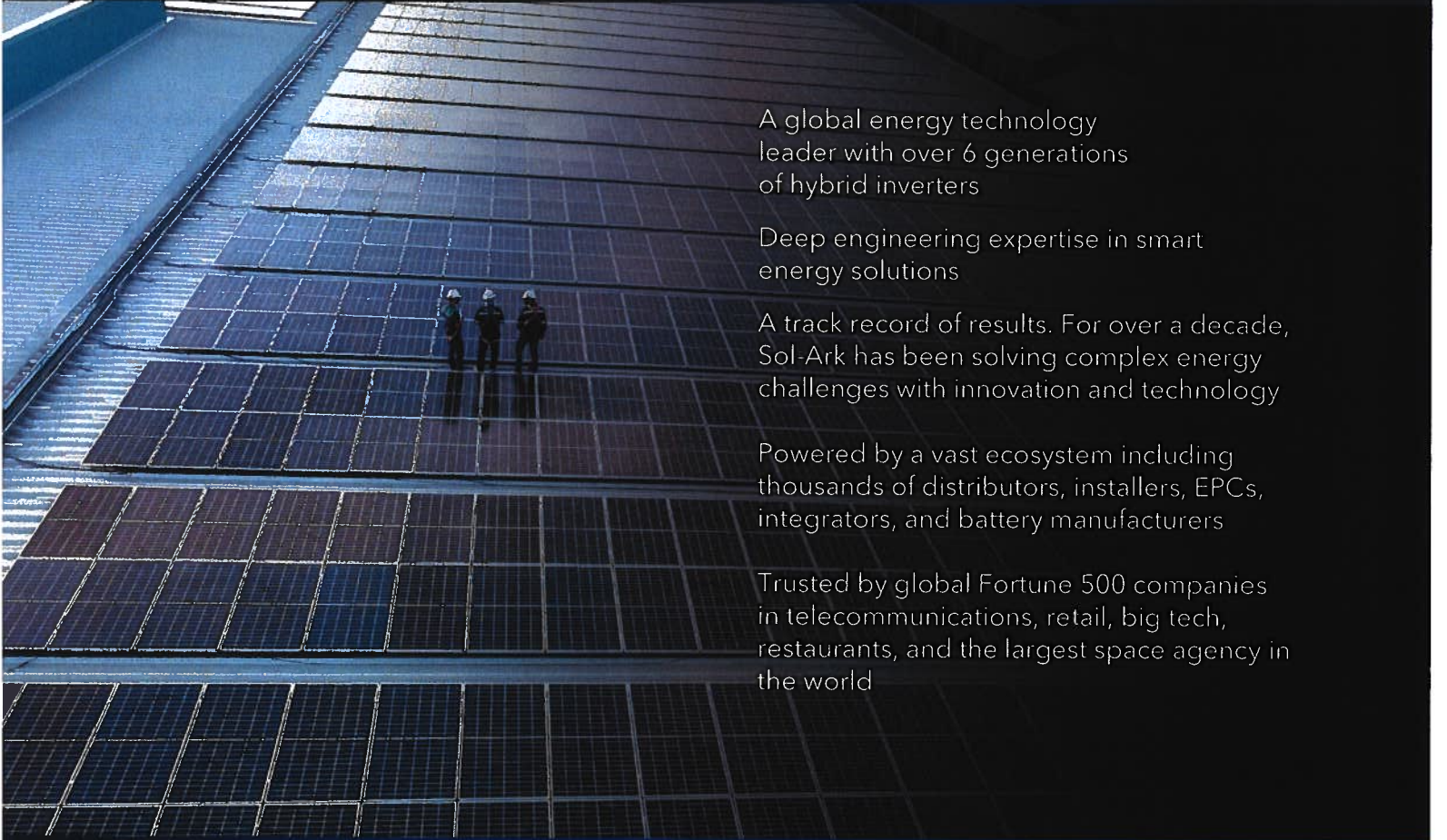
1. Any rooftop work relating to the existing PV System
2. Unforeseen groundwork
3. Upgrade(s) or repair(s) to the Facility or Utility electrical infrastructure
4. Backup power during electrical outage for Final System Connections
5. Supplemental Interconnection and/or Feasibility Studies
6. Tree removal and/or tree trimming
7. Taxes

Prepared by: Samuel D. Wood  
All Energy Solar  
[sam.wood@allenergysolar.com](mailto:sam.wood@allenergysolar.com)

Additional information about our Company or past project references available upon request.



## Sol-Ark Commercial Energy Solutions

An aerial photograph of a vast solar farm. The rows of solar panels stretch far into the distance, creating a strong sense of perspective. In the middle ground, three workers wearing hard hats and safety gear are standing on the panels, providing a sense of scale to the massive installation.

A global energy technology leader with over 6 generations of hybrid inverters

Deep engineering expertise in smart energy solutions

A track record of results. For over a decade, Sol-Ark has been solving complex energy challenges with innovation and technology

Powered by a vast ecosystem including thousands of distributors, installers, EPCs, integrators, and battery manufacturers

Trusted by global Fortune 500 companies in telecommunications, retail, big tech, restaurants, and the largest space agency in the world

# 60K-480V

## C&I Hybrid Inverter

Inverter Model Name:

60K-3P-480V

Sol-Ark Product SKU:

60K-3P-480V

### Input Data (PV)

Max. Allowed PV Power (STC)	78,000W
MPPT Voltage Range	150-850V
Startup Voltage	180V
Max. Input Voltage <sup>1</sup>	1,000V
Max. operating input current per MPPT	36A
Max. short circuit current per MPPT	55A
No. of MPP Trackers	4
No. of PV Strings per MPPT	2
Max. AC Coupled Input	60,000W

### Output Data (AC)

Nominal AC Voltage (3Φ)	277/480V
Grid Frequency	50 / 60Hz
Real Power, max continuous (3Φ)	60,000W
Max. Output Current	72.3A
Peak Apparent Power (10s, off-grid, 3Φ)	90,000VA
Max. Grid Passthrough Current (10min)	200A
Continuous Grid Passthrough Current	180A
Power Factor Output Range	+/- 0.8 adjustable
Backup Transfer Time	5ms (adjustable)
CEC Efficiency	96.5%
Max Efficiency	97.5%
Design (DC to AC)	Transformerless DC
Stackable	Up to 10 in parallel

### Battery Input Data (DC)

Battery Chemistry	Lithium iron phosphate
No. of Battery Inputs	2
Battery Input Terminal Rating	50A
Nominal DC Voltage	≥ 600V
Operating Voltage Range	160 - 800V
Battery Capacity Range	50 – 9900Ah
Max. Battery Charge / Discharge Current	100A (50A per input)
Charge Controller Type	3-Stage with Equalization
Grid to Battery Charging Efficiency	96.0%
Automatic Generator Start (AGS)	2 Wire Start - Integrated
BMS Communication <sup>2</sup>	CANBus & RS485

### General Data

Dimensions (H x W x D)	894 x 528 x 295 mm (35.2 x 20.8 x 11.6 in)
Weight	80 Kg / 176 lb.
Enclosure	IP65 / NEMA 3R
Ambient Temperature	-40 - 60°C, >45°C Derating
Noise	< 30 dB @ 25°C (77°F)
Idle Consumption - No Load	60W
Communication and Monitoring	Wi-Fi & LAN Hardware Included
Warranty <sup>3</sup>	10 Years (15 Years)

### Category

Certifications and Listings (Grid Support Interactive Inverter)	UL 1741-2021 (UL1741SB), CSA C22.2 No 107.1-16, IEEE 1547-2018 & 1547a-2020 & 1547.1-2020 (SRD V2.0), UL 1741 CRD-PCS, UL1699B, CEC, SGIP <sup>4</sup>
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
Surge Protection	DC Type II / AC Type III

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.

