CITY OF GROSSE POINTE WOODS 20025 Mack Plaza Electronic Zoning Board of Appeal Meeting Agenda Monday, July 12, 2021 7:05 p.m.

The Zoning Board of Appeals will be conducting a meeting of the Grosse Pointe Woods City Council by video (Zoom) and telephone conference in accordance with the City of Grosse Pointe Woods City Council resolution adopted November 16, 2020, establishing rules for remote attendance pursuant to the Open Meetings Act as amended. This notice is being provided to ensure that those wishing to participate in the meeting have an opportunity to do so. Additional instructions are listed below.

Join Zoom Meeting

https://us06web.zoom.us/j/83295727868?pwd=T0VWalBtKzN4UXgrZm54S1hNa0hjdz09

A.

Meeting ID: 832 9572 7868 Passcode: 133792

Join by phone: Dial by your location 877 853 5247 US Toll-free 888 788 0099 US Toll-free Meeting ID: 832 9572 7868 Passcode: 133792

Facilitator's Statement

- 1. CALL TO ORDER
- 2. ROLL CALL
- 3. ACCEPTANCE OF AGENDA
- 4. PUBLIC HEARING
- 1. Rooftop Solar Panel Installation: Joseph Mazzara, 1993 Country Club Dr.
 - a. Letter 04/07/21 J. Mazzara
 - Building Permit Application Zoning Compliance and Plan Review 02/09/21
 - c. Electrical Permit 02/09/21
 - d. Solar Energy System Purchase & Installation Agreement – Power Home 12/26/21
 - e. Letter 01/28/21 Right Angle Engineering
 - f. Site Plans:
 - i. PV-1 Plot Plan & Vicinity Map
 - ii. PV-2 Roof Plan & Modules
 - iii. PV-2A String Layout
 - iv. PV-3 Attachment Detail
 - v. PV-4 Electrical Line Diagram
 - vi. PV-5 Wiring Calculations
 - vii. PV-6 Equipment Specification

- viii. PV-7 Equipment Specification
- ix. PV-8 Equipment Specification
- x. PV-9 Equipment Specification
- xi. PV-10 Equipment Specification
- xii. PV-11 Equipment Specification
- xiii. PV-11A Equipment Specification
- xiv. PV-11B Equipment Specification
- xv. PV-11C Equipment Specification
- xvi. PV-12 Equipment Specification
- g. Memo 06/02/21 Building Official
- h. Memo 06/04/21 Fire Inspector
- i. Memo 06/21/21 Director of Public Services
- j. Photos
- k. Affidavit of Legal Publication
- 1. Affidavit of Property Owners Notified
- m. Aerial Views (2)
- 5. NEW BUSINESS/PUBLIC COMMENT
- 6. IMMEDIATE CERTIFICATION OF MINUTES
- 7. ADJOURNMENT

Lisa Kay Hathaway, MiPMC-3/MMC City Clerk

IN ACCORDANCE WITH PUBLIC ACT 267 (OPEN MEETINGS ACT) POSTED AND COPIES GIVEN TO NEWSPAPERS

The City of Grosse Pointe Woods will provide necessary, reasonable auxiliary aids and services to individuals with disabilities. Closed captioning and audio will be provided for all electronic meetings. All additional requests must be made in advance of a meeting.

Instructions for meeting participation

1. <u>To join through Zoom</u>: The meeting may be joined by clicking on the link provided on the agenda at the start time posted on the agenda, enter the meeting identification number, and password. Zoom may provide a couple of additional instructions for first time use. As an alternative to using the link, accessibility to the meeting may be obtained by using the browser at join.zoom.us. If having trouble logging in, try a different browser e.g. Chrome.

Join Zoom Meeting https://us06web.zoom.us/j/83295727868?pwd=T0VWalBtKzN4UXgrZm54S1hNa0hjdz09

Meeting ID: 832 9572 7868 Passcode: 133792

2. Join by telephone: Dial the toll-free conferencing number provided and enter the meeting identification number, and password. Dial *9 to be heard under Public Comment.

Dial by your location 877 853 5247 US Toll-free 888 788 0099 US Toll-free Meeting ID: 832 9572 7868 Passcode: 133792

In an effort to alleviate feedback and disruption of the meeting, choose one of the media options, either phone or Zoom, not both.

Meeting notices are posted on the City of Grosse Pointe Woods website home page at <u>www.gpwmi.us</u> and the on-line calendar, both containing a link to the agenda. The agenda contains all pertinent information including business to be conducted at the meeting, a hyperlink to participate using Zoom, and call-in telephone number with necessary meeting identification, and a password. Agendas will also be posted on six (6) City bulletin boards along Mack Avenue.

The following are procedures by which persons may contact members of the public body to provide input or ask questions:

- 1. To assist with meeting flow and organization, all public comment will be taken at the end of the meeting unless it is moved to a different location on the agenda upon a consensus of the City Council;
- 2. The phone-in audience, when making public comment please state your name (optional) when called upon;
- 3. Audience participants will be muted upon entry and will have a chance to speak during the public comment portion of the meeting at the end of the agenda, at which time the microphones will be unmuted.
- 4. Those joining by Zoom will also be muted and may use the virtual raised "hand" to request to be heard under Public Comment.
- 5. Those joining by telephone need to dial in using the phone number provided on the agenda. When prompted, enter the meeting number and the password also located on the agenda. Dial *9 to be heard under Public Comment.
- 6. The published agenda invites participants from the community to provide written questions, comments, and concerns in advance of the meeting to any Elected Official or the City Clerk regarding relevant City business and may be read under Public Comment. Emails may be sent to:

Art Bryant, Mayor	arthurwbryant@gmail.com	313 885-2174
Angela Coletti Brown, Council Member	acoletti@hotmail.com	248 520-6714
Ken Gafa, Council Member	kgafa@comcast.net	313 580-0027
Vicki Granger, Council Member	grangergpw@aol.com	313 640-5250
Mike Koester, Council Member	koester.gpw@gmail.com	313 655-4190
Todd McConaghy, Council Member	todd.mcconaghygpw@yahoo.com	248 765-0628
Tom Vaughn, Council Member	thomasvaughngpw@gmail.com	313 882-9573
Lisa Hathaway, City Clerk	lhathaway@gpwmi.us	313 343-2447

You may contact Lisa Hathaway, City Clerk, at <u>lhathaway@gpwmi.us</u> should you have any questions prior to the meeting starting.

NOTE TO PETITIONERS: YOU, OR A REPRESENTATIVE, ARE REQUESTED TO BE IN ATTENDANCE AT THE MEETING SHOULD COUNCIL HAVE QUESTIONS REGARDING YOUR REQUEST

APR 08 2021 CITY OF GROSSE PTE, WOODS BUILDING DEPT

Joseph Mazzara 1993 Country Club Drive Grosse Pointe Woods, MI 48236 April 7, 2021

The Mayor and City Council of Grosse Pointe Woods, Michigan 20025 Mack Plaza Dr Grosse Pointe Woods, MI 48236

Dear Mayor and City Council

My name is Joseph Mazzara, I am the owner and resident of 1993 Country Club Drive in Grosse Pointe Woods, Michigan. I am writing today to request a variance to Sec. 50-539 of the City Code "(5) Solar panels sholl not be located within four feet of any peak, eave or valley to maintain adequate accessibility."

Late last year, I began researching residential solar power systems and decided to purchase a system through Power Home Solar. This decision was based on several factors, including the raising cost of electricity, an increase in power consumption due to permanently working from home, and a concern about the impact non-renewable power has on the environment.

I was approved for the financing of the system and have been working with Power Home Solar on the design. Unfortunately, the number of panels required to power my home would be in violation of the ordinance, described above.

I am requesting a variance to the ordinance which would allow for the installation of the full panel design. Without the exception, the number of panels would be reduced, which would increase the cost of the system and decrease its efficiency. This would cause a continued reliance on grid power and render cost savings moot.

The current design has most of the panels on the garage roof, with only a few on the house itself. Those on the house would be compliant with the four-foot offset rule.

Thank you for your time and consideration.

Sincerely,

Joseph Mazzara

CITY OF GROSSE POINTE WOODS Building Department

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CITY OF GROSSE PTE. WOODS BUILDING DEPT WOODS

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20025 Mack Plaza, Grosse Pointe Woods, MI 48236 Ph 313.343.2426/Fax 313.343.2439

BUILDING PERMIT APPLICATION ZONING COMPLIANCE AND PLAN REVIEW

COMMERCIAL AND RESIDENTIAL

ZONING COMPLIANCE INCLUDES: Drives, Fences, Accessory Structures/Sheds (less than 200 sq ft), Awning, Garage Floors, Patios (non-elevated), Play Structures (NOTE: This list is not all inclusive. If you have any questions, please call the Building Department @ 313-343-2426.
Property Owner Name: Joseph Mazzara Date: 2/5/2021
GP Woods Address: 1993 Country Club Drive e-mail: mazzara malonen@ gmail. an
Work#: Home/Cell#: 313 - 585 - 9417
Contractor/Applicant Name: Peter DeNicola
Telephone # 919.300.7976 Fax # Mobile/Cell #
Contractor Address: 500 Stephenson Hwy, Troy MI 48083
MI Builder's License # : 2102214053 MI Driver's License # : 000036728002
e-mail address: permitmi@powerhome.com
<u>SPECIFY NATURE OF PROPOSED WORK</u> : 15 roof mounted modules, grid tied, 4.95 kW, solar and battery installation on existing residence
Value of Construction \$_50432.50
Section 23a of State Construction Code Act of 1972, No. 230 of the Public Acts of 1972, being Section 125.1523a of the Michigan Compiled Laws, prohibits a person from conspiring to circumvent the licensing requirements of the State relating to persons who are to perform work on a residential building or a residential structure. Violations of Section 23a are subject to civil fines.
Applicant Signature:
I hereby certify that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and we agree to conform to all applicable laws of this jurisdiction.
FOR OFFICE USE ONLY Approved: Denied: Zoning Board of Approval Required #
10/15 See Sect. 50-539 Setbacks From examples, DEAK
MIN 4º -117/21



CITY OF GROSSE POINTE WOODS

20025 Mack Plaza Drive Grosse Pointe Woods, Michigan 48236-2397 BUILDING DEPARTMENT Phone 313.343.2426/Fax 313.343.5667

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CITY OF GROSSE PTE. WOODS BUILDING DEPT

ELECTRICAL PERMIT

GPW LOCATION: 1993 Country Club	Drive	owner Joseph Mazza	ara	
CONTRACTOR Bryan D Law	PHONE	_{C/FAX #} 919.300.7976	CEL	L#:

ADDRESS _____ 500 Stephenson Hwy, Troy MI 48083

EMAIL permitmi@powerhome.com

REMARKS

DESCRIPTION	PRICE PER UNIT	NO. OF UNITS	TOTAL	DESCRIPTION	PRICE PER UNIT	NO. OF UNITS	TOTAL
BASE FEE			\$75				1
CIRCUITS 1 st Circuit Each Additional Circuit Rough Inspection	\$15 6 25	1	15.00	MOTORS 1/4 to 10 hp/ea 11 hp to 30 hp/ea. 31 hp to 50 hp/ea.	\$15 20 30		
FIXTURES 1 ST 25 Fixtures or Lamps	20			AIR CONDITIONING Interruptible	20		
Each additional 25	10			Residential	45		
				Comm. up to 5 ton	25		
SERVICES	1			Over 5 ton	45		
Up to 100 amps	25	1	25.00		A	1	
101 to 500 amps	30			FIRE ALARM SYSTEMS			
Over 500 amps	50		-	1 st Heat or Smoke Det.	15		
Sub panels	25			Each Add. Detector	6		
Replace service entrance	15			1 st Device or Pull	15		
				Each Additional	6		
SIGN CIRCUITS							
1 ST Circuit-Connection	25			FEEDERS			
Each additional circuit (same sign)	5			Bus ducts, wireways	2		
				or conduits 1 st 100 ft.	20	1.1.1.1	
APPLIANCE WIRING	1			Each additional 100 ft	10		
Furnace Circuit	15				1		
Garbage Disposal, Range, Oven,	10			Underground Inspect.	35		
Water Heater, Dishwasher	10					· · · · · · · · · · · · · · · · · · ·	
	A	C		Re-Inspection Fee	50		
SWIMMING POOLS		T					
Above, In-Ground or Hot Tub	30			Hourly Rate	40		
Title VII/Property Maintenance	50		1				
				TOTAL PERMIT			115.00



SIGNATURES

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This SOLAR ENERGY SYSTEM PURCHASE & INSTALLATION AGREEMENT is made and entered into as of the _____ day of _____ day of _____ 2020 | 3:36 PM EST

THIS AGREEMENT IS ENTERED INTO AS OF THE DAY AND YEAR WRITTEN ABOVE AND IS EXECUTED IN AT LEAST TWO ORIGINAL COPIES, ONE OF WHICH IS TO BE DELIVERED TO CONTRACTOR AND ONE OF WHICH IS TO BE DELIVERED TO BUYER.

BUYER MAY CANCEL THIS TRANSACTION AT ANY TIME PRIOR TO MIDNIGHT OF THE THIRD BUSINESS DAY AFTER THE DATE OF THIS TRANSACTION. SEE THE ATTACHED NOTICE OF CANCELLTATION FORM FOR AN EXPLANATION OF THIS RIGHT.

NOTICE TO OWNER: DO NOT SIGN THIS CONTRACT IF BLANK. YOU ARE ENTITLED TO A COPY OF THE CONTRACT AT THE TIME YOU SIGN.

Buyer(s) DocuSigned by	<i>r</i> :				
Signature:	7453			-	
Joseph Printed Name:	Mazza	ra	1		
December 26, Date:	2020	T	3:36	PM	EST
Signature:				-	
Printed Name:	_		_		
Date:					
Contractor (Power Home	Solar LLC by:)*			
Signature: Halil Ma	ktabi	_			
Printed Name:	Makta	bi	2		
December 26,	2020	1	1:33	PM	EST

* Power Home Solar LLC maintains State licenses/registrations in the following states (please see the first page for license/registration numbers): NC, SC, MI, VA, OH, PA, TN and MO.



January 28, 2021

Power Home Solar and Roofing 919 North Main Street Mooresville, NC 28115 Design Criteria: Design Wind Speed (ASD)- 120 mph Ground Snow Load- 20 psf Risk Category- II Exposure category- C

RE: Structural Roof Evaluation for the Mazzara Residence: 1993 Country Club Drive, Grosse Pointe Woods, Michigan

As per your request, we have evaluated the roof structure under the proposed solar panel array. The information used to evaluate this structure was gathered during a field visit by Power Home Solar and Roofing on behalf of Right Angle Engineering. The roof structure consists of pre-manufactured trusses spaced at 24" on center. The roof material consists of asphalt shingles. The design criteria used to analyze this structure are listed above and included with this letter. The adopted building codes in this jurisdiction are: *the 2015 Michigan Residential Code, the 2015 Michigan Rehab Code,* and *ASCE 7-16*.

Michigan Rehab Code (MRC) 2015 section 807.4 indicates that alterations to an existing building that results in less than a 5% increase in the total stress may be performed without a structural evaluation of the existing building. As demonstrated in the attached calculations, the additional weight of the solar panels will be less than 5% increase in the gravity loading and the stress on the existing roof framing.

Based on our assessment we have determined that the existing roof framing will safely and adequately support the additional loads imposed by the solar panels without reinforcement. In order for the loads to be evenly distributed, the roof attachments should be staggered and spread evenly throughout the panel array. Attachment points should be spaced at a maximum of 48" on center. The racking system should be installed per the manufacture's specifications. There should be a minimum of 16 L-foot attachment points to the roof. Each attachment should have a 5/16" or 18/8 SS lag screw with 2.5" minimum penetration centered on each truss top chord. Waterproofing around the roof penetrations is the responsibility of others. Right Angle Engineering assumes no responsibility for improper installation of the solar panels.

Regards,



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APR 2 8 2021 CITY OF GROSSE PTE. WOODS BUILDING DEPT

Robert D Smythe, P.E. Right Angle Engineering

55 WEST 500 SOUTH, HEBER CITY, UT 84032 T 925.787.3067 U RIGHTANGLEENG.COM



Design Criteria:	ه و		
Design Wind Speed (3 second gust)	120	mph	
Exposure Category	С		
Risk Category	2		
Mean Roof Height	30	ft	
Roof Type	Gable Roof		
Building Type	enclosed		
Roof Dead Load- ASCE Table	C3-1		
Asphalt Shingles	2	psf	
5/8" Plywood Sheathing	2	psf	
Roof Framing	4	psf	
Insulation	3.85	psf	
Gypsum sheathing	2	psf	
Solar Panel Array	3	psf	
Dead Load Without Panels	13.85	psf	
Dead Load With Solar panels	16.85	psf	
Roof Live Load			
Existing Roof Live Load	20	psf	ASCE 7-16 Table 4.3-
Roof Live Load with Solar Panels	0	psf	2015 MRC R324.4.1
Roof Snow Load-ASCE 7-16			
Ground Snow Load (pg)	20	psf	Section 7.2
Exposure Factor (Ce)	0.9		Table 7.3-1
Thermal Factor (Ct)	1.1		Table 7.3-2
Importance Factor (Is)	1		Table 1.5-2
Flat Roof Snow Load (Pf)	14		Equation 7.3-1
Slippery surface Slope Factor (Cs) Nonslippery Surface Slope Factor	0.72		Figure 7-2
(Cs)	1		Figure 7-2
Roof Snow Load	14	psf	Equation 7.4-1
Reduced Roof Snow Load (Slippery	10	c	
Surrace) Load Combinations - ASCE 7-2	10 16 Section 2.4.1	pst	Equation 7.4-1
		With Solar	
the second life of the second li	Without Solar Panels	panels	
D + Lr	33.8 pst	16.8 pst	
D + S	27.7 pst	26.8 pst	



I Uput to pre-	
37	degrees
10	
175	ft^2
	37 10 175

.

Wind Calculations- ASCE 7-16			
GC _P Zone 1	-1		Figure 30.3-(2A-5B)
GCp Zone 2	-1.2		Figure 30.3-(2A-5B)
GCp Zone 3	-1.2		Figure 30.3-(2A-5B)
Gcpi	0.18		Table 26.13-1
Velocity Pressure (qh)	30.7	psf	
qh= .00256KhKhtKdV^2			Equation 26.10-1
Кн	0.98		Table 26.10-1
Kht	1		Equation 26.8-1
Ka	0.85		Table 26.6-1
Designed wind pressure (P)		psf	Equation 30.8-1
P= qh(GCh) - (GChi))			
Zone 1 Pressure (P)	-36.2	psf	
Zone 2 Pressure (P)	-42.4	psf	
Zone 3 Pressure (P)	-42.4	psf	

Roof Connection			
Shear Capacity	190	lbs	NDS 2015 Table 12K
Shear tributary area	24.4	ft^2	
Pullout Capacity	266	lbs/in	
Lag screw embedment	2.5	in	
Total pullout capacity	665	lbs	NDS 2015 Table 12.2A
Pullout max tributary area	15.7	ft^2	
Factor of Safety	1.91		
Minimum number of connections	16		

Beam Stress MRC 2015 Section 807.4	A			
Beam Span	12	ft		
Spacing	2	ft		
Roof Framing type	pre-manufactur	ed trusses		
Panel Orientation	portrait			
Number of Panels per rafter	2			
Panel distance from eave	0			
	Without Solar	With Solar	Percent	
	Panels	Panels	Increase	
Bending Moment	1218.6 ft-lbs	990.8 ft-lbs	81.3%	Less than 105%
Vertical Reaction (V1)	406.2 lbs	361.8 lbs	89.1%	Less than 105%
Vertical Reaction (V2)	406.2 lbs	283.74 lbs	69.9%	Less than 105%







N W S	BOWER HOME SOLAR, LLC POWER HOME SOLAR, LLC POWER HOME SOLAR, LLC POWER YOUR EVURE. POWER YOUR SOLAR, LLC POWER YOUR SOLAR, LCC
	Signature with Seal
	DATE: 2/5/2021 PROJECT NAME & ADDRESS
ATERIALS	JOSEPH MAZZARA RESIDENCE 993 COUNTRY CLUB DR., SE POINTE WOODS, MI 48236
DESCRIPTION R SIL-330 HL MODULES	SOS:
LINK S2502 POWER OPTIMIZERS	C B
APRS MODEL RS801 /RCELL X7602 7600W INVERTER	
2) 40A FUSES, 240V, NEMA 3R, UL LISTED	SHEET NAME
/RCELL 9 BATTERY	STRING
P PANEL, 240V	
ERNAL LIGHT	
	ANSI B
/ T-BOLT	
ND CLAMPS ACHMENT (QUICKMOUNT)	SHEELNUMBER
IT M8 X 20MM	PV-2A



REVISIONS DESCRIPTION DATE REV DATE REV DATE REV DATE REV DATE DATE REV DATE DATE REV DATE DATE DATE Signature with Seal DATE: 2/5/2021 PROJECT NAME & ADDRESS PROJECT NAME & ADDRESS NUMBER SHEET NAME ATTACHMENT DETAIL SHEET SIZE ANSI B 11" X 17" SHEET NUMBER	POWERHOME	"POWER YOUR FUTURE" 919 N. MAIN ST. MOORESVILLE, NC 28115 Phone: 704-800-6591 (OFFICE)	Email: info@powerhome.com Web: www.powerhome.com
Signature with Seal DATE: 2/5/2021 PROJECT NAME & ADDRESS BREET NAME & ADDRESS 'YAU	REVIS	DATE	REV
Signature with Seal DATE: 2/5/2021 PROJECT NAME & ADDRESS PROJECT NAME & ADDRESS SHEET NAME & ADDRESS SHEET NAME & ADDRESS SHEET NAME ATTACHMENT DETAIL SHEET SIZE ANSI B 11" X 17"		J. T. L	
Signature with Seal DATE: 2/5/2021 PROJECT NAME & ADDRESS PROJECT NAME & ADDRESS PROJECT NAME & ADDRESS PROJECT NAME & ADDRESS ON H 4830 SHEET NAME ATTACHMENT DETAIL SHEET NIZE ANSI B 11" X 17" SHEET NUMBER			
Signature with Seal DATE: 2/5/2021 PROJECT NAME & ADDRESS BREET NAME & ADDRESS WI 48530 SHEET NOUNLE & ADDRESS WI 48530 SHEET NUME ATTACHMENT DETAIL SHEET SIZE ANSI B 11" X 17" SHEET NUMBER			
Signature with Seal DATE: 2/5/2021 PROJECT NAME & ADDRESS PROJECT NAME & ADDRESS BULL BROUNLE CONNER SHEET NAME ATTACHMENT DETAIL SHEET SIZE ANSI B 11" X 17" SHEET NUMBER			
DATE: 2/5/2021 PROJECT NAME & ADDRESS PROJECT NAME & ADDRESS SHEET NAME ATTACHME DK'. SHEET NAME ATTACHMENT DETAIL SHEET SIZE ANSI B 11" X 17" SHEET NUMBER	Signature	with Seal	
SHEET NAME ATTACHMENT DETAIL SHEET SIZE ANSI B 11" X 17" SHEET NUMBER	JOSEPH MAZZARA RESIDENCE	GROSSE POINTE WOODS, MI 48236 and 48236 and 48236 groups and 48236 and 48236 groups and 482	ESS
DETAIL SHEET SIZE ANSI B 11" X 17" SHEET NUMBER	ATTAC		Т
ANSI B 11" X 17" SHEET NUMBER			_
SHEET NUMBER	AN:	SI B X 17"	
	SHEET	NUMBER	



MANUFACTURER / MODEL #	SILFAB S	SOLAR SIL-330 HL
VMP	33.70V	
IMP	9.80A	
VOC	40.10V	
ISC	10.40A	
TEMP. COEFF. VOC	-0.28%/°C	
PTC RATING	307.56W	
MODULE DIMENSION	66.93"L x 39.37"W x 1.50"D (In Inch)	
INVER	TER SPECI	FICATIONS
MANUFACTURER / MODEL #		GENERAC PWRCELL X760
AC POWER OUTPUT (LOADS/G	GRID)	7600VA
AC POWER OUTPUT (BACKUP))	8000VA
NOMINAL OUTPUT VOLTAGE	1.2. 2.	240 VAC
MAX OUTPUT CURRENT @240	V (LOADS/G	GRID) 32A
MAX OUTPUT CURRENT @240V (BACKUP)) 50A
NOMINAL DC INPUT VOLTAGE		380Vdc
MAX DC INPUT VOLTAGE		420Vdc
CEC WEIGHTED EFFICIENCY		96.5%
MAX DC POWER (PV)		10000W
MAX INPUT CURRENT (PV)		20Adc
CONT. PEAK POWER (BATTERY)		8000W
SERIES SUB STRI	ING OPTIM	IZER SPECIFICATIONS
MANUFACTURER / MODEL #		PV LINK S2502
RATED POWER		2500W
MPPT VOLTAGE RANGE		60-360 Vmp
		420Voc
MAXIMUM OUTPUT		420 Adc
NOMINAL OUTPUT		380 Vdc
MAXIMUM OUTPUT CURRENT		8 A
MAXIMUM SHORT CIRCUIT CURRENT		18 A
BATTE	ERY SPECI	FICATIONS
MANUFACTURER / MODEL #		GENERAC PWRCELL 9 BATTERY
USABLE ENERGY		8.6kWH
RATED CONTINUOUS POWER		3.4kW
POWER: 60 MINUTES		4.2kW
POWER: 2 MINUTES		5.0kW
REBUS VOLTAGE: INPUT/ OUT	PUT	360-420Vdc
MODULE VOLTAGE		46.8Vdc
ROUND-TRIP EFFICIENCY 96		OC EN

AMBIENT TEMPERAT	URE SPECS
RECORD LOW TEMP	-19°
AMBIENT TEMP (HIGH TEMP 2%)	34°
CONDUIT HEIGHT	0.5"
ROOF TOP TEMP	56°

DC CONDUCTOR AMPACITY CALCULATIONS: ARRAY TO JUNCTION BOX:

EXPECTED WIRE TEMP (In Celsius)	56
TEMP. CORRECTION PER NEC TABLE 310.15 (B)(2)(a)	0.7
NO. OF CURRENT CARRYING CONDUCTORS	6
CONDUIT FILL CORRECTION PER NEC TABLE 310.15(B)(3)(a)	0.8
CIRCUIT CONDUCTOR SIZE	10 AWG
CIRCUIT CONDUCTOR AMPACITY PER NEC TABLE 310.15(B)(16)	40A

REQUIRED CIRCUIT CONDUCTOR AMPACITY PER NEC 690.8(A&B)	
1.25 X Imax	10
DERATED AMPACITY OF CIRCUIT CONDUCTOR	
TEMP. CORRECTION PER TABLE 310.15 (B)(2)(a) X CONDUIT FILL CORRECTION PER NEC 310.15(B)(3)(a) X CIRCUIT CONDUCTOR AMPACITY 310.15 (B)(16)	22.72
Result should be greater than (10A) otherwise less the entry for circuit conductor	or size and

ampacity

FROM JUNCTION BOX TO INVERTER:

EXPECTED WIRE TEMP (In Celsius)	56	
TEMP. CORRECTION PER NEC TABLE 310.15 (B)(2)(a)	0.7	
NO. OF CURRENT CARRYING CONDUCTORS	4	
CONDUIT FILL CORRECTION PER NEC TABLE 310.15(B)(3)(a)	0.8	
CIRCUIT CONDUCTOR SIZE	10 AWG	
CIRCUIT CONDUCTOR AMPACITY PER NEC TABLE 310.15(B)(16)	40A	
REQUIRED CIRCUIT CONDUCTOR AMPACITY PER NEC 690.8(A&B)		
1.25 X Imax X # of PV LINKS	204	
DERATED AMPACITY OF CIRCUIT CONDUCTOR	22.72A	
TEMP. CORRECTION PER TABLE 310.15 (B)(2)(a) X CONDUIT FILL CORRECTION PER NEC 310.15(B)(3)(a) X CIRCUIT CONDUCTOR AMPACITY 310.15 (B)(16)		
Result should be greater than (20A) otherwise less the entry for circuit conduc	tor size and	

ELECTRICAL NOTES

1.) ALL EQUIPMENT TO BE LISTED BY UL OR OTHER NRTL, AND LABELED FOR ITS APPLICATION.