2. Active BMS communication is required for all lithium batteries. A list of compatible batteries can be found on our website.

3. 5-year extension is available for purchase by registered Gold level installers only.

4. Pending listing.



# Sol-Ark Commercial Energy Solutions



# Unlocking the Full Energy Value for Commercial



Reduce Electricity Demand Charges



Improve Energy Resilience Both Behind and in Front of the Meter



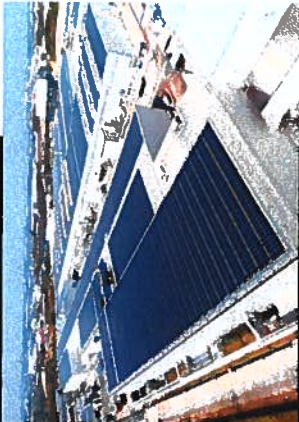
Leverage Storage as a Competitive Advantage



Optimize Energy Use



Gain New Revenue by Selling Excess Energy Back to the Local Utility



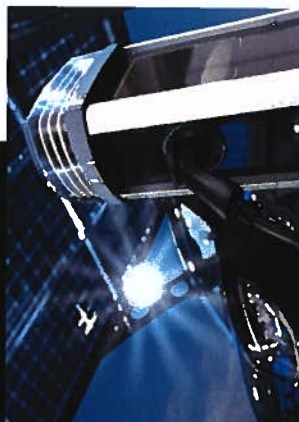
## Rooftop

Easy retrofit with including AC coupling interconnection port up to 2X solar capacity or DC-couple directly onto the inverter



## Ground Mount

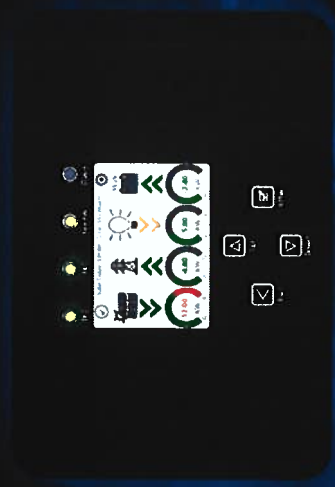
Rugged and space efficient outdoor ratings to accommodate a wide variety of project environments with or without batteries



## Carpools, EV Charging Stations, Mechatron EV Carports

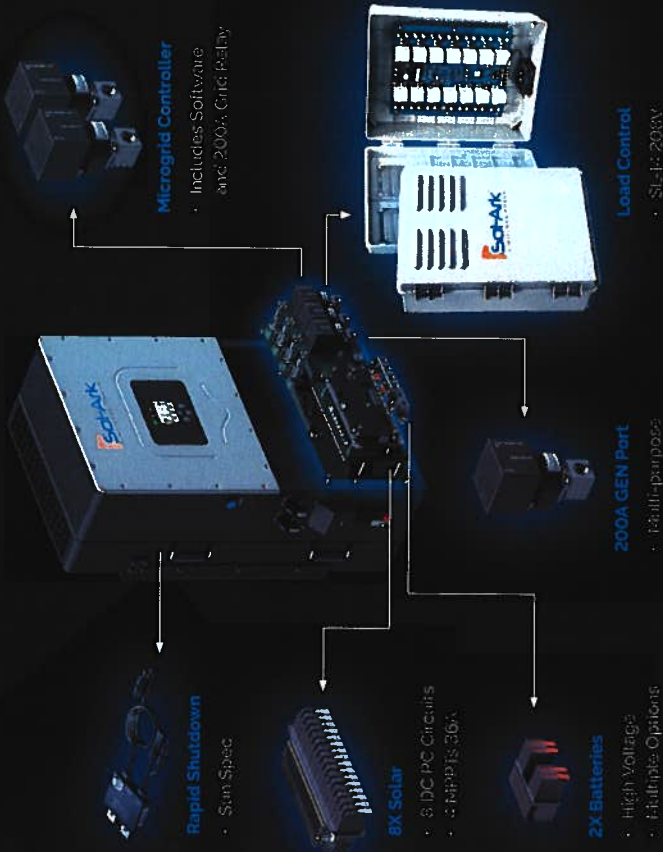
DC-couple to the inverters and use the included GEN port for easy and controlled EV-charging interconnectivity

# Seamless UPS Modular Architecture Battery Agnostic



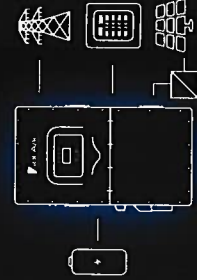
# Flexible Hardware for Every Job Site

Whether it's new construction, solar retrofit, site expansion, electric vehicles, or batteries only, Sol-Ark provides hardware solutions for your entire fleet.



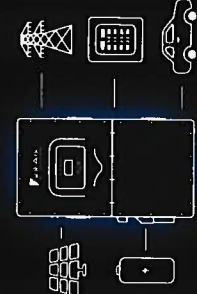
## AC Coupling

Easily retrofit very large solar arrays and add batteries with no change to existing solar strategy.



## DC Coupling

Connect solar directly using the GEN port for EV charging or gas generator controls.



## Battery Only

Target electric bill savings, provide short duration backup, and expand site capability.