2.) ALL CONDUCTORS SHALL BE COPPER, RATED FOR 600 V AND 90 DEGREE C WET ENVIRONMENT.

3.) WIRING, CONDUIT, AND RACEWAYS MOUNTED ON ROOFTOPS SHALL BE ROUTED DIRECTLY TO, AND LOCATED AS CLOSE AS POSSIBLE TO THE NEAREST RIDGE, HIP, OR VALLEY.

ampacity

- 4.) WORKING CLEARANCES AROUND ALL NEW AND EXISTING ELECTRICAL EQUIPMENT SHALL COMPLY WITH NEC 110.26.
- 5.) DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS. CONTRACTOR SHALL FURNISH ALL NECESSARY OUTLETS, SUPPORTS, FITTINGS AND ACESSORIES TO FULFILL APPLICABLE CODES AND STANDARDS.
- 6.) WHERE SIZES OF JUNCTION BOXES, RACEWAYS, AND CONDUITS ARE NOT SPECIFIED, THE CONTRACTOR SHALL SIZE THEM ACCORDINGLY.
- 7.) ALL WIRE TERMINATIONS SHALL BE APPROPRIATELY LABELED AND READILY VISIBLE.

8.) MODULE GROUNDING CLIPS TO BE INSTALLED BETWEEN MODULE FRAME AND MODULE SUPPORT RAIL, PER THE GROUNDING CLIP MANUFACTURER'S INSTRUCTION.

9.) MODULE SUPPORT RAIL TO BE BONDED TO CONTINUOUS COPPER G.E.C. VIA WEEB LUG OR ILSCO GBL-4DBT LAY-IN LUG.

10.) THE POLARITY OF THE GROUNDED CONDUCTORS IS NEGATIVE

a construction of a first sector of
ROM BATTERY TO INVERTER:
EXPECTED WIRE TEMP (In Celsius)
TEMP. CORRECTION PER NEC TABLE 310.15 (I
NO. OF CURRENT CARRYING CONDUCTORS
CONDUIT FILL CORRECTION PER NEC TABLE
CIRCUIT CONDUCTOR SIZE
CIRCUIT CONDUCTOR AMPACITY PER NEC TA
REQUIRED CIRCUIT CONDUCTOR AMPACITY F
1.25 X Imax
DERATED AMPACITY OF CIRCUIT CONDUCTOR
TEMP. CORRECTION PER TABLE 310.15 (B)(2)(CONDUIT FILL CORRECTION PER NEC 310.15(CIRCUIT CONDUCTOR AMPACITY 310.15 (B)(16
Result should be greater than (26.25A) otherwise land ampacity
AC CONDUCTOR AMPACITY CALCULATIONS: FROM INVERTER TO BACK-UP PANEL:
No. OF INVERTER
EXPECTED WIRE TEMP (In Celsius)
TEMP. CORRECTION PER NEC TABLE 310.15(E
NO. OF CURRENT CARRYING CONDUCTORS
CONDUIT FILL CORRECTION PER NEC TABLE
CIRCUIT CONDUCTOR SIZE
CIRCUIT CONDUCTOR AMPACITY PER NEC TA
REQUIRED CIRCUIT CONDUCTOR AMPACITY
1.25 X INVERTER OUTPUT CURRENT (BACKUP
DERATED AMPACITY OF CIRCUIT CONDUCTO
TEMP. CORRECTION PER TABLE 310.15 (B)(2)
CONDUIT FILL CORRECTION PER NEC 310.15(CIRCUIT CONDUCTOR AMPACITY 310.15 (B)(10
Result should be greater than (42.5A) otherwise le and ampacity
AC CONDUCTOR AMPACITY CALCULATIONS:
FROM INVERTER TO MEP:
No. OF INVERTER
EXPECTED WIRE TEMP (In Celsius)
TEMP, CORRECTION PER NEC TABLE 310.15(
NO. OF CURRENT CARRYING CONDUCTORS
CONDUIT FILL CORRECTION PER NEC TABLE
CIRCUIT CONDUCTOR SIZE
CIRCUIT CONDUCTOR AMPACITY PER NEC TA
REQUIRED CIRCUIT CONDUCTOR AMPACITY
1.25 X MAX INVERTER OUTPUT CURRENT (LO
DERATED AMPACITY OF CIRCUIT CONDUCTO
TEMP. CORRECTION PER TABLE 310.15 (B)(2)
CONDUIT FILL CORRECTION PER NEC 310.15(CIRCUIT CONDUCTOR AMPACITY 310.15 (B)(1)
Result should be greater than (40A) otherwise less ampacity

	34"	
(B)(2)(a)	0.96	
	2	
E 310.15(B)(3)(a)	1	
	10 AWG	
ABLE310.15(B)(16)	40A	
7 PER NEC 690.8(A&B)	- 26.25A	
OR		
)(a) X 5(B)(3)(a) X 16)	38.40A	

	1	
	34"	
(B)(2)(a)	0.96	
	3	
E 310.15(B)(3)(a)	1	
	6 AWG	
ABLE 310.15(B)(16)	75A	
PER NEC 690.8(A&B)	1	
IP POWER)	- 42.5A	
OR		
(a) X 5(B)(3)(a) X 16)	72A	

	1	
	34*	
(B)(2)(a)	0.96	
	3	
E 310.15(B)(3)(a)	1	
	6 AWG	
TABLE 310.15(B)(16)	75A	
(PER NEC 690.8(A&B)	1	
OADS/GRID)	- 40A	
OR	72A	
2)(a) X 5(B)(3)(a) X 16)		
ss the entry for circuit condu	ctor size and	

POWERHOME SOLAR LIC	"POWER YOUR FUTURE" 919 N. MAIN ST. MOORESVILLE, NC 28115	Phone: 704-800-6591 (OFFICE) Email: info@powerhome.com Web: www.powerhome.com
REVIS	DATE	REV
Signatura	with Soc	
PROJECT NAM	IE & ADD	
JOSEPH MAZZARA RESIDENCE	GROSSE POINTE WOODS MI 48236	
JOSEPH MAZZARA Internet RESIDENCE	O D D M CROSSE POINTRY CLUB DR., GROSSE POINTE WOODS MI 48236	NS
JOSEPH MAZZARA JOSEPH MAZZARA RESIDENCE	A DIAL CLUB DR., A DIAL CLUB DR.,	NS
JOSEPH MAZZARA JOSEPH MAZZARA RESIDENCE SHEET SHEET	TALE AND	NS

SIL-330 HL





HIGH EFFICIENCY PREMIUM **MONO-PERC PV MODULE**



CHUBB

INDUSTRY LEADING WARRANTY All our products include an industry leading 25-year product workmanship

and 30-year performance warranty.

35+ YEARS OF SOLAR INNOVATION Leveraging over 35+ years of worldwide experience in the solar industry, Silfab is dedicated to superior manufacturing processes and innovations such as Bifacial and Back Contact technologies, to ensure our partners have the latest in solar innovation.

NORTH AMERICAN QUALITY

Silfab is the leading automated solar module manufacturer in North America. Utilizing premium quality materials and strict quality control management to deliver the highest efficiency, premium quality PV modules.

HALF-CELL TECHNOLOGY

Designed to improve the module's performance and durability.

BAA / ARRA COMPLIANT

Silfab panels are designed and manufactured to meet Buy American Act Compliance. The US State Department, US Military and FAA have all utilized Silfab panels in their solar installations.

LIGHT AND DURABLE

Engineered to accommodate high wind load conditions for test loads validated up to 4000Pa uplift. The light-weight frame is exclusively designed for wide-ranging racking compatibility and durability.

UQUALITY MATTERS

Total automation ensures strict guality controls during the entire manufacturing process at our ISO certified facilities.

DOMESTIC PRODUCTION

Silfab Solar manufactures PV modules in two automated locations within North America. Our 500+ North American team is ready to help our partners win the hearts and minds of customers, providing customer service and product delivery that is direct, efficient and local.

AESTHETICALLY PLEASING

All black sleek design, ideal for high-profile residential or commercial applications.

BID RESISTANT

PID Resistant due to advanced cell technology and material selection. In accordance to IEC 62804-1.

lectrical Specifications			SIL-3
Test Conditions		STC	2.87
Module Power (Pmax)	Wp	330	
Maximum power voltage (Vpmax)	V	33.7	
Maximum power current (Ipmax)	A	9.8	
Open circuit voltage (Voc)	V	40.1	
Short circuit current (lsc)	A	10.4	
Module efficiency	%	19.4	
Maximum system voltage (VDC)	V		
Series fuse rating	Α		
Power Tolerance	Wp		
Measurement conditions: STC 1000 W/m ² • AM 1.5 • Tempera	ature 25 °C • NOCT 800 W/m ² • AM	1.5 · Measurement uncertai	inty ≤ 39

• Sun simulator calibration reference modules from Fraunhofer Institute. Electrical characteristics may vary by ±5% and power by 0 to +10W. Temperature Ratings

iperature coefficient isc		
Temperature Coefficient Voc	-0.28	
Temperature Coefficient Pmax	-0.36	
NOCT (± 2°C)	46	
Operating temperature	-40/+	
Mechanical Properties and Components	SIL-330 HL	
	Metric	
Module weight	18.6 kg ±0.2 kg	
Dimensions (H x L x D)	1700 mm x 1000 mm x 38 mm	
Maximum surface load (wind/snow)*	4000 Pa rear load / 5400 Pa front load N/m ²	
Hail impact resistance	ø 25 mm at 83 km/h	
Cells	120 Half Cells - Si mono PERC 5 busbar	
Glass	3.2 mm high transmittance, tempered, DSM antireflective coating	
Cables and connectors (refer to installation manual)	1350 mm, ø 5.7 mm, MC4 from Staubli	
Backsheet	High durability, superior hydrolysis and fluorine-free	
Frame	Anodized Alu	
Bypass diodes	3 diodes-30SQ045T (45V max DC blocking	
Junction Box	UL 3730 Certif	
Warranțies	SIL-330 HL	
Module product workmanship warranty	25 ye	
	30 y	
Linear power performance guarantee	≥ 97.1% end 1st year ≥ 91.6% end 12th year	
Certifications	SIL-330 HL	
the second se	LUC ODD GATAG LU ATAG CEGUL LILLE LU	

Product

Factory Modules Per Pallet: 26 II Pallets Per Truck: 36 III Modules Per Truck: 936 * Warning. Read the Safety and Installation Manual

for mounting specifications and before handling, installing and operating modules. **12 year extendable to 25 years subject to regis-tration and conditions outlined under "Warranty" at

www.silfabsolar.com.

***Certification in progress. August 2020 expected completion date for CEC listing, IEC 61730/61215 and CSA C22.2#61730-1/-2.

Third-party generated pan files from Fraunhofer-

Institute for Solar Energy Systems ISE are available for download at: www.silfabsolar.com/downloads





Silfab Solar Inc. 240 Courtneypark Drive East Mississauga ON L5T 2Y3 Canada Tel +1 905-255-2501 | Fax +1 905-696-0267 info@silfabsolar.com | www.silfabsolar.com

800 Cornwall Ave Bellingham WA 98225 USA Tel +1 360-569-4733

Silfab Solar Inc.





11.4 kW 30 PWRcell Inverter with CTs Model #: X11402 (Ordering SKU: APKE00013

Solar + storage is simple with the Generac PWRcell[™] Inverter. This bi-directional, REbus[™]-powered inverter offers a simple, efficient design for integrating smart batteries with solar. Ideal for self-supply, backup power, zero-export and energy cost management, the PWRcell Inverter is the industry's most feature-rich line of inverters, available in single-phase and three-phase models.