# Driving Commercial Energy Resilience

## Commercial & Industrial

Product Suite 30K-3P-208V, 60K-3P-480V

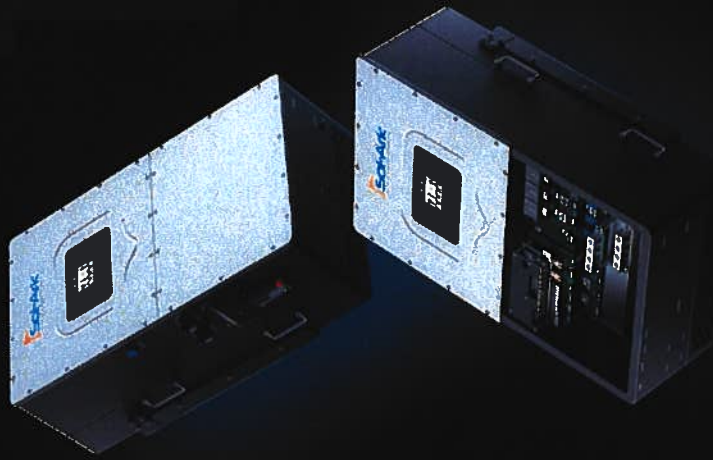
Max. PV Power to Battery 30,000W (30K) – 60,000W (60K)

CEC Efficiency 96.5%

Standard Warranty 10 Years

Sol-Ark revolutionary commercial hybrid inverters simplify adding storage to commercial buildings. The Sol-Ark 30K provides native 208V three-phase electricity out-of-box, and the Sol-Ark 60K is 480V. Both include a microgrid controller, allowing savings to be optimized when grid connected and automatically isolated during power outages.

Both the 30K and 60K are stackable to 12 units of high voltage battery bank options, increasing project size and site flexibility. A multi-use port provides flexible interconnect to a variety of devices, including AC coupling, EV chargers, generator, or outdoor service panels.



## AI-Powered Smart Load Management

14 x 100A Channels, up to 600V

Ensure Quality Performance with Backup Circuit Prioritization

Enhances Inverter Power by 2X and Battery by 30%

Smart, In-Platform Software powered by Sol-Ark

Convenient Installation Next to Existing Load Panel

Advanced State-of-Charge and Time Shift Controls



# Limitless Lithium™

## Battery Energy Storage System

IP55 Outdoor: L3 30K-HV-60-IP55 and L3 60K-HV-60-IP55

### Features/Innovations



Fully integrated energy storage solution - hybrid inverter, battery and fleet management



Built-in dual fire suppression including cabinet and packs



Integrated air conditioner for temperature control



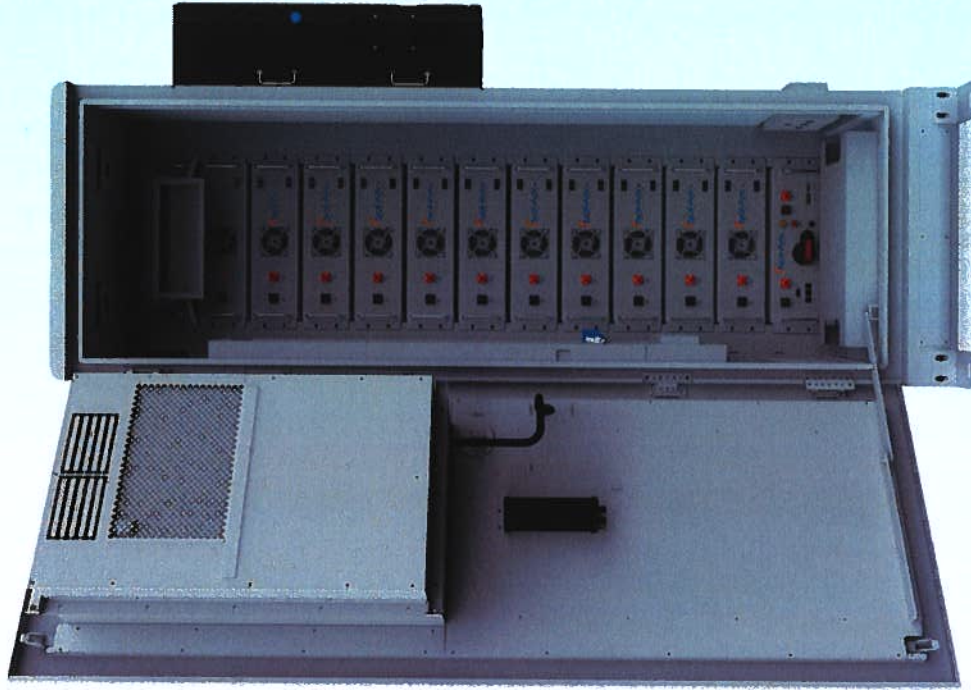
Intelligent EMS, BMS and hybrid inverter technology



Supports up to 6 battery cabinets per inverter



10-Year Warranty

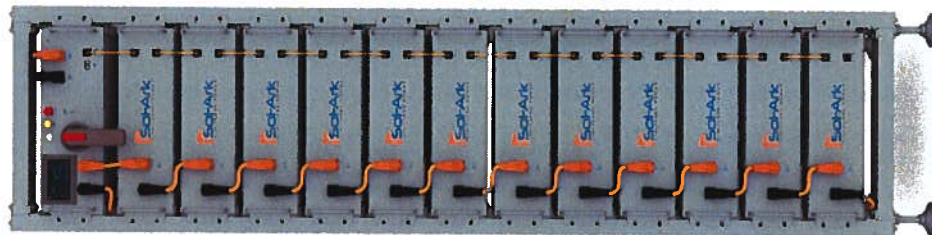


# Limitless Lithium™

## Battery Energy Storage System

IP20 Indoor: L3 30K-HV-40-IP20 and L3 60K-HV-60-IP20

### Features/Innovations



Prismatic cells offer maximum reliability, efficiency, and safety



Automatic configuration of batteries and BMS



5kW packs include built-in fire suppression



Supports USB and wifi upgrade (optional), remote upgrade



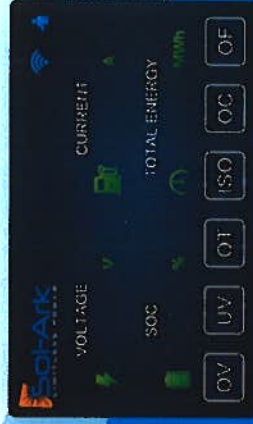
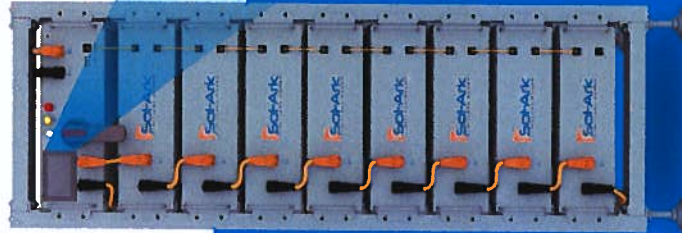
Modular batteries can easily be connected in parallel or series to increase capacity or voltage



10-Year Warranty

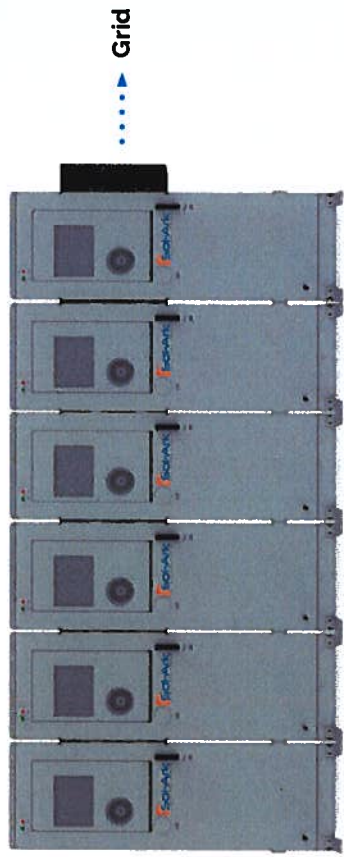


Inside of the battery

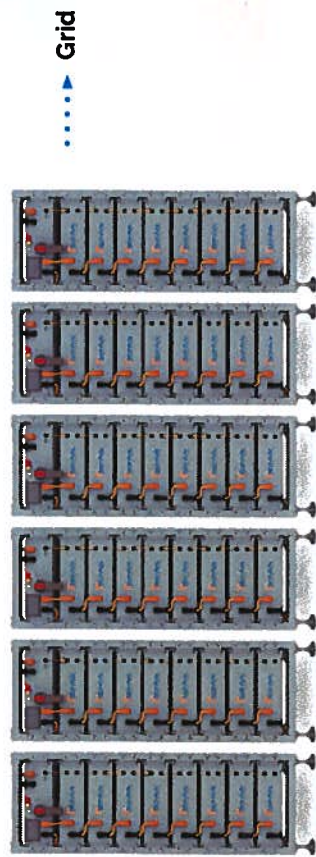


BMS touch screen offers real-time intelligent monitoring and diagnostics

# Modular Outdoor and Indoor Solutions



**IP55 Outdoor:** Up to 6 inverters / 36 battery cabinets  
**30k:** 180kWac / 22 MWH / 235kWdc – 325kWac PV  
**60k:** 360kWac / 22 MWH / 470kWdc – 750kWac PV



**IP20 Indoor:** Up to 12 inverters / 72 battery cabinets  
**30k:** 360kWac / 4.3 MWH / 470kWdc – 650kWac PV  
**60k:** 720kWac / 4.3 MWH / 940kWdc – 1.5MWh PV



## Technical Specifications: 208V Outdoor and Indoor

Battery Model: L3 30K-HV-60-IP55 L3 30K-HV-40-IP20

System Data	
Compatible Inverter	Sol-Ark 30K-3P-208V-N
Environmental Rating	Outdoor Indoor
Cell Chemistry	Lithium Iron Phosphate
Battery Cabinet Capacity	61.44kWh
System Usable Energy <sup>1</sup>	55.30kWh
Inverter Grid/Gen/Load OCPD Rating	200A
Backup Capability Per Inverter	30 kW/ac
Max DC-Coupled Solar Per Inverter	39 kW/ac
Max AC-Coupled Solar Per Inverter	54 kW/ac
Max Battery Cabinets Per Inverter	6
Min Battery Cabinets Per Inverter	1
Inverter Stacks in Parallel	6 <sup>2</sup>
Recommend Depth of Discharge	90%
System Nominal Voltage	307V
System Operating Voltage	249.6V-350.4V
Charge/Discharge Current <sup>2</sup>	100A   50A
<ul style="list-style-type: none"> <li>Recommend</li> <li>Nominal/Continuous</li> <li>Peak Discharge (2 mins, 25°C)</li> </ul>	100A   100A 125A   125A
Combined Battery • Inverter Efficiency	90% (25C, 0.5C)
Dimension (feet)	2.5W/3.5D/7.4H   1.9W/1.9D/5.3H
Weight	2095lbs   1384lbs
Operating Temperature <sup>4</sup>	-22°F to 131°F   -4°F to 131°F
Humidity	5%-85%RH
Altitude	±2000m
Storage Temperature	-4°F to 95°F
Seismic Zone	4
Communication Port	CAN2.0/RS485
Battery Module Specifications	
Battery Modules in Series Per Cabinet	6±2p
Battery Module Energy	512kWh
Battery Module Nominal Voltage	51.2V
Battery Module Nominal Capacity	100Ah
Battery Module Qty Per Cabinet	8
Warranty and Certification	
Cycle Life	>6000 Cycles (77°F±7°F 0.5C/0.5C, EOL70%)
Warranty <sup>5</sup>	10 Years
Certification	UL9540, UL9540a, UN38.3, CEC, JA12, IEC62477, IEC62619, VDE-AR-N 4105, IEC62109, VDE2510-50

- DC usable energy, test conditions 90% DOD, 0.3C charge and discharge at 25°C. System usable energy may vary due to system configuration parameters
- For larger outdoor installations, use the Sol-Ark Mega Ark
- The current is affected by temperature and SOC
- Charging disconnects below 32°F. Derating occurs above 113°F. Ambient temperature may exceed operating range on IP55 model if using included climate controls. See Sol-Ark technical sales for planning outdoor sites outside of operating temperature range
- Battery warranty expires at 6000 cycles or 10-year term, whichever occurs first. 5-year extended warranty option available for inverter only

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## Technical Specifications: 480V Outdoor and Indoor

Battery Model: L3 60K-HV-60-IP55 L3 60K-HV-60-IP20

System Data	
Compatible Inverter	Sol-Ark 60K-3P-480V-N
Environmental Rating	Outdoor Indoor
Cell Chemistry	Lithium Iron Phosphate
Battery Cabinet Capacity	61.44kWh
System Usable Energy <sup>1</sup>	55.30kWh
Inverter Grid/Gen/Load OCPD Rating	200A
Backup Capability Per Inverter	60 kW/ac
Max DC-Coupled Solar Per Inverter	78 kW/ac
Max AC-Coupled Solar Per Inverter	125 kW/ac
Max Battery Cabinets Per Inverter	6
Min Battery Cabinets Per Inverter	1
Inverter Stacks in Parallel	6 <sup>2</sup>
Recommend Depth of Discharge	90%
System Nominal Voltage	614.4V
System Operating Voltage	499.2V-700V
Charge/Discharge Current <sup>2</sup>	50A
<ul style="list-style-type: none"> <li>Recommend</li> <li>Nominal/Continuous</li> <li>Peak Discharge (2 mins, 25°C)</li> </ul>	50A   100A 125A   125A
Combined Battery • Inverter Efficiency	90% (25C, 0.5C)
Dimension (feet)	2.5W/3.5D/7.4H   1.9W/1.9D/7.4H
Weight	2095lbs   1705lbs
Operating Temperature <sup>4</sup>	-22°F to 131°F   -4°F to 131°F
Humidity	5%-85%RH
Altitude	±2000m
Storage Temperature	-4°F to 95°F
Seismic Zone	4
Communication Port	CAN2.0/RS485
Battery Module Specifications	
Battery Modules in Series Per Cabinet	12
Battery Module Energy	512kWh
Battery Module Nominal Voltage	51.2V
Battery Module Nominal Capacity	100Ah
Battery Module Qty Per Cabinet	12
Warranty and Certification	
Cycle Life	>6000 Cycles (77°F±7°F 0.5C/0.5C, EOL70%)
Warranty <sup>5</sup>	10 Years
Certification	UL9540, UL9540a, UN38.3, CEC, JA12, IEC62477, IEC62619, VDE-AR-N 4105, IEC62109, VDE2510-50