FEATURES & BENEFITS

- Single inverter for grid-tied solar with smart battery integration
- Simplified system design: No autotransformer or battery inverter needed
- User-selectable modes for backup power, self-supply, time-of-use, zero-import and export limiting
- Free system monitoring included via PWRview[™] Web Portal and Mobile App

AC OUTPUT/GRID TIE	MODEL X7602	MODEL X11402
MAX. CONT. GRID-TIED AC POWER @ 50°C (122°F):	7600 W	11400 W
AC OUTPUT VOLTAGE:	120/240, 10 VAC	120/208, 30 VAC
AC FREQUENCY:	60 Hz	60 Hz
MAXIMUM CONTINUOUS OUTPUT CURRENT:	32 A, RMS	32 A, RMS
GROUND-FAULT ISOLATION DETECTION:	Included	Included
CHARGE BATTERY FROM AC:	Yes	Yes
THD (CURRENT):	< 2%	< 2%
TYPICAL NIGHTTIME POWER CONSUMPTION:	<7W	<7W

AC OUTPUT/ISLANDED	MODEL X7602	MODEL X11402
MAX. CONT. AC POWER @ 40°C (104°F) W/ SINGLE 6 MODULE BATTERY CABINET':	9,000 W	9,000 W
MAX. CONT. AC POWER @ 40°C (104°F) WITH 2 BATTERY CABINETS (8 MODULES MINIMUM):	11,000 W	9,600-11,000 W ²
MAX. CONT. AC POWER @ 50°C (122°F):	8,800 W	7,500-8,800 W ²
PEAK MOTOR STARTING CURRENT (2 SEC):	50 /	A, RMS
AC BACKUP OUTPUT VOLTAGE:	120/240, 10 VAC	120/208, 10 VAC
AC FREQUENCY:	60 Hz	60 Hz
THD (VOLTAGE):	<2%	< 2%
AUTOMATIC SWITCHOVER TIME:	< 1 Seconds	<1 Seconds

DCINPUT	X7602	X11402
DC INPUT VOLTAGE RANGE:	360-420 VDC	360-420 VDC
NOMINAL DC BUS VOLTAGE:	380 ADC	380 VDC
DC DISTRIBUTION INPUT BREAKERS:	4 x 2P30 A	4 x 2P30 A
MAX INPUT CURRENT PER DC INPUT:	30 A	30 A
REVERSE-POLARITY PROTECTION:	Yes	Yes
TRANSFORMERLESS, UNGROUNDED:	Yes	Yes
TYPICAL NIGHTTIME POWER CONSUMPTION:	<7W	<7W
DC BUS EXPORT FUSES (+/-):	40 A	40 A
2-POLE DISCONNECTION:	Yes	Yes

EFFICIENCY	MODEL X7602	MODEL X11402
PEAK EFFICIENCY:	97.3%	97.7%
CEC WEIGHTED EFFICIENCY:	96,5%	97.5%

¹Peak Performance

Peak Periorinance ?In Island mode X11402 protected loads only supply 2 phases 120 VAC L-N, 208 L-L which results in lower power than in grid tied 3 phase mode. The low value of the range is for full L-L loading while high value of the range is full L-N loading

FEATURES AND MODES ISLANDING ³ : GRID SELL: SELF CONSUMPTION: PRIORITIZED CHARGING FROM RENEWABLES: GRID SUPPORT - ZERO EXPORT: ESS PCS OPERATION MODES (IMPORT ONLY, EXPORT ONLY): ADDITIONAL FEATURES SUPPORTED COMMUNICATION INTERFACES:	Yes Yes Yes Yes Yes Yes Yes REbus", CANbus, Ethernet PWRview" Web Portal and Mobile App Yes, 50 A Circuit Breaker Automatic	REVISIONS DESCRIPTION DATE REV
ISLANDING ² : GRID SELL: SELF CONSUMPTION: PRIORITIZED CHARGING FROM RENEWABLES: GRID SUPPORT - ZERO EXPORT: ESS PCS OPERATION MODES (IMPORT ONLY, EXPORT ONLY): ADDITIONAL FEATURES SUPPORTED COMMUNICATION INTERFACES:	Yes Yes Yes Yes Yes Yes Yes REbus", CANbus, Ethernet PWRview" Web Portal and Mobile App Yes, 50 A Circuit Breaker Automatic	
GRID SELL: SELF CONSUMPTION: PRIORITIZED CHARGING FROM RENEWABLES: GRID SUPPORT - ZERO EXPORT: ESS PCS OPERATION MODES (IMPORT ONLY, EXPORT ONLY): ADDITIONAL FEATURES SUPPORTED COMMUNICATION INTERFACES:	Yes Yes Yes Yes Yes REbus", CANbus, Ethernet PWRview" Web Portal and Mobile App Yes, 50 A Circuit Breaker Automatic	REVISIONS DESCRIPTION DATE REV
SELF CONSUMPTION: PRIORITIZED CHARGING FROM RENEWABLES: GRID SUPPORT - ZERO EXPORT: ESS PCS OPERATION MODES (IMPORT ONLY, EXPORT ONLY): ADDITIONAL FEATURES SUPPORTED COMMUNICATION INTERFACES:	Yes Yes Yes Yes REbus", CANbus, Ethernet PWRview" Web Portal and Mobile App Yes, 50 A Circuit Breaker Automatic	REVISIONS DESCRIPTION DATE REV
PRIORITIZED CHARGING FROM RENEWABLES: GRID SUPPORT - ZERO EXPORT: ESS PCS OPERATION MODES (IMPORT ONLY, EXPORT ONLY): ADDITIONAL FEATURES SUPPORTED COMMUNICATION INTERFACES:	Yes Yes Yes REbus", CANbus, Ethernet PWRview" Web Portal and Mobile App Yes, 50 A Circuit Breaker Automatic	REVISIONS DESCRIPTION DATE REV
GRID SUPPORT - ZERO EXPORT: ESS PCS OPERATION MODES (IMPORT ONLY, EXPORT ONLY): ADDITIONAL FEATURES SUPPORTED COMMUNICATION INTERFACES:	Yes Yes REbus", CANbus, Ethernet PWRview" Web Portal and Mobile App Yes, 50 A Circuit Breaker Automatic	DESCRIPTION DATE REV
ESS PCS OPERATION MODES (IMPORT ONLY, EXPORT ONLY): ADDITIONAL FEATURES SUPPORTED COMMUNICATION INTERFACES:	Yes REbus", CANbus, Ethernet PWRview" Web Portal and Mobile App Yes, 50 A Circuit Breaker Automatic	
ADDITIONAL FEATURES SUPPORTED COMMUNICATION INTERFACES:	REbus", CANbus, Ethernet PWRview" Web Portal and Mobile App Yes, 50 A Circuit Breaker Automatic	
	REbus", CANbus, Ethernet PWRview" Web Portal and Mobile App Yes, 50 A Circuit Breaker Automatic	
	PWRview [®] Web Portal and Mobile App Yes, 50 A Circuit Breaker Automatic	
SYSTEM MONITORING:	Yes, 50 A Circuit Breaker Automatic	
BACKUP LOADS DISCONNECT ³ :	Automatic	Signature with Seal
INVERTER BYPASS SWITCH:		
WARRANTY:	10 Years	
STANDARDS COMPLIANCE		
SAFETY:	UL 1741 SA, CSA 22.2, UL 1998	
GRID CONNECTION STANDARDS:	IEEE 1547, Rule 21, Rule 14H, CSIP, UL 1741 PCS CRD (Import Only, Export Only)	DATE: 2/5/2021
EMISSIONS:	FCC Part 15 Class B	PROJECT NAME & ADDRESS
DIMENSIONS AND INSTALLATION SPECIFICATIONS		536
ENCLOSURE KNOCKOUTS - OTY, SIZE - IN (MM):	6 x Combo 3/4" x 1" (19 x 25.4) 7 x Combo 1/2" x 3/4" (12.7 x 19)	148,
DIMENSIONS L x W x H - IN (MM):	24.5" x 19.25" x 8" (622.3 x 488.9 x 203.2)	A A
WEIGHT - LB (KG):	62.7 (28.4)	
COOLING:	Forced convection	
AUDIBLE NOISE:	< 40 dBA	
OPERATING TEMPERATURE - FAHRENHEIT (CELSIUS):	-4 to 122 °F (-20 to 50 °C) ⁴	
PROTECTION RATING:	NEMA 3R	
INSTALLATION GUIDELINES		
BATTERY TYPES SUPPORTED:	PWRcell" Battery	
MODULE STRING SIZE PER PV LINK OPTIMIZER:	Varies, refer to PV Link Installation Manual	
MAXIMUM RECOMMENDED DE FOWER FROM FV.		L SOS
30 inverters offer islanding for 10 loads. Includes ambient temperature rising from inverter operation. Reduced power Specifications listed in this document are achieved with firmware version 13310	at extreme temperatures. or greater. Confirm inverter has latest firmware to ensure full performance.	
Generac Power Systems, Inc.		EQUIPMENT
545 W29290 Hwy. 59, Waukesha, WI 53189		SPECIFICATION
www.Generac.com 888-GENERAC (436-3722)	CENIEDAC	SHEET SIZE
A0000528185 REV E	GENERAL	ANSIR
Specifications are subject to change without notice.		11" ¥ 17"
		SHEET NUMBER
		PV-7

Specifications		OWERHOME. HOME SOLAR, LLC ER YOUR FUTURE" 9 N. MAIN ST. ESVILLE, NC 28115 4-800-6591 (OFFICE) fi@powerhome.com
FEATURES AND MODES		
ISI ANDING	Yes	Vet Bond Port
GRID SELL:	Yes	
SELF CONSUMPTION:	Yes	
PRIORITIZED CHARGING FROM RENEWABLES:	Yes	REVISIONS
GRID SUPPORT - ZERO EXPORT:	Yes	DESCRIPTION DATE REV
ESS PCS OPERATION MODES (IMPORT ONLY, EXPORT ONLY):	Yes	
ADDITIONAL FEATURES		
SUPPORTED COMMUNICATION INTERFACES:	REbus", CANbus, Ethernet	
SYSTEM MONITORING:	PWRview" Web Portal and Mobile App	
BACKUP LOADS DISCONNECT ³ :	Yes, 50 A Circuit Breaker	Signature with Seal
INVERTER BYPASS SWITCH:	Automatic	
WARRANTY:	10 Years	
STANDARDS COMPLIANCE		
SAFETY:	UL 1741 SA, CSA 22.2, UL 1998	
GRID CONNECTION STANDARDS:	IEEE 1547, Rule 21, Rule 14H, CSIP, UL 1741 PCS CRD (Import Only, Export Only)	DATE: 2/5/2021
EMISSIONS:	FCC Part 15 Class B	PROJECT NAME & ADDRESS
DIMENSIONS AND INSTALLATION SPECIFICATIONS		236
ENCLOSURE KNOCKOUTS - OTY, SIZE - IN (MM):	6 x Combo 3/4" x 1" (19 x 25.4) 7 x Combo 1/2" x 3/4" (12.7 x 19)	48,
DIMENSIONS L x W x H · IN (MM):	24.5" x 19.25" x 8" (622.3 x 488.9 x 203.2)	A R
WEIGHT - LB (KG):	62.7 (28.4)	
COOLING:	Forced convection	
AUDIBLE NOISE:	< 40 dBA	
OPERATING TEMPERATURE - FAHRENHEIT (CELSIUS):	-4 to 122 °F (-20 to 50 °C) ⁴	
PROTECTION RATING:	NEMA 3R	
INSTALLATION GUIDELINES		
BATTERY TYPES SUPPORTED:	PWRcell" Battery	
MODULE STRING SIZE PER PV LINK OPTIMIZER:	Varies, refer to PV Link Installation Manual	
MAXIMUM RECOMMENDED DC POWER FROM PV:	15 kW	L SOS
30 inverters offer islanding for 10 loads. Includes ambient temperature rising from inverter operation. Reduced po Specifications listed in this document are achieved with firmware version 1	ver at extreme temperatures. 3310 or greater. Confirm inverter has latest firmware to ensure full performance.	
Conerac Power Systems Inc		EQUIPMENT
45 W29290 Hwy. 59, Waukesha, WI 53189		SPECIFICATION
www.Generac.com 888-GENERAC (436-3722)	CENIEDAC	SHEET SIZE
A0000528185 REV E	GEINERAL	
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		OTHER HOMOLIX
		PV-7

Specifications		Mowerhome. Home solar, LLC FR YOUR FUTURE" 19 N. MAIN ST. ESVILLE, NC 28115 04-800-6591 (OFFICE) fi@powerhome.com
FEATURES AND MODES		
ISI ANDING ³	Yes	Wee Boy
GRID SELL:	Yes	
SELF CONSUMPTION:	Yes	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
PRIORITIZED CHARGING FROM RENEWABLES:	Yes	REVISIONS
GRID SUPPORT - ZERO EXPORT:	Yes	DESCRIPTION DATE REV
ESS PCS OPERATION MODES (IMPORT ONLY, EXPORT ONLY):	Yes	
ADDITIONAL FEATURES		
SUPPORTED COMMUNICATION INTERFACES:	REbus", CANbus, Ethernet	
SYSTEM MONITORING:	PWRview" Web Portal and Mobile App	
BACKUP LOADS DISCONNECT ³ :	Yes, 50 A Circuit Breaker	Signature with Seal
INVERTER BYPASS SWITCH:	Automatic	
WARRANTY:	10 Years	
STANDARDS COMPLIANCE		
SAFETY:	UL 1741 SA, CSA 22.2, UL 1998	
GRID CONNECTION STANDARDS:	IEEE 1547, Rule 21, Rule 14H, CSIP, UL 1741 PCS CRD (Import Only, Export Only)	DATE: 2/5/2021
EMISSIONS:	FCC Part 15 Class B	PROJECT NAME & ADDRESS
DIMENSIONS AND INSTALLATION SPECIFICATIONS		236
ENCLOSURE KNOCKOUTS - OTY, SIZE - IN (MM):	6 x Combo 3/4" x 1" (19 x 25.4) 7 x Combo 1/2" x 3/4" (12.7 x 19)	48
DIMENSIONS L x W x H · IN (MM):	24.5" x 19.25" x 8" (622.3 x 488.9 x 203.2)	A A
WEIGHT - LB (KG):	62.7 (28.4)	
COOLING:	Forced convection	
AUDIBLE NOISE:	< 40 dBA	
OPERATING TEMPERATURE - FAHRENHEIT (CELSIUS):	-4 to 122 °F (-20 to 50 °C) ⁴	
PROTECTION RATING:	NEMA 3R	
INSTALLATION GUIDELINES		
BATTERY TYPES SUPPORTED:	PWRcell ⁻ Battery	
MODULE STRING SIZE PER PV LINK OPTIMIZER:	Varies, refer to PV Link Installation Manual	
MAXIMUM RECOMMENDED DC POWER FROM PV:		L SOR
30 inverters offer islanding for 10 loads. Includes ambient temperature rising from inverter operation. Reduced po Specifications listed in this document are achieved with firmware version i	wer at extreme temperatures. 3310 or greater. Confirm inverter has latest firmware to ensure full performance.	SHEET NAME
Generac Power Systems, Inc.		EQUIPMENT
545 W29290 Hwy. 59, Waukesha, WI 53189		SPECIFICATION
www.Generac.com 888-GENERAC (436-3722)	GENIEDAC	SHEET SIZE
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Specifications are subject to change without notice.		11" X 17"
		D / 7