- DC usable energy, test conditions 90% DOD, 0.3C charge and discharge at 25°C. System usable energy may vary due to system configuration parameters
- For larger outdoor installations, use the Sol-Ark Mega Ark
- The current is affected by temperature and SOC
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- Battery warranty expires at 6000 cycles or 10-year term, whichever occurs first. 5-year extended warranty option available for inverter only

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# Mega Ark

## 500kW+ Turnkey Containerized Solutions

To be released mid-year 2024



### Features/Innovations

#### Pre-Engineered

Designed with precise equipment selection to maximize efficiency, reliability and lifespan



#### Factory Tested

Factory built solution integrates comprehensive safety features



#### Plug-and-Play

Includes all batteries, power conversion, coupling transformer, safety features, cooling, and protection and controls



Integrated air conditioner for temperature control



Built-in dual fire suppression including cabinet and packs

Energy Efficiency,  
Independence  
and Resilience,  
Delivered.

Peak Shaving

Grid Support

Intermittent Power Generation

Charging Infrastructure

Islanding Options

Time of Use

Multi-Use Applications

## Technical Specifications: Mega Ark

System Specification	
AC Output/Input Power	500kW
AC Output Frequency and Voltage	50/60Hz: 480Vac
Grid Type	3W Custom Transformer
THD	<3%
Power Factor	-1 to +1
System Communication	ETH
Black Start	Yes
Fire Detection	Heat and Smoke Detection and Extinguishment
Fire Alarm	Alarm Panel, Strobes and Horns with UPS Backup
Aux Load	10kW
Auxiliary Power Interface	208Vac, 3W+N+PE
Auxiliary Power Back Up	30 mins (Important Load)
Local Emergency Stop	Yes
Remote Stop/Shut-off	Yes
Battery Technical Specification	
Energy Configuration	1060kWh
Battery Operating Voltage	642V-868V
Battery Communication	CAN, RS485
Pack Configuration	1P14S (14 Cells)
Rack Configuration	1P238S (17 Packs)
Stack Configuration	5*1P238S (5 Racks)
Other Technical Specification	
Dimension (feet)	199W/8D/9.5H
Weight Approximate	18.2 tons
IP Rating of Enclosure	IP54
Seismic Parameter	Zone 4
Noise @1m Distance	≤75 dB
Operating Temperature Range	-22°F to 140°F (↳ 113°F Derating)
Relative Humidity	≤95% (Non Condensing)



TF: Transformer  
 STS: Static Transfer Switch  
 PCS: Power Conversion System



# Monitor and Manage Your Energy from Anywhere

Maximize energy performance of every circuit with smart load management

Automate business backup

Optimize demand response with Peak Shaving

Analyze how much energy was made, used, stored and sold back to the grid

Check the health of the battery

Remote commissioning and settings adjustment



# Future Proof. Battery Technology for Today and Tomorrow.

Battery technology is constantly evolving. Sol-Ark's industry leading software architecture enables pairing the best battery for the solution — today and in the future.

A Selection of  
Our Industry Leading  
Battery Partners



HOMEGRID



# Our Industry Solutions



Data Center



Telecommunications



Oil & Gas



Military



Pharmaceutical



Industrial Automation



Big Box Retail



Financial Institutions



Pharmacies



Gas Stations



Restaurants



Education



Agriculture



Disaster Relief



Wineries



# We're innovators...

who solve the most critical energy storage challenges every day

## About Sol-Ark

A global energy technology leader

Deep engineering expertise in smart energy solutions

A track record of results. For over a decade, Sol-Ark has been solving complex energy challenges with innovation and technology

Powered by a vast ecosystem including thousands of distributors, installers, EPCs, integrators, and battery manufacturers

Trusted by global Fortune 500 companies in telecommunications, retail, big tech, restaurants, and the largest space agency in the world



Tom Brennan, CEO and CTO of Sol-Ark, is a 2023 winner of the EY Entrepreneur of the Year®, the world's most prestigious business award for entrepreneurs



[sol-ark.com](http://sol-ark.com)

# REDCLOUD ENERGY MANAGEMENT SYSTEM



by  muGrid Analytics

We close the gap between modeled and actual economic performance of battery storage, microgrids, EV charging, and controllable loads.

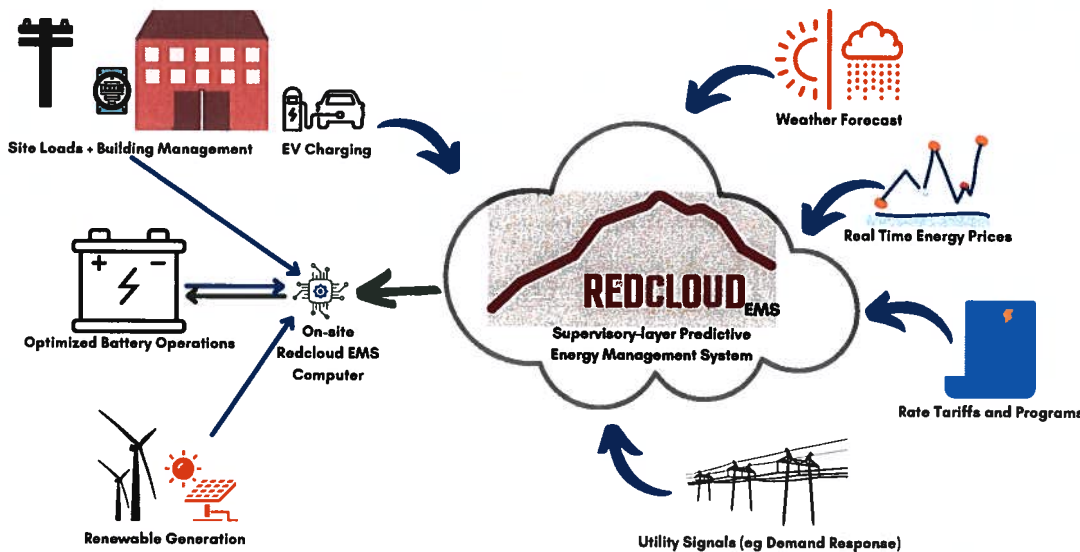
With Redcloud EMS, your project will unlock utility bill savings that were estimated during design, optimize operations of your energy equipment, and use predictive analytics to anticipate what your system needs to do next. This allows energy assets to realize their full capabilities and enables stakeholders to finally achieve the project economics they expect, without having to become energy experts themselves.