Specifications		CONERHOME A HOME SOLAR, LLC ER YOUR FUTURE" 19 N. MAIN ST. ESVILLE, NC 28115 04-800-6591 (OFFICE) nfo@powerhome.com
FEATURES AND MODES		
ISLANDING ³ :	Yes	Phore Port
GRID SELL:	Yes	
SELF CONSUMPTION:	Yes	
PRIORITIZED CHARGING FROM RENEWABLES:	Yes	REVISIONS
GRID SUPPORT - ZERO EXPORT:	Yes	DESCRIPTION DATE REV
ESS PCS OPERATION MODES (IMPORT ONLY, EXPORT ONLY):	Yes	
ADDITIONAL FEATURES		
SUPPORTED COMMUNICATION INTERFACES:	REbus", CANbus, Ethernet	
SYSTEM MONITORING:	PWRview [*] Web Portal and Mobile App	
BACKUP LOADS DISCONNECT ³ :	Yes, 50 A Circuit Breaker	Signature with Seal
INVERTER BYPASS SWITCH: WARRANTY:	Automatic 10 Years	
STANDARDS COMPLIANCE		
SAFETY:	UL 1741 SA, CSA 22.2, UL 1998	
GRID CONNECTION STANDARDS:	IEEE 1547, Rule 21, Rule 14H, CSIP, UL 1741 PCS CRD (Import Only, Export Only)	DATE: 2/5/2021
EMISSIONS:	FCC Part 15 Class B	PROJECT NAME & ADDRESS
DIMENSIONS AND INSTALLATION SPECIFICATIONS		536
ENCLOSURE KNOCKOUTS - OTY, SIZE - IN (MM):	6 x Combo 3/4" x 1" (19 x 25.4) 7 x Combo 1/2" x 3/4" (12.7 x 19)	148,
DIMENSIONS L x W x H · IN (MM):	24.5" x 19.25" x 8" (622.3 x 488.9 x 203.2)	A R I
WEIGHT - LB (KG):	62.7 (28.4)	
COOLING:	Forced convection	
AUDIBLE NOISE:	< 40 dBA	
OPERATING TEMPERATURE - FAHRENHEIT (CELSIUS):	-4 to 122 °F (-20 to 50 °C) ⁴	
PROTECTION RATING:	NEMA 3R	
INSTALLATION GUIDELINES		
BATTERY TYPES SUPPORTED:	PWRCell Battery	
MODULE STRING SIZE PER PV LINK OPTIMIZER: MAXIMUM RECOMMENDED DC POWER FROM PV:	15 kW	JC 199
'30 inverters offer islanding for 10 loads. 'Includes ambient temperature rising from inverter operation. Reduced pov Specifications listed in this document are achieved with firmware version 13	ver at extreme temperatures. 3310 or greater. Confirm inverter has latest firmware to ensure full performance.	SHEET NAME
Generac Power Systems, Inc. 545 W29290 Hwy. 59, Waukesha, WI 53189		EQUIPMENT SPECIFICATION
www.generac.com 888-GENERAC (436-3722) 40000528185 REV F	GENIEDAC	SHEET SIZE
©2020 Generac Power Systems. All rights reserved. Specifications are subject to change without notice.		ANSI B
		SHEET NUMBER
		PV-7

Specifications		20WERHOME. R HOME SOLAR, LLC ER YOUR FUTURE" 19 N. MAIN ST. ESVILLE, NC 28115 04-800-6591 (OFFICE) nfo@powerhome.com
FEATURES AND MODES		
ISLANDING ³ :	Yes	OG M PAR
GRID SELL:	Yes	
SELF CONSUMPTION:	Yes	
PRIORITIZED CHARGING FROM RENEWABLES:	Yes	REVISIONS
GRID SUPPORT - ZERO EXPORT:	Yes	DESCRIPTION DATE REV
ESS PCS OPERATION MODES (IMPORT ONLY, EXPORT ONLY):	Yes	
ADDITIONAL FEATURES		
SUPPORTED COMMUNICATION INTERFACES:	REbus™, CANbus, Ethernet	
SYSTEM MONITORING:	PWRview* Web Portal and Mobile App	
BACKUP LOADS DISCONNECT ³ :	Yes, 50 A Circuit Breaker	Signature with Seal
INVERTER BYPASS SWITCH:	Automatic	
WARRANTY:	10 Years	
STANDARDS COMPLIANCE		
SAFETY:	UL 1741 SA, CSA 22.2, UL 1998	
GRID CONNECTION STANDARDS:	IEEE 1547, Rule 21, Rule 14H, CSIP, UL 1741 PCS CRD (Import Only, Export Only)	DATE: 2/5/2021
EMISSIONS:	FCC Part 15 Class B	PROJECT NAME & ADDRESS
DIMENSIONS AND INSTALLATION SPECIFICATIONS		536
ENCLOSURE KNOCKOUTS - QTY, SIZE - IN (MM):	6 x Combo 3/4" x 1" (19 x 25.4) 7 x Combo 1/2" x 3/4" (12.7 x 19)	148
DIMENSIONS L x W x H - IN (MM):	24.5" x 19.25" x 8" (622.3 x 488.9 x 203.2)	A A.
WEIGHT - LB (KG):	62.7 (28.4)	
COOLING:	Forced convection	
AUDIBLE NOISE:	< 40 dBA	
OPERATING TEMPERATURE - FAHRENHEIT (CELSIUS):	-4 to 122 °F (-20 to 50 °C)*	
PROTECTION RATING:	NEMA 3R	
INSTALLATION GUIDELINES		
	Pwkceli Ballery	
MAXIMUM RECOMMENDED DC POWER FROM PV:	15 kW	JC 195
³ 30 inverters offer islanding for 10 loads. Includes ambient temperature rising from inverter operation. Reduced po Specifications listed in this document are achieved with firmware version 1	wer at extreme temperatures. 3310 or greater. Confirm inverter has latest firmware to ensure full performance.	SHEET NAME
Generac Power Systems, Inc.		EQUIPMENT
545 W29290 HWY. 59, Waukesha, WI 53189		
A0000528185 REV E	GENERAC	SHEET SIZE
©2020 Generac Power Systems. All rights reserved.		ANSI B
Specifications are subject to change without notice.		11" X 17"
		CHEET HOMOLIX
		PV-7



GENERAC

SnapRS[™]

Inline Disconnect Switch Model: APKE00011 Certification Model Reference: RS801

Generac SnapRS are a simple way to satisfy rapid shutdown compliance for solar + storage systems. Generac SnapRS are 2017/2020 NEC 690.12 compliant, don't require any extra hardware to mount, and need no pairing or fussy digital communications.

FEATURES & BENEFITS

- · Fast, easy, and simple to install
- One SnapRS device per PV module
- Achieves PVRSS Compliance
- Low cost, high efficiency solution

SYSTEM DESIGN

Snap a Generac SnapRS disconnect device (RS) to the negative lead (-) of each module in the solar array for simple module-level rapid shutdown compliance. SnapRS devices isolate array voltage when a rapid shutdown is initiated at a PWRcell[™] Inverter. When rapid shutdown is initiated, SnapRS units isolate each PV module in the array, reducing array voltage to <80V in seconds.



Diagram is applicable for most 60 cell PV modules. Modules with higher cell count may require a different arrangement. Contact Generac for more details.

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Intertek

Simple Level Colonnia To V Private Discrete To V Private Discrete To V Simple Discrete To V Mix Nu Yu Cue Renie To A Bin Constraint To Sociality Bin Constraint Bin Constraint Bin Constraint	Specifications		MERHOME ME SOLAR, LLC YOUR EVITURE" VAIN ST. VILLE, NC 28115 300-6591 (OFFICE) 300-6591 (OFFICE) 300-6591 (OFFICE)
	SnapRS (APKE00011)		2010 10045 10045 10045
EPICIENCY: 99.87' MAX. MUTIC LURRENT: 13 A MAX. MUTIC LURRENT: 13 A SUBJOOWN TANK: 14 B Scienda ENCOSARE RATING: 14 B Scienda MAXIMITIC CLURENT: 14 B Scienda MIRISTONE LURVE VALVE - M MMM: 17 B Scienda MIRISTONE LURVE VALVE - M MMM: 17 B Scienda MIRISTONE LURVE VALVE - M MMM: 17 B Scienda MIRISTONE LURVE VALVE - M MMM: 17 B Scienda MIRISTONE LURVE VALVE - M MMM: 17 B Scienda MIRISTONE LURVE VALVE - M MMM: 17 B Scienda MIRISTONE LURVE VALVE - M MMM: 17 B Scienda MIRISTONE LURVE VALVE - M MMM: 17 B Scienda MIRISTONE LURVE VALVE - M MMM: 17 B Scienda MIRISTONE LURVE VALVE - M MMM: 17 B Scienda MIRISTONE LURVE VALVE - M MMM: 17 B Scienda MIRISTONE LURVE VALVE - M MMM: 17 B Scienda MIRISTONE LURVE VALVE - M MMM: 18 B Scienda MIRISTONE LURVE VALVE - M MMM:	PV MODULE MAX VOC:	75 V	
MX. Mary LINE 13 A SMUTDOWN TWR: 41 B Scondo SMUTDOWN TWR: 25 Was SMUTDOWN TWR: 52 Was </td <td>EFFICIENCY:</td> <td>99.8%*</td> <td></td>	EFFICIENCY:	99.8%*	
SUITOWN THE: <10 Seconds	MAX INPUT CURRENT:	13 A	
Exclosure Rainie NEW 6 pr Personne Trepersonne	SHUTDOWN TIME:	< 10 Seconds	
PREARINGE:	ENCLOSURE RATING:	NEMA 6P	DESCRIPTION DATE REV
Implementation Implementation Implementation Implementa		-40 to 158 °F	
Bit Start Bit Start Bit Start Diff Start <	CERTIFICATIONS	(-40 to 70 °C)	
WeiGHT LB ICG: DT(0 C0) DIRERCONS, Ls Wark - IN MAD: Trans a standard of the complete level of near PV model of its PV preside any for complete PV maple shuddown performance Commot one StapBS device to the negative level of near PV model of its PV Preside any for complete PV maple shuddown performance Commot one StapBS device to the negative level of near PV model of its PV Preside any for complete PV maple shuddown performance Commot one StapBS device to the negative level of near PV model of its PV Preside PV maple shuddown performance Commot one StapBS device to the negative level of near PV model of its PV preside PV maple shuddown performance Commot one StapBS device to the negative level of near PV model of its PV preside PV maple shuddown performance Commot one StapBS device to the negative level of near PV model of its PV preside PV maple shuddown performance Commot one StapBS device to the negative level of near PV model its PV preside PV maple shuddown performance Commot one StapBS device to the negative level of near PV model its PV preside PV maple shuddown performance Commot one StapBS device to the negative level of near PV model its PV preside PV pre	PROTECTIONS:	PVRSE	
International and the served of the serve	WEIGHT - LB (KG):	0.17 (0.08)	
IPTB x 25 4x 25.0 WRBAINT: 25 Yaars When used with a 50V panel Connect one SnapB5 device to the negative lead of each PV module in the PV Link controlled array for complete PV Rapid shudown performance Image: Start 25.0 Image: Start 25.0 <t< td=""><td></td><td>7" x 1" x 1"</td><td></td></t<>		7" x 1" x 1"	
Water Mith: 25 Years When used with o 50V panel Connect one ShapRS device to the negative lead of each PV module in the PV Link controlled arry for complete PV Rapid duutdown performance For Visit controlled arry for complete PV Rapid duutdown performance For Visit controlled arry for complete PV Rapid duutdown performance For Visit controlled arry for complete PV Rapid duutdown performance For Visit controlled arry for complete PV Rapid duutdown performance For Visit controlled arry for complete PV Rapid duutdown performance For Visit controlled arry for complete PV Rapid duutdown performance For Visit controlled arry for complete PV Rapid duutdown performance For Visit controlled arry for complete PV Rapid duutdown performance For Visit controlled arry for complete PV Rapid duutdown performance For Visit controlled arry for complete PV Rapid duutdown performance For Visit controlled arry for complete PV Rapid duutdown performance For Visit controlled arry for complete PV Rapid duutdown performance For Visit controlled arry for complete PV Rapid duutdown performance For Visit controlled arry for complete PV Rapid duutdown performance For Visit controlled arry for complete PV Rapid duutdown performance For Visit controlled arry for complete PV Rapid duutdown performance For Visit controled arry for complete PV Rapid duutdown PV PV P	DIMENSIONS, EA W & H - IN (MM):	(177.8 x 25.4 x 25.4)	Signature with Soal
<text><text><text><text><text><text><text></text></text></text></text></text></text></text>	WARRANTY: When used with a 50V panel	25 Years	Signature with Seal
enerac Power Systems, Inc. 45 W29290 Hwy. 59, Waukesha, WI 53189 ww.Generac.com I 888-GENERAC (436-3722) 2000528183 REV C 2020 Generac Power Systems. All rights reserved. Decifications are subject to change without notice.			JOSEPH MAZZARA JOSEPH MAZZARA RESIDENCE 1993 COUNTRY CLUB DR., GROSSE POINTE WOODS, MI 48236
	nerac Power Systems, Inc. 5 W29290 Hwy. 59, Waukesha, WI 53189 ww.Generac.com I 888-GENERAC (436-3722) 1000528183 REV C 2020 Generac Power Systems. All rights reserved. ecifications are subject to change without notice.	GENERA	EQUIPMENT SPECIFICATION SHEET SIZE ANSI B 11" X 17" SHEET NUMBER



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GENERAC



PWRcell Battery Cabinet (Ordering SKU: APKE00007) 2.85kWh FWRcell Battery Module Model 4: BJ-DCB052KAX (Ordering SKU; A0000391219) PWRcell Battery Configuration-Model #5: PWRcell 9, FWRcell 12, FWRcell 15, FWRcell 17 PWRcell Spacer Kit (Ordering SKU: APKE00008) PWRcell Upgrade Kit (Ordering SKU: APKE00009)

The PWRcell[®] Battery Cabinet is a modular smart battery platform that allows for a range of configurations to suit any need, small or large. No other smart battery offers the power and flexibility of PWRcell. Whether for backup power or smart energy management, PWRcell has power and capacity options for every need, without sacrificing flexibility or function.

PWRcell BATTERY CABINET DESIGN

The PWRcell Battery Cabinet allows system owners the flexibility to scale from the economical 8.6kWh PWRcell 9 to the massive 17.1kWh PWRcell 17 by installing additional battery modules to the PWRcell Battery Cabinet. When needs change, an existing PWRcell Battery Cabinet can be upgraded with additional modules. Use the graphic below and the chart on the back of this sheet to understand what components you need for your chosen PWRcell configuration.

BATTERY CONFIGURATION GUIDE





FEATURES & BENEFITS

- Connect 2 PWRcell Battery Cabinets to a single PWRcell Inverter for 34.2kWh of storage
- Best-in-class battery backup power
- Plug-and-play with PWRcell Inverter and PV Link[™]
- Time-of-use (TOU) and zero-export ready
- Residential and commercial application ready

BATTERY CABINET ASSEMBLY



mm. Specifications

PWRcell BATTERY CONFIGURATIONS	9	12	
BATTERY MODULES:	3	4	
USABLE ENERGY:	8.6kWh	11.4kWh	14
POWER - RATED CONTINUOUS:	3.4kW	4.5kW	1000
POWER - 60 MINUTES:	4.2kW	5.6kW	
POWER - 2 MINUTES:	5.0kW	6.7kW	3
REbus" VOLTAGE - INPUT/OUTPUT:		360-4	20 VDC
MODULE VOLTAGE:	Dicking and the second s	46.8	VDC
ROUND-TRIP EFFICIENCY:		96.50%	
OPERATING TEMPERATURE - FAHRENHEIT (CELSIUS):		41 to 113 °F (5 to 45 °C)	
RECOMMENDED AMBIENT TEMPERATURE - FAHRENHEIT (CELSIUS):		55 to (13 to	86 °F 30 °C)
MAXIMUM INSTALLATION ALTITUDE - FT (M):		9834 (3000)	
DIMENSIONS, L x W x H - IN (MM):		22" x 10" x 68" (559 x 254 x 1727)	
WEIGHT, ENCLOSURE - LB (KG):		115	(52)
WEIGHT, INSTALLED - LB (KG):	280 (127)	335 (152)	3
WARRANTY - LI-ION MODULES:		10 Years, (7.56MWh)	
WARRANTY - ELECTRONICS AND ENCLOSURE:		10 Years	
COMMUNICATION PROTOCOL:		REbus [™] DC Nanogrid [™]	
COMPLIANCE:		UL 9540, UL 1973, UL 1642, CS	

UPGRADING PWRcell

Inside of the PWRcell Battery Cabinet, battery modules are stacked two deep on three levels, allowing for up to six modules to be connected in series. You can upgrade an existing PWRcell Battery Cabinet by adding Battery Modules and a Module Spacer (APKE00008) if required. PWRcell 9 and PWRcell 15 require a module spacer.

Generac offers a convenient PWRcell Battery Upgrade Kit (APKE00009) to help replace lost or misplaced hardware. A PWRcell Battery Upgrade Kit may be purchased from your Generac distributor.

Refer to the table to the right for material requirements related to upgrading the PWRcell Battery Cabinet.

		EN
TION		PWRo
VFIGURA	PWRcell 9	+ 3 x PWF + 2 x APK
ING COI	PWRcell 12	+ 2 x PWF + 1 x APK
START	PWRcell 15	+ 1 x PWR + 1 x APK

Generac Power Systems, Inc. S45 W29290 Hwy. 59, Waukesha, WI 53189

www.Generac.com | 888-GENERAC (436-3722)

A0000528139 REV D

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PV-9



PV Link is the simple solar optimizer for quick installation

and long-lasting performance. Connect PV modules to each PV Link to overcome shading and challenging roof lines.

FEATURES & BENEFITS

- Fast, simple installation
- Lower failure risk than module-level optimizers
- 2017/2020 NEC rapid shutdown compliant with SnapRS[™]
- Quick connections with MC4 connectors
- Exports up to 2500W
- Compatible with PWRcell[™] Inverters
- Cost-effective solution for high-performance PV
- Ground-fault protection

SINGLE-STRING PV ARRAY WITH SnapRS DEVICES

Where PV module-level rapid shutdown is required (NEC 690.12), a SnapRS device (RS) is installed to negative (-) lead of each PV module.



Diagram is applicable for most 60 cell PV modules. Modules with higher cell count may require a different arrangement. Contact Generac for more details.

Specifications		NERHOME NERHOME UR FUTURE" VAIN ST. LE, NO 28115 LE, NO 28115 LES (OFFI5 Owerhome.com Werhome.com
PV Link (APKE00010)		
RATED POWER*:	2500W	
PEAK EFFICIENCY:	99%	- "POO" "POO"
MPPT VOLTAGE RANGE:	60-360 VMP	- -((- = =
MAX INPUT VOLTAGE:	420 VOC: max when cold	- / / / /
MAX OUTPUT:	420 VOC	REVISIONS
NOMINAL OUTPUT (REbus"):	380 VDC	DESCRIPTION DATE REV
MAX OUTPUT CURRENT (CONTINUOUS):	84	-
MAX OUTPUT CURRENT (FAULT):	10 A	-
MAX INPUT CURRENT (CONTINUOUS):	13 A @ 50°C. 10 A @ 70°C.	
MAX INPUT SHORT CIRCUIT CURRENT (ISC):	18 4	
STANDBY POWER:	<1W	-
PROTECTIONS:	Ground-fault Arc-fault (Arc-fault Type 1 AEC) Integrated) DVDSE	
MAX OPERATING TEMP: FAHRENHEIT (CEI SILIS)		Signature with Seal
SYSTEM MONITORING:	DWDview* Web Portal and Mobile App	-
ENCLOSURE:		-
WEIGHT - LB (KG):	7 3 lb (3 3 kg)	
	15 // v 2 v 0 5" /201 2 v 50 9 v 2/2 9	-
COMPLIANCE:	III 17/1 CSA 22 2	
WADDANTY.	0E 1/41, C3A 22.2	DATE: 2/5/2021
		JOSEPH MAZZARA RESIDENCE 1993 COUNTRY CLUB DR., GROSSE POINTE WOODS, MI 48
enerac Power Systems, Inc. 45 W29290 Hwy. 59, Waukesha, WI 53189 ww.Generac.com I 888-GENERAC (436-3722) 0000528162 REV C 2020 Generac Power Systems. All rights reserved. Decifications are subject to change without notice.	GENERAC	SHEET NAME EQUIPMENT SPECIFICATION SHEET SIZE ANSI B 11" X 17"





QRail[™]— Fully Integrated Mounting and Racking System

The QRail Series is a strong and versatile solar array mounting system that provides unrivaled benefits to solar designers and installers. Combined with Quick Mount PV's industry-leading waterproof mounts, QRail offers a

complete racking solution for mounting solar modules on any roof.



Easily design array configurations with the QD esign software application. Generate complete engineering reports and calculate a precise bill of materials for all the mounting, racking and accessories needed for a complete solar array.

Comprehensive, One-Source Solution

QRail, together with Quick Mount PV's waterproof mounting products, provides the benefit of a single-sourced, seamlessly integrated rooftop installation that works with all roof types - composition/asphalt shingles, flat or curved tile, metal shingle, shake, slate and low slope roofs. The QRail system also works with any roof attachment system for maximum flexibility.

Superior Strength and Versatility

QRail is engineered for optimal structural performance. The system is certified to UL 2703, fully code compliant and backed by a 25-year warranty. QRail is available in Light, Standard and Heavy versions to match all geographic locations. QRail is compatible with virtually all modules and works on a wide range of pitched roof surfaces. Modules can be mounted in portrait or landscape orientation in standard or shared-rail configurations.



QRails come in two lengths -168 inches (14 ft) and 208 inches (17.3 ft) Mill and Black Finish

Fast, Simple Installation: It Just Clicks

AClick Technology*

The universal mid and end clamps use QClick technology to simply "click" into the rail channel and remain upright, ready to accept the module. The pre-assembled clamps fit virtually all module frames and require no extra hardware, eliminating pre-loading and reducing installation time.





OSplice^{*}Technology

QRail's innovative internal QSplice installs in seconds, requiring no tools or screws. Simply insert QSplice into the rail and slide the other rail on to create a fully structural, bonded splice. An external splice is also available.





Installs in seconds - no tools or hardware required

Fully Integrated Electrical Bonding

The QRail system provides an integrated electrical bonding path, ensuring that all exposed metal parts and the solar module frames are electrically connected. All electrical bonds are created when the components are installed and tightened down.

QRail[™] Configurations



3 4

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Item Code	Part Number	Description	Finish
QMR-RL14A60	800	QRail Light, 14 ft., 60 Pack	Mill.
QMR-RL17.3A60	801	QRail Light, 17.3 ft, 60 Pack	Mill
QMR-RL14 B 60	805	QRail Light, 14 ft., 60 Pack	Black
QMR-RL17.3 B 60	806	QRail Light, 17.3 ft, 60 Pack	Black
QMR-RS14 A 60	810	QRail Standard, 14ft., 60 Pack	Mill
QMR-RS17.3 A 60	811	QRail Standard, 17.3 ft, 60 Pack	Mill
QMR-RS14 B 60	815	QRail Standard, 14ft., 60 Pack	Black
QMR-RS17.3 B 60	816	QRail Standard, 17.3 ft, 60 Pack	Black
QMR-RH14 A 60	820	QRail Heavy, 14ft., 60 Pack	Mill
QMR-RH17.3 A 60	821	QRail Heavy, 17.3 ft, 60 Pack	Mill
QMR-RH14 B 60	825	QRail Heavy, 14 ft, 60 Pack	Black
QMR-RH17.3 B 60	826	QRail Heavy, 17.3 ft, 60 Pack	Black



OSplice [™] Internal S Heavy St	Structural Sp andard	lice		REVISIONS
QMR-ISLA15	830	OSplice Internal Light 15 Pack	Finish	
QMR-ISSA 15	831	QSplice Internal, Standard, 15 Pack	Mill	
QMR-ISH A 15	832	QSplice Internal, Heavy, 15 Pack	Mill	DATE: 2/5/2021 PROJECT NAME & ADDRESS
OSplice™ External S	Structural Spl	lice		JOSEPH MAZZARA RESIDENCE 1993 COUNTRY CLUB DR., GROSSE POINTE WOODS, MI 48236
ltem Code	Part Number	Description	Finish	
QMR-ESS A 15	834	QSplice External, Standard, 15 Pack	Mill	SPECIFICATION
QMR-ESH A 15	835	QSplice External, Heavy, 15 Pack	Mill	SHEET SIZE
ckmountpv.com	sales@q	uickmountpv.com	(925) 478-82@ 2	ANSI B 11" X 17"



OSplice™ Internal	Structural Spli	CB		BONERHOME BONERHOME Content of the solution
Item Code	Part Number	Description	Finish	
QMR-ISLA15	830	QSplice Internal, Light, 15 Pack	Mill	
QMR-ISS A 15	831	QSplice Internal, Standard, 15 Pack	МіЦ	DATE: 2/5/2021
QMR-ISH A 15	832	QSplice Internal, Heavy, 15 Pack	Mill	PROJECT NAME & ADDRESS
OSplice™ External	Structural Spli	ice		JOSEPH MAZZARA RESIDENCE 1993 COUNTRY CLUB DR., GROSSE POINTE WOODS, MI 4823
Item Code	Part Number	Description	Finish	SHEET NAME EQUIPMENT
QMR-ESS A 15	834	QSplice External, Standard, 15 Pack	Mill	SPECIFICATION
QMR-ESH A 15	835	QSplice External, Heavy, 15 Pack	Mill	SHEET SIZE
mountpv.com	sales@qı	iickmountpv.com	(925) 478-8269 2	ANSI B 11" X 17" SHEET NUMBER PV-11A

1 www.quickmountpv.com

sales@quickmountpv.com

(925) 478-8269

Universal End Clamp with QClick™ Technology



Item Code	Part Number	Description	Finish
QMR-UEC3045 A 2 0	860	Universal End Clamp, 30-45mm, 20 Pack	Mill
QMR-UEC3850 A 20	861	Universal End Clamp, 38-50mm, 20 Pack	Mill
QMR-UEC3045 B 20	865	Universal End Clamp, 30-45mm, 20 Pack	Black
QMR-UEC3850 B 20	866	Universal End Clamp, 38-50mm, 20 Pack	Black
QMR-UEC3045BP A20	862	Universal End Clamp, 30-45mm, w/ Bonding, 20 Pack	Mill
QMR-UEC3850BP A 20	863	Universal End Clamp, 38-50mm, w/ Bonding, 20 Pack	Mill
QMR-UEC3045BP B 20	867	Universal End Clamp, 30-45mm, w/ Bonding, 20 Pack	Black
QMR-UEC3850BP B 20	868	Universal End Clamp, 38-50mm, w/ Bonding, 20 Pack	Black

Mid Clamp with QClick™ Technology



ltem Code	Part Number	Description	Finish
QMR-UMC3045BP 1.2 A 2 0	872	Universal Mid Clamp, 30-45mm, w/ Bonding, 20 Pack	Mill
QMR-UMC3850BP 1.2 A 2 0	873	Universal Mid Clamp, 38-50mm, w/ Bonding, 20 Pack	Mill
QMR-UMC3045BP 1.2 B 20	877	Universal Mid Clamp, 30-45mm, w/ Bonding, 20 Pack	Black
QMR-UMC3850BP 1.2 B 20	878	Universal Mid Clamp, 38-50mm, w/ Bonding, 20 Pack	Black