When it comes to economic performance as an energy goal, simple rules-based control is insufficient for systems with multiple stacked revenue streams. Programming an operating strategy for microgrids requires intelligent control. Redcloud EMS intelligent operation uses machine learning and predictive analytics to save you money and reach your energy goals, with monitoring insights that are far more detailed than anything currently on the market. Detailed monitoring & verification analytics allows nuanced insight into system performance and economic benefits, along with rapid adaptivity and flexibility. This is performed in an operational, forward-looking environment, delivering exceptional financial returns compared to currently available control solutions.

## FEATURES

- Fully managed “autopilot” operations - no need to make changes
- Fully customized model predictive control maximizes return for your site
- Revenue stacking of multiple opportunities including: demand management, energy arbitrage, solar self-consumption, and market participation
- Enables utility bill reconciliation and economic performance verification
- Islanding for resilient backup power
- Track and visualize data trends



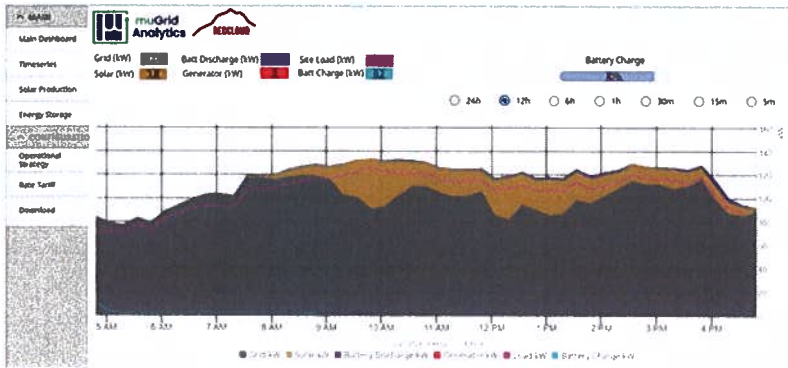
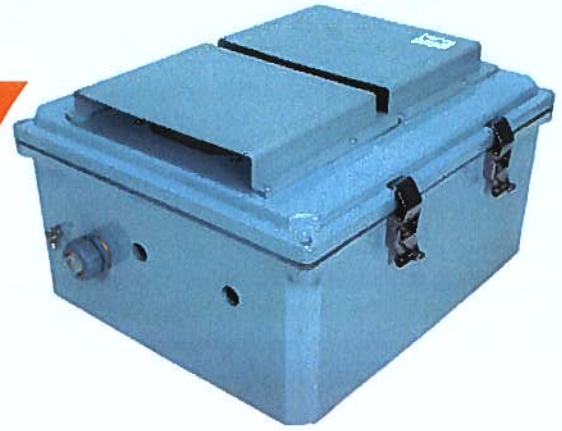
HELLO@MUGRID.COM

WWW.MUGRID.COM



# GROUNDING IN OPTIMIZATION, POWERED BY PREDICTIVE ANALYTICS

The Redcloud suite ensures reliable economic performance from feasibility through operations and flexibly adapts to changing conditions.



## APPLICATIONS

### Behind-the-meter Battery Storage

Operating on a single building with a single meter, these projects are installed with the primary goal of economic return. Battery storage may be combined with solar PV or other on-site renewable generation or may stand alone.

### Grid-connected Microgrids

These microgrids may comprise one or multiple buildings and they add an additional design requirement: resilience. Resilience is the ability to stay up when the grid goes down. Grid-connected microgrids provide economic benefits when the grid is functional and backup power in the event of an outage.

### Off-grid Microgrids

Off-grid microgrids are islanded 100% of the time, but they still require optimized operations in variable conditions to achieve performance goals.

### Utility Scale Energy Storage

Utility scale storage must operate against real-time market conditions.

Cabinet Data	
External Dimensions (HxWxD)	14.6" x 12.6" x 7.4" 370mm x 320mm x 188mm
Weight	16.9 lbs / 6.67 kg
Ratings	NEMA 3R / IP24
Power Supply	
Voltage	100-240 Vac
Frequency	50/60 Hz
Current Requirement	2.5A
Climate	
Temperature Range	32°F to 120°F 0°C to 50°C
Communication	
Internet Connection	Ethernet WiFi Cellular
Communication Interfaces	MODBUS/RS485 MODBUS/TCP CANbus Third-party API
Cybersecurity	Firewall included

**BIDDER'S PROOF OF RESPONSIBILITY**

-Confidential to the Extent Permitted by Laws and Regulations-

The Bidder's Proof of Responsibility must be filed with the Owner five days prior to the bid deadline. The Bidder must submit this statement, full and complete, sworn to before an officer authorized to administer oaths.

The purpose of this document is to enable the Owner to decide if the bidder has the financial ability, the equipment and the experience to perform the contract in a manner consistent with protection of the Owner's and the general welfare. It is not intended to discourage beginning contractors nor to make it difficult for qualified contractors to bid.

The Owner reserves the right to require additional information before awarding the contract in order to determine a prospective contractor's qualifications for the project. If the Owner determines that the answers to the questionnaire and the financial statement are insufficient or demonstrate that the bidder is not qualified the Owner may reject the bid.

Statement of Bidder's Qualifications

1. Name of Bidder All Energy Solar Inc.
2. Bidder's address 5 Marsh Court, Madison, WI 53718
3. Contact person Samuel Wood, Business Development
4. Telephone number 320-493-9338
5. When organized 2009
6. When incorporated 2009 in Wisconsin  
(if Sole Proprietorship or Partnership, so indicate)
7. Years in business under present name 16 Years
8. Licenses (type and license number) Electrical Contractor License # 1197754
9. Certifications (check those that apply):
  - a. Disadvantaged Business Enterprise \_\_\_\_\_
  - b. Minority Business Enterprise \_\_\_\_\_
  - c. Woman-Owned Business Enterprise \_\_\_\_\_
  - d. Small Business Enterprise \_\_\_\_\_
10. Contracts on hand  
(Attach a list of present uncompleted contracts, a schedule of their completion dates, % completed as of this date, and gross amount of each contract.)

- 11. General character of work typically performed by your firm \_\_\_\_\_  
Full service electrical renewable energy systems provider (solar, BESS, EV chargers).
- 12. Has your firm or a firm for which a corporate officer of your firm was working ever defaulted on a contract or failed to complete any work awarded it?  
Yes \_\_\_\_\_ No X \_\_\_\_\_  
(If yes, attach a statement setting forth when this occurred, where and why.)
- 13. Are there any judgments, claims, disputes or litigation pending or outstanding against your firm? Yes \_\_\_\_\_ No X \_\_\_\_\_  
(If yes, attach a statement setting forth when this occurred, where and why.)
- 14. Attach a list of major equipment now owned or leased full-time by your firm.
- 15. Attach a list of principal employees of your firm, including the officers, and a short resume of the background and experience of these principal employees.
- 16. Attach a list of credit references, showing credit available. Banks or other financial institutions are preferred references.
- 17. Financial statement:  
Condition at the close of business on September 29th, 2025 .