3 www.quickmountpv.com

sales@quickmountpv.com

(925) 478-8269

www.q



Single-Slot L-Foot				REVISIONE HOME SOLAR, LLC 919 N. MAIN ST. MAIN ST. MAIN ST. MODRESVILLE, NC 28115 Phome: T04-800-6591 (OFFICE) Email: info@powerhome.com Mebi. Wwi.powerhome.com
Item Code	Part Number	Description	Finish	
QMC-LF B 12		Single-slot L-foot, 12 Pack	Black	
End Caps	Heavy	Standard Light		JOSEPH MAZZARA RESIDENCE 1993 COUNTRY CLUB DR., GROSSE POINTE WOODS, MI 48236
ltem Code	Part Number	Description	Finish	SHEET NAME
QMR-CPL B 50	885	End Cap Light, 50 Pack	Black	
QMR-CPS B 50	886	End Cap Standard, 50 Pack	Black	SHEET SIZE
OMR-CPH B 50	sales@qu	End Cap Heavy, 50 Pack	925) 478-8269 4	ANSI B 11" X 17" SHEET NUMBER PV-11B









ingle-Slot L-Foot					REVISIONS Description Over Your FUTURE BOWER HOME SOLAR, LLC BOWER YOUR FUTURE BOWER
Item Code	Part Number	Description	Finish		5.5
QMC-LF A 12	.692	Single-slot L-foot, 12 Pack	Mill		
QMC-LF B 12	693	Single-slot L-foot, 12 Pack	Black		DATE: 2/5/2021
nd Caps	Heavy	Standard Lig	aht		JOSEPH MAZZARA RESIDENCE 1993 COUNTRY CLUB DR., GROSSE POINTE WOODS, MI 48236
ltem Code	PartNumber	Description	Finish		SHEET NAME
QMR-CPL B 50	885	End Cap Light, 50 Pack	Black		EQUIPMENT
QMR-CPS B 50	886	End Cap Standard, 50 Pack	Black		SPECIFICATION
QMR-CPH B 50	887	End Cap Heavy, 50 Pack	Black		
mountpy.com	sales@qui	ckmountpy.com	(925) 478-8269	4	AINSI B 11" X 17" SHEET NUMBER PV-11B



Item Code	Part Number	Description	Finish
QMR-TBA300	880	T-Boltw/ Nut, 300 Pack	stainless steel

1.4.4

Wire Clip



Works with both PV and Trunk Cabling

	ltem Code	Part Number	Description	Finish
	QMR-WCA 300	892	Trunk/PV Cable, 300 Pack	stainless steel
5	www.quickmountpv.com		sales@quickmountpv.com	(92



Grounding Lug				REVISIONS BOWER HOME SOLAR, LLC POWER YOUR FULUE: POWER WITH Seal
Item Code QMR-GL A 50	Part Number 890	Description WEEB Lug w/ T-Bolt, 50 Pack	Finish n/a	DATE: 2/5/2021 PROJECT NAME & ADDRESS 9 2 8 4 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
WEEB BMC				JOSEPH MAZZARA RESIDENCE 1993 COUNTRY CLUB DF GROSSE POINTE WOODS, MI
Item Code	Part Number	Description	Finish	SHEET NAME EQUIPMENT SPECIFICATION
QMR-ECWA 50	891	WEEB BMC, 50 Pack	stainless steel	
ickmountpv.com	sales@qui	ckmountpv.com	(925) 478-8269 6	11" X 17" SHEET NUMBER PV-11C



Grounding Lug				Image: Signature with Seal Image: Signature with Seal Image: Signature with Seal
Item Code QMR-GL A50	Part Number	Description WEEB Lug w/ T-Bolt, 50 Pack	Finish n/a	DATE: 2/5/2021 PROJECT NAME & ADDRESS
WEEB BMC				JOSEPH MAZZARA RESIDENCE 1993 COUNTRY CLUB DR., GROSSE POINTE WOODS, MI 4823
ltem Code	Part Number	Description	Finish	SHEET NAME EQUIPMENT SPECIFICATION
QMR-ECWA 50	891	WEEB BMC, 50 Pack	stainless steel	
ickmountpv.com	sales@qui	ckmountpv.com	(925) 478-8269 6	11" X 17" SHEET NUMBER PV-11C

25) 478-8269 www.qu

.

L-Mount | QMLM / QMLM-ST

Elevated Water Seal Technology®



Quick Mount PV*

L-Mount Installation Instructions

Installation Tools Required: tape measure, roofing bar, chalk line, stud finder, caulking gun, sealant compatible with roofing materials, drill with 7/32" or 1/8" bit, drill or impact gun with 1/2" socket.

WARNING: Quick Mount PV products are NOT designed for and should NOT be used to anchor fall protection equipment.





mounted. Select the courses of shingles where mounts will be placed.

bar, just above placement of mount. Remove nails as required and backfill holes with aproved sealant. See "Proper Flashing Placement" on next page.



If attaching with lag bolt use a 1/22* bit (Lag). Use a %" bit (ST) for attaching with the structural screw. Drill pilot hole into roof and rafter, taking care to drill square to the roof. Do not use mount as a drill guide. Drill a 2" deep hole into rafter.



Clean off any sawdust, and fill hole with sealant compatible with roofing materials.



NOTE: Structural screw can be driven with T-30 hex head bit. BI7.2.3-44



Prepare lag bolt or structural screw with sealing You are now ready for the rack of your choice. washer. Using a 12-Inch socket on an impact gun, Follow all the directions of the rack manufacturer drive prepared lag bolt through L-foot until L-foot can no longer easily rotate. DO NOT over-torque.

Locate, choose, and mark centers of rafters to be Carefully lift composition roof shingle with roofing Insert flashing between 1st and 2nd course. Slide up so top edge of flashing is at least 34° higher than the butt-edge of the 3rd course and lower flashing edge is above the butt-edge of 1st course. Mark center for drilling.

> Place L-foot onto elevated flute and rotate L-foot to desired orientation.

All roofing manufacturers' written instructions must also be followed by anyone modifying a roof system. Consult the roof manufacturer's specs and instructions prior to working on the roof.

Apr-2019 Rev 6





CITY OF GROSSE POINTE WOODS

20025 Mack Plaza Drive Grosse Pointe Woods, Michigan 48236-2397 **Building Official MEMORANDUM**

RECEIVED JUN 11 202 CITY OF GROSSE POINTE WOODS CLERK'S DEPARTMENT

DATE:	June 2, 2021		
TO:	Mayor and City Council		
FROM:	Gene Tutag, Building Official		
SUBJECT:	1993 Country Club Solar Panel Variance Request		

Power Home Solar has submitted a permit application to install 15 roof mounted solar panels at the address of 1993 Country Club. The applicant is requesting 4 out of 15 solar panels be placed on the home's south roof slope, facing the property's rear yard, and the remaining 11 solar panels be placed on the detached garage's south roof slope, also facing the property's rear yard. This application was denied because on the site plan, 11 out of 15 of the panels do not show a minimum setback distance of 4 feet from any peak, eave, or valley as required by section 50-539 (5). The applicant is appealing the denial and requesting a variance to section 50-539 (5) of the city code.

Section 50-539 (5) "Solar panels shall not be located within four feet of any peak, eave or valley to maintain adequate accessibility."

Country Club Drive runs east and west and the subject property, 1993 Country Club Drive, is on the south side of the street, six properties west from the Country Club Drive and Jackson Avenue intersection. The property is well maintained and currently used as a single-family residence as permitted in the R-1E zoning district.

The applicant states that the 4 out of 15 panels would be installed on the home's south roof slope and in compliance with section 50-539 (5) of the city code with the required four-foot setback. The remaining 11 out of 15 panels would be installed on the garage's south roof slope which would not be in compliance with city code. The applicant also states that installing only a portion of the proposed 15 panels would increase the cost while decreasing the efficiency of the system.

Grosse Pointe Woods Public Safety reviewed the plans, concluding that from a firefighting perspective, the installation of the 4 panels on the south roof slope of the home would not be obstructing emergency access or operations. Although the entire south roof slope on the garage is not accessible to firefighters, the entire north roof slope on the garage including the ridge will be accessible to firefighters. Since the garage is not the primary place of habitation, Fire Inspector, Sgt. Joe Provost recommended approval with the following stipulation: (copied from page 2, paragraph 2 of the Fire Inspector's review)

- No additional panels be installed in the future unless the entire system is modified, which could include the removal of one or more panels, to meet the access requirements of our jurisdiction at that time.



CITY OF GROSSE POINTE WOODS 20025 Mack Plaza Drive Grosse Pointe Woods, Michigan 48236-2397

Although the applicant does not articulate this in the attached correspondence (dated April 7, 2021), strict compliance with the ordinance would prevent the installation of solar panels on this property in a manner that is responsible and consistent with the intent of the code.

According to section 50-149 of the city code, the zoning board of appeals may grant a dimensional or nonuse variance only upon a finding that compliance with the restrictions governing area, setbacks, frontage, height, bulk, density, or other dimensional provisions would create a practical difficulty. A finding of practical difficulty, based on competent, material, and substantial evidence on the record, shall require the petitioner to demonstrate that all of the following conditions are met:

- (1) That strict compliance with the restrictions governing area, setbacks, frontage, height, bulk, density, and other similar items would unreasonably prevent the petitioner from using the property for a permitted purpose or would render conformity with said restrictions unnecessarily burdensome.
- (2) That a variance would do substantial justice to the petitioner as well as to other petitioners in the zoning district; or whether a lesser relaxation of the restrictions would give substantial relief to the petitioner and be more consistent with justice to others (i.e., are there other more reasonable alternatives);
- (3) That the plight of the petitioner is due to unique circumstances of the property;
- (4) That the petitioner's problem is not self-created.
- (5) That the spirit of this chapter will be observed, public safety and welfare secured, and substantial justice done.

Based upon information provided by the applicant, a case can be made to justify the findings of a practical difficulty as described in the variance standards above. It is recommended that the requested variance of Section 50-539 (5) be granted with the stipulations from Sgt. Joe Provost stated on his review, dated June 4, 2021, and that the job commence within 6 months and completed within the year.

Attachments:

- Application with site plan
- Letter of Appeal to Mayor and Council
- Variance review by Fire Inspector, Sgt. Joe Provost
- Building Official Inspection photos taken 6-9-2021

DATE: 611 APPROVED BY: Bruce Smith

City Administrator



CITY OF GROSSE POINTE WOODS DEPARTMENT OF PUBLIC SAFETY

JOHN G. KOSANKE, Director 20025 Mack Plaza Grosse Pointe Woods, MI 48236-2397



DATE: June 4, 2021

TO: Director John Kosanke

Approved 12-4-21

FROM: Sgt. Joseph Provost, Fire Inspector

SUBJECT: Solar PV System Plan Review 1993 Country Club Dr.

Director Kosanke,

I have reviewed the plan for the proposed installation of the Solar PV System at 1993 Country Club Dr. The proposal for the solar panel placement on the roof of the home is within allowable setback distances. The panels on the roof of the garage are closer than the 4- foot minimum allowed in the setback; which is why the plan was denied and now on appeal.

I referenced what the International Fire Code allows, and what exemptions if any exist with regards to the installation of PV Systems on a detached garage. The International Fire Code does not address installation of Solar Panels on an Accessory Building or detached garage. It only addresses the installation of systems on a Residential Building. I consulted with the Building Official Mr Tutag regarding the classification of the detached garage. Mr. Tutag advised that although the detached garage is an Accessory Building, it is within the Residential Zone therefore making it a Residential Building. Below is the listed requirement from the International Fire Code for Residential Buildings with a Single Ridge

605.11.3.2.2 Residential buildings with a single ridge.

Panels/modules installed on residential buildings with a single ridge shall be located in a manner that provides two, 3-foot-wide (914 mm) access pathways from the eave to the ridge on each roof slope where panels/modules are located.

Exception: This requirement shall not apply to roofs with slopes of two units vertical in 12 units horizontal (2:12) or less.

This is the first request/proposed placement of Solar Panels on a detached garage in Grosse Pointe Woods. The proposal is to mount the panels on the South Roof Slope of the garage, 3 feet down from the ridge. Although access to the roof will be obstructed from the bottom and sides on the South Roof Slope from the ground, the entire North Roof Slope would be open for roof access for firefighters, including access to the ridge. The garage is not the structure on the property that the residents will be sleeping in or using as the primary place for habitation.

I would recommend that this variance request be approved! I would suggest implementing the following stipulation and warning. Stipulate that no additional panels could be installed in the future unless the entire system is modified, which could include the removal of one or more panels, to meet the access requirements required by our jurisdiction at that time. Lastly if granted, the homeowner should be made aware that if the fire occurs directly under the area that the panels are placed, they could suffer additional fire/water damage as a result of our reduced ability to access that particular roof area.

Respectfully, Set. Joseph Provost

Sgt. Joseph Provost Fire Inspector

MEMO 21-34

TO: Lisa Hathaway, City Clerk

FROM: Frank Schulte, Director of Public Services

DATE: June 21, 2021

SUBJECT: Variance - Solar at 1993 Country Club Drive, GPW, MI 48236

I have reviewed the application from resident Joseph Mazzara requesting a solar variance at 1993 Country Club Drive. The solar variance will have no impact on the Department of Public Works utilities.

Please contact me if you have any questions.

cc Gene Tutag O/F



June 9, 2021 Photos taken of 1993 Country Club by Gene Tutag

Above photo: Front of home, 1993 Country Club



Above photo: Garage rear roof, 1993 Country Club





Above photo: House rear roof, 1993 Country Club



AFFIDAVIT OF LEGAL PUBLICATION

Grosse Pointe News

Grosse Pointe, Michigan 48230 (313)882-3500

COUNTY OF WAYNE STATE OF MICHIGAN, SS.

Melanie Mahoney being duly sworn deposes and says that attached advertisement of

City of Grosse Pointe Woods

was duly published in accordance with instructions, in the GROSSE POINTE NEWS on the following date:

June 24, 2020

#2 GPW 6/24 ZBA SOLAR ENERGY

and knows well the facts stated herein, and that she is the <u>Administrative Assistant</u> of said newspaper.

Yelanie

City of Grosse Hointe Woods, Michigan

NOTICE IS HEREBY GIVEN – that the City Council, meeting as Zoning Board of Appeals under the provisions of Michigan Zoning Enabling Act, PA 110 of 2006, MCL 125.3101 et seq, will meet in remotely by Zoom on Monday, July 12, 2021, at 7:05 p.m. to hear the appeal of Joseph Mazzara, 1993 Country Club Dr., Grosse Pointe Woods, MI, who is appealing the denial of the Building Official to issue a building permit due to noncompliance with Section 50-539(5) Solar Energy Systems of the 2017 City Code of the City of Grosse Pointe Woods, pertaining to installation and accessibility. A variance is therefore required.

The agenda containing the Zoom link and public hearing materials are available for public inspection posted on the on-line calendar at www.gpwmi.us and in person at the City Clerk's Office, 20025 Mack Plaza, Grosse Pointe Woods. All interested persons are invited to attend and will be given opportunity for public comment. The public may appear in person or be represented by counsel. Written comments will be received in the City Clerk's office, up to the close of business preceding the hearing. A group spokesperson is encouraged on agenda items concerning organized groups. Closed captioning will be provided.

Lisa Kay Hathaway

Notary Public

Dawn m LoPiccolo Notary Public - State of Michigan County of Macomb My Comm. Exp. 06-02-2024 Acting in County of And Date (1312)

AFFIDAVIT OF PROPERTY OWNERS NOTIFIED

Re: 1993 Country Club Dr. Joseph Mazzara

State of Michigan)

) ss. County of Wayne)

I HEREBY CERTIFY that the notice of Hearing was duly mailed First Class Mail on 06/24/21 to the following property owners within a 300 foot radius of the above property in accordance with the provisions of the 2017 City Code of Grosse Pointe Woods. A Hearing fee of \$250.00 has been received with receipt # 428325.

Lisa Kay Hathaway, MiPMC-3/MMC City Clerk

See attached document for complete list.

City of Grosse Pointe Woods, Michigan

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Lisa Kay Hathaway,MiPMC-3/MMC City Clerk

Numer Named	Owner News	Description Andrews	0	
Jwner Name1	Owner Name2	Property Address	Owner Address	Owner City-State-Zip
BRUMME BRIAN	BRIAN BRUMME	2017 COUNTRY CLUB DR	2017 COUNTRY CLUB DR	GROSSE POINTE WOODS, MI 48236
MEIER ANTHONY T	ANTHONY MEIER	2009 COUNTRY CLUB DR	2009 COUNTRY CLUB DR	GROSSE POINTE WOODS, MI 48236
/ERLINDE DANIEL R	DANIEL VERLINDE	2001 COUNTRY CLUB DR	2001 COUNTRY CLUB DR	GROSSE POINTE WOODS, MI 48236
MAZZARA ERICA M	JOSEPH AND ERICA MAZZARA	1993 COUNTRY CLUB DR	1993 COUNTRY CLUB DR	GROSSE POINTE WOODS MI 48236
BURLEY, KELLI-MICHAEL	KELLI AND MICHAEL BURLEY	1985 COUNTRY CLUB DR	1985 COUNTRY CLUB DR	GROSSE POINTE WOODS MI 48236
DELOACH MARC	MARC DELOACH	1977 COUNTRY CLUB DR	1977 COUNTRY CLUB DR	GROSSE POINTE WOODS MI 48236
	CHRISTINE WILSON	2056 LOCHMOOR BLVD	2056 LOCHMOOR BLVD	CROSSE POINTE WOODS, MI 48236
				GROSSE POINTE WOODS, MI 48236
		1969 COUNTRY CLUB DR	1969 COUNTRY CLUB DR	GROSSE POINTE WOODS, MI 48236
SCHVVARTZ JEFFREY	JEFFREY SCHWARTZ	2048 LOCHMOOR BLVD	2048 LOCHMOOR BLVD	GROSSE POINTE WOODS, MI 48236
CONLOGUE DANIEL T	DANIEL CONLOGUE	2041 LANCASTER ST	2041 LANCASTER ST	GROSSE POINTE WOODS, MI 48236
STEVENS, GLENN	GLENN STEVENS	2033 LANCASTER ST	2033 LANCASTER ST	GROSSE POINTE WOODS, MI 48236
HINZ NANCY	NANCY HINZ	2025 LANCASTER ST	2025 LANCASTER ST	GROSSE POINTE WOODS, MI 48236
IOHNSTON, CHARLES-KREIDER, JESSICA	CHARLES JOHNSTON AND JESSICA KREIDER	2017 LANCASTER ST	2017 LANCASTER ST	GROSSE POINTE WOODS, MI 48236
NORTON, JASON	JASON NORTON	2009 LANCASTER ST	2009 LANCASTER ST	GROSSE POINTE WOODS, MI 48236
COOLEY GRACE	GRACE COOLEY	2001 LANCASTER ST	2001 LANCASTER ST	GROSSE POINTE WOODS MI 48236
3RAZIER JESSE	JESSE BRAZIER	1993 LANCASTER ST	1993 LANCASTER ST	GROSSE POINTE WOODS MI 48236
ACDONALD KATHLEEN M	KATHLEEN MCDONALD	1985 LANCASTER ST	1985 LANCASTER ST	GROSSE POINTE WOODS, MI 48236
ACCARVAL DONALD CAROLYN	DONALD AND CAPOLYN MCCAPYAH	1077 LANCASTED ST	1077 LANCASTER ST	CROSSE FOINTE WOODS, MI 48236
NEGARVAN, DONALD-CAROLIN		1977 DANCASTER ST	1977 LANCASTER ST	GROSSE POINTE WOODS, MI 48236
RUTKOFSKE, EVAN - ALISON	EVAN AND ALISON RUTKOFSKE	2056 COUNTRY CLUB DR	2056 COUNTRY CLUB DR	GROSSE POINTE WOODS, MI 48236
CIMMEL GEOFFREY A	GEOFFREY KIMMEL	1969 LANCASTER ST	833 HENRIETTA ST	BIRMINGHAM, MI 48009-4114
	OCCUPANT(S)		1969 LANCASTER ST	GROSSE POINTE WOODS, MI 48236
VILLER MARTHA J	MARTHA MILLER	2048 COUNTRY CLUB DR	2048 COUNTRY CLUB DR	GROSSE POINTE WOODS, MI 48236
RAYES, ROBERT A	ROBERT RAYES	1961 LANCASTER ST	1961 LANCASTER ST	GROSSE POINTE WOODS, MI 48236
CARDOSI ALDO	ALDO CARDOSI	2040 COUNTRY CLUB DR	2040 COUNTRY CLUB DR	GROSSE POINTE WOODS, MI 48236
ROSS JOHN P	JOHN ROSS	1953 LANCASTER ST	1953 LANCASTER ST	GROSSE POINTE WOODS, MI 48236
NOZNIAK DANIEL	DANIEL WOZNIAK	2032 COUNTRY CLUB DR	2032 COUNTRY CLUB DR	GROSSE POINTE WOODS, MI 48236
INDEMAN IFFEREY	IEEEREY LINDEMAN	2024 COUNTRY CLUB DR	2024 COUNTRY CLUB DR	GROSSE POINTE WOODS MI 48236
		2016 COUNTRY CLUB DR	2016 COUNTRY CLUB DR	GROSSE POINTE WOODS, MI 48236
		2010 COUNTRY CLUB DR	2008 COUNTRY CLUB DR	CROSSE POINTE WOODS, MI 40230
		2008 COUNTRY CLUB DR	2008 COUNTRY CLUB DR	GROSSE POINTE WOODS, MI 48236
JLIVIERI ROBERT	ROBERT OLIVIERI	2000 COUNTRY CLUB DR	2000 COUNTRY CLUB DR	GROSSE POINTE WOODS, MI 48236
JUNN, JENNIFER L. LIV TRUST	JENNIFER DUNN	1992 COUNTRY CLUB DR	1992 COUNTRY CLUB DR	GROSSE POINTE WOODS, MI 48236
NATTEI, MARK J	MARK MATTEI	1984 COUNTRY CLUB DR	1984 COUNTRY CLUB DR	GROSSE POINTE WOODS, MI 48236
MANIACI FRANK P	FRANK MANIACI	1976 COUNTRY CLUB DR	1976 COUNTRY CLUB DR	GROSSE POINTE WOODS, MI 48236
PERLIN DAVID	DAVID PERLIN	1968 COUNTRY CLUB DR	1968 COUNTRY CLUB DR	GROSSE POINTE WOODS, MI 48236
DRISCOLL, PATRICK J	PATRICK DRISCOLL	1960 COUNTRY CLUB DR	1960 COUNTRY CLUB DR	GROSSE POINTE WOODS, MI 48236
SRODAWA ROBERT	ROBERT SRODAWA	1952 COUNTRY CLUB DR	1952 COUNTRY CLUB DR	GROSSE POINTE WOODS, MI 48236
PFAENDTNER JEAN M	JEAN PFAENDTNER	2057 COUNTRY CLUB DR	2057 COUNTRY CLUB DR	GROSSE POINTE WOODS, MI 48236
ACCULLOUGH GLENN - CHERYL	GLENN AND CHERYL MCCULLOUGH	1930 COUNTRY CLUB DR	1930 COUNTRY CLUB DR	GROSSE POINTE WOODS MI 48236
SHARP KATHRYN F	KATHRYN SHARP	2049 COUNTRY CLUB DR	2049 COUNTRY CLUB DR	GROSSE POINTE WOODS MI 48236
	IOHN BOSCH	2039 COUNTRY CLUB DR	8142 VOLANDA	DETROIT MI 48224
5030H JOHN D		2003 COUNTRY CLOB DI	2020 COUNTRY CLUB DB	CROSSE DOINTE WOODS MI 49336
	NORMAN AND BOOSEMADY DAVIES EKINEDE		2039 COUNTRY CLUB DR	GROSSE POINTE WOODS, WI 48236
KVVERE, NSIKAN-ROSEMARY DAVIES	NSIKAN AND ROSEMART DAVIES-ERWERE	2033 COUNTRY CLUB DR	2033 COUNTRY CLUB DR	GROSSE POINTE WOODS, MI 48236
(ESTELOOT ANDREW J	ANDREW KESTELOOT	2025 COUNTRY CLUB DR	2025 COUNTRY CLUB DR	GROSSE POINTE WOODS, MI 48236
(OEPSELL MICHAEL	MICHAEL KOEPSELL	1961 COUNTRY CLUB DR	1961 COUNTRY CLUB DR	GROSSE POINTE WOODS, MI 48236
CATE MICHAEL	MICHAEL CATE	2040 LOCHMOOR BLVD	810 BLAIRMOOR CT	GROSSE POINTE WOODS, MI 48236
(ELLEY JARROD	JARROD KELLEY	1953 COUNTRY CLUB DR	1953 COUNTRY CLUB DR	GROSSE POINTE WOODS, MI 48236
SKINNER REBECCA	REBECCA SKINNER	2032 LOCHMOOR BLVD	2032 LOCHMOOR BLVD	GROSSE POINTE WOODS, MI 48236
/ERMEULEN ALLAN	ALLAN VERMEULEN	2024 LOCHMOOR BLVD	2024 LOCHMOOR BLVD	GROSSE POINTE WOODS, MI 48236
THOMAS PHILIP J	PHILIP THOMAS	2016 LOCHMOOR BLVD	2016 LOCHMOOR BLVD	GROSSE POINTE WOODS, MI 48236
3AHANOVICH MARK	MARK BAHANOVICH	1931 COUNTRY CLUB DR	1931 COUNTRY CLUB DR	GROSSE POINTE WOODS, MI 48236
MIALEK REBECCA K	REBECCA SMIALEK	2008 LOCHMOOR BLVD	2008 LOCHMOOR BLVD	GROSSE POINTE WOODS MI 48236
COZZARI RONNIE-MARGARET	RONNIE AND MARGARET SCO77ARI	1923 COUNTRY CLUB DP	1923 COUNTRY CLUB DP	GROSSE POINTE WOODS MI 48236
DKINS VICTORIA F	VICTORIA ADKINS	2000 LOCHMOOR BLVD	2000 LOCHMOOR BLVD	GROSSE POINTE WOODS, MI 48236
		1992 LOCHMOOR BLVD	1992 LOCHMOOR BLVD	GROSSE POINTE WOODS, MI 48236
	MADIL VN CROSTEEEON	1084 LOCHMOOR BLVD		GROSSE POINTE WOODS, WI 40230
SRUSTEFFUN MARILTINA (LIV TRUST)		1904 LOCHWOOR BLVD	1904 LOCHWOOR BLVD	ORODOE POINTE WOODS, MI 48236
JKRIS, JUDY	JUDY UKKIS	1900 LOCHMOOK BLVD	1968 LOCHMOOK BLVD	GRUSSE POINTE WOODS, MI 48236
100VER WILLIAM F JR	WILLIAM HOOVER JR.	1960 LOCHMOOR BLVD	1960 LOCHMOOR BLVD	GROSSE POINTE WOODS, MI 48236
IILL, COLIN- JILLIAN	COLIN AND JILLIAN HILL	1952 LOCHMOOR BLVD	1952 LOCHMOOR BLVD	GROSSE POINTE WOODS, MI 48236
SOLTERISCH REVOCABLE TRUST	SOLTERISCH REVOCABLE TRUST	1930 LOCHMOOR BLVD	1930 LOCHMOOR BLVD	GROSSE POINTE WOODS, MI 48236
DRR ANGELA L	ANGELA ORR	1922 LOCHMOOR BLVD	1922 LOCHMOOR BLVD	GROSSE POINTE WOODS, MI 48236

1

1993 Country Club Dr. - 300' Radius

Owner Name1	Owner Name2	Property Address	Owner Address	Owner City-State-Zip
SPENCER, WINSTON	WINSTON SPENCER	2041 LOCHMOOR BLVD	2041 LOCHMOOR BLVD	GROSSE POINTE WOODS, MI 48236
MURRAY, JANICE	JANICE MURRAY	2033 LOCHMOOR BLVD	2033 LOCHMOOR BLVD	GROSSE POINTE WOODS, MI 48236
DUGAN SUSAN JANE	SUSAN DUGAN	2025 LOCHMOOR BLVD	2025 LOCHMOOR BLVD	GROSSE POINTE WOODS, MI 48236
HORSLEY JAMES