Assets:

- a. Cash \_\_\_\_\_
- b. Accounts receivable \_\_\_\_\_
- c. Work in progress \_\_\_\_\_
- d. Real estate equity \_\_\_\_\_
- e. Materials in stock \_\_\_\_\_
- f. Book value of equipment \_\_\_\_\_
- g. Book value of furniture and fixtures \_\_\_\_\_
- h. Other assets \_\_\_\_\_

Liabilities:

- a. Accounts, notes and interest payable \_\_\_\_\_
- b. Other liabilities \_\_\_\_\_

Net Worth:  
\_\_\_\_\_

(A standard financial statement may be submitted, if desired.)

Date at close of business this September 29th day of 2025

Name of Organization All Energy Solar Inc.

By Samuel D. Wood

Title Business Development

State of Wisconsin, County of Dane,

hereby certifies that the answers to all the foregoing questions and the other information provided are true and correct.

\_\_\_\_\_  
(signature)

Subscribed and sworn to before me this 29th day of

September, 20 25

Sara Hyland Notary Public

City/Village Saint Paul County Ramsey

My commission expires on January 31, 2028

(Attachments consist of \_\_\_\_\_ sheets.)



**VILLAGE OF MCFARLAND  
AFFIDAVIT OF QUALIFICATIONS**

Samuel Wood (“Affiant”), a duly authorized representative of All Energy Solar Inc, a potential contractor or subcontractor (hereinafter the “Contractor”), on a project for the Village of McFarland, swears on behalf of said Contractor, under oath and penalty of perjury, as follows:

1. Contractor’s permanent place of business is located at:

5 Marsh Court, Madison, WI 53718

2. The Contractor is authorized or registered to transact business in the state by the Department of Financial Institutions in compliance with Wis. Stat. chs. 178, 179, 180, 181, or 183.

3. Neither the Contractor, nor agent, partner or officer of the Contractor, nor any employee who will perform any work on the project, is debarred, suspended, proposed for debarment or declared ineligible from contracting with any unit of federal, state or local government.

4. The Contractor is in compliance with provisions of Section 2000e of Chapter 21, Title 42 of the United States Code and Federal Executive Order No. 11246 as amended by Executive Order No. 11375 (known as the Equal Opportunity Employer provisions).

5. The Contractor has general liability, workers’ compensation, unemployment, and automobile insurance at levels sufficient to protect the Village including those liability coverage limits specified in the contract documents.

6. The Contractor has complied with all provisions of Wisconsin prevailing wage law and federal Davis-Bacon related Acts, and all rules and regulations therein, for projects undertaken by the Contractor that are covered by these laws, for the past five (5) years.

7. The Contractor has 230 employees. The Contractor (does / ~~does not~~) [STRIKE ONE] participant in an Apprenticeship program.

8. The Contractor has a written substance abuse prevention program meeting the requirements of Wis. Stat. § 103.503. As required by Wis. Stat. § 103.503, all employees are subject to drug and alcohol testing before commencing work on the public works project, except that testing of an employee before commencing work on a project is not required if the employee has been participating in a random testing program during the 90 days preceding the date on which the employee commences work on the public construction project.

9. Affiant represents and warrants that all employees who will perform work on the project are properly classified as employees or independent contractors under all applicable state and federal laws.

10. The Contractor (~~has~~ / has not) [STRIKE ONE] been the subject of any investigation, order or judgment from any state or federal agency or court concerning an employment practice, including but not limited to, classification of employees, unemployment insurance, or discrimination. Copies of any investigation, order or judgment are attached. [STRIKE IF NOT APPLICABLE]

11. The Contractor's employees who will perform work on the project are:
- a. Covered under a current workers' compensation policy; and
  - b. Properly classified under such policy.

12. The Contractor is in compliance with all applicable requirements of the federal Affordable Care Act.

13. The Contractor possesses all applicable professional and trade licenses required for performing the public works.

14. The Contractor has adequate financial resources to complete the public construction contract, as well as all other work the bidder is presently under contract to complete.

15. The Contractor is bondable for the terms of the proposed public construction contract.

16. The Contractor has satisfactorily completing the following five projects of similar size and complexity to the proposed public construction project within the last five years.

- a. Project 1:

CuisinArt Resort Solar + Storage  
Rendezvous Bay, Anguilla, 2640,  
Anguilla (British Virgin Islands)

Jinko Eagle CS 500kW Battery

- b. Project 2: Trystar LLC  
15765 Acorn Trail  
Faribault, MN 55021

BESS : BYD-Chess 120/248  
Storage kW Continuous Power 120.0  
Storage kWh Usable Capacity 248.0

- c. Project 3: Marten Transport - Jurupa Valley  
11033 Harrel St  
Mira Loma, CA 91752

BESS : BYD-Chess 120/248  
Storage kW Continuous Power 120.0  
Storage kWh Usable Capacity 248.0

d. Project 4:

e. Project 5:


17. The Contractor has, and diligently maintains, a written safety program.

18. The Contractor has not been determined to have committed a Serious, Willful or Repeated violation (as defined by OSHA) of OSHA safety standards in the last 10 years.

19. The person signing below has the authority to sign on behalf of, and bind, the Contractor.

20. The Contractor understands that failing to submit the required affidavit, or providing incorrect, false, or misleading information, shall automatically disqualify the Contractor from be awarded the public construction contract and/or performing work on the project.

Project: Village of McFarland - Public Safety Microgrid Ready Energy Storage System

Signature:  \_\_\_\_\_

Date: 9/29/25

Name: Samuel D. Wood

Title: Business Development



**McFarland**  
**SUMMARY SHEET**

**MEETING DATE:** Thursday, October 16, 2025

**SECTION:** Business

**DEPARTMENT:** Community Development

**CONTACT:** Kong Thao, Associate Planner

**AGENDA ITEM:** Discussion on Seed Library.

**PREVIOUS ACTION:**

August 11, 2025 - S&NR committee discussed sustainability planning and initiatives.  
September 8, 2025 - S&NR committee discussed Staff's initial findings on discontinued Village's Seed Library.

**ISSUE SUMMARY:**

This is a continued discussion on the Seed Libraries previously discussed at the [September 8, 2025, Sustainability & Natural Resources Committee](#) meeting. During that meeting, Staff presented initial findings on the previous activities of the Seed Library, which included: being available from 2015-2018 through the McFarland Public Library, educational materials related to planting and seed exchange methods, volunteer and staff work involved, and storage. The Committee directed staff to follow up on current practices and adjacent communities. The following summary includes findings from [Madison Public Library: Seed Library](#) (MPL), Village of Oregon's Seed Library, and the local community garden. The information was gathered through a combination of information found on posted websites and communications with program directors and staff. Staff asked each source general questions related to annual costs of seeds, species of seeds desired and purchased, duties and tasks completed by volunteers, collaboration, data tracking, and staff commitment.

**Madison Public Library (MPL) Summary**

Seeds were available in March while supplies last at the locations listed below. The program utilizes volunteers to assist with stuffing, labeling, and organizing seed packs to be shipped to each location. In 2024, the seed libraries gave out 46,920 seed packs, nearly doubling 2023 by 24,600 seed packets. The Sequoia Library (near Midvale Elementary School) was reportedly the most popular location, giving out about 15,000 seed packets in 2024. The seed library provides approximately 50 different species of seeds and is adjusted based on participant feedback. The most requested seeds are flowers and herbs. Each pack includes 10–15 seeds. No library cards are needed to participate in the seed library and classes are available throughout the year as voluntary educational materials on their website.

Locations of eight participating Madison Public Libraries.

- [Alicia Ashman Library](#), 733 N. High Point Rd (added in 2024)
- [Goodman South Library](#), 2222 S. Park St



- [Hawthorne Library](#), 2707 E Washington Ave (added in 2024)
- [Lakeview Library](#), 2845 N. Sherman Ave
- [Meadowridge Library](#), 5726 Raymond Rd
- [Monroe Street Library](#), 1705 Monroe St (added in 2024)
- [Pinney Library](#), 516 Cottage Grove Rd
- [Sequoia Library](#), 4340 Tokay Blvd

Funding for the Seed Libraries is described in the statement on their website: *Madison Public Library's Seed Library began as a larger project called the Dane County Seed Library, which was started in 2014 with a \$5,000 grant provided by the John A. Johnson Fund and an anonymous donor through the [Madison Community Foundation](#). The Seed Library is currently funded by multiple sources, including the [Friends of Madison Public Library](#) and [Madison Public Library Foundation](#).*

Additionally, Hannah Majeska, Community Engagement Librarian at MPL-Lakeview, provided responses to Staff's questions about the operation. Staff has summarized the responses given.

- Started in 2014, the project exchanged hands several times with limited data on tracking. The most recent data includes 2023 and 2024. The total packets taken in 2023 was 24,607 and in 2024, 48,258.
- About \$750 spent per library annually, varying depending on carryover from past seasons and seed interests.
- Hold ~49 species annually. The target is to order enough seeds of each type to fill 100–300 packets, each pack with 10–12 seeds depending on seed popularity, seed size, and pricing.
- Volunteer numbers vary with each location. Overall, they received great luck with interested people to assist with work needed. Host 3–5 events with events lasting 2 hours. Anywhere between 5–25 volunteers, with an average of 10 volunteers during each event. Additionally, volunteers assist outside of events, spending an additional 1–2 hours per week packaging seeds.
- Previously collaborated with [Gardens Network/Rooted](#) on their seed giveaways, utilizing this relationship to gather feedback among the Garden's network for interested seeds; [Extension Dane County](#) to offer educational gardening programs; and Dane County Land & Water Resources to distribute native Wisconsin plant seeds in the winter.
- Improvements for 2026: Expected to have a meeting in winter to recap the current year, then plan for 2026. Predict adjustments to orders, and program format adjustment. For example, community members are less interested in lecture-style programs than hands-on opportunities.

Sources: [Madison Public Library: Seed Library](#); [Madison Public Library: Year in Review 2024](#); and Hannah Jeska, Community Engagement Librarian, MPL-Lakeview

**Oregon Public Library: Seed Library**



The Village of Oregon operates a seed library from their public library. The page includes a video about native plants, planting instructions, details of species, and instructions on seed returns. Staff reached out to [Oregon Public Library](#) for comments on the operation of the seed library. Kara Ripley, Adult Services & Outreach Librarian, provided the following comments (summarized by staff):

- The program started around 2015 and is available year-round. Busy in late winter and early spring
- The program tracks checkout of seeds and shrinkage (i.e. lost, damaged, theft, or other errors). From 2023 to 2024, the seed library recorded over 1,800 seeds checked out, 1,000 more from the previous year.
- Spend ~\$100–\$200 annually. Hold 30 varieties of seeds, with 30 packets each (over 900 packets); 10–20 seeds per packet depending on size and species. Popular seeds are tomatoes, basil, and marigolds.
- Volunteers assist with packaging & labeling, stuffing, and seed collecting/harvesting. Unknown hours from volunteers, but are praised for their dedication and contribution to the program's success.
- Staff Duties
  - Outreach activities in the community
  - Purchasing, checking out, cataloging, and tracking
  - 10–15 hours in the early season, around January; then 2–3 hours per week from April to June. Slows down until Autumn then picks back up.
  - Management of growing guides and resources
- Previously partnered with Dane County Parks for native plantings and Oregon Nature Alliance.
- Do not see many seeds returned. Difficulty in maintaining purity of seed species, harvesting of seeds, and drying practices.

### **Community Garden in the Village**

With the assistance from the Village's Communications Manager, Melanie Camellia, who is a member of the McFarland Community Garden, that Staff was able to gather the information from Bill Stoneman, the Community Garden manager. Below is a summary:

- Community Garden is open to serve as a resource and collaborate with the Village on a Village-led seed library project. Unknown interest currently among membership.
- The Community Garden includes two sheds on site with gardening tools available for use and seeds for members throughout the season.
- Surplus gardening tools were acquired through donations from community members over the years. Available to home gardeners (or prospective home gardeners), membership is not required and can be checked out off-site, excluding power tools.
- Seed donation comes from Livingston Seed Co., but do not have an active seed library.
- Recommended resource: [Rooted](#), a local non-profit with great resources on seed libraries.



**Staff Comments**

In Staff's review, while each organization provides educational materials covering methods on how to dry, preserve and return seeds, most seed library programs function more as a one-way transaction with a soft expectation of seeds being returned. Oregon's seed library page includes more discussion on the seed exchange function and requests for varied species. This program has experienced a 231% increase from 2023 to 2024 for only one location. Additionally, seed libraries rely heavily on volunteers to keep them alive, from stuffing and labeling, to refilling shelves, publicity/outreach, and participation. Staff estimate volunteers contribute over 150 hours of combined work to keep these programs thriving. The MPL program finds success through continued interest from participants, having multiple locations, and funding partners that ensure the program operates annually. The Village's Library Director previously expressed resource limitations as reasons for discontinuing the program. Seed libraries often deplete their supply by the end of the planting season, making seed storage efforts minimal with some carryover. Additional logistics to consider include ongoing storage needs, tables, operating supplies, start-up costs, and packaging and labeling materials.

**Other Resources**

- [Seed Lending Library: How to start a seed library](#)
- [Dane County Seed Library: Why are seed libraries important?](#)

**FINANCIAL/BUDGET IMPACT:**

**VILLAGE PLAN REFERENCE:**

**ORDINANCE REFERENCE:**

**BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:**

This item is for discussion only.

**ATTACHMENTS:**

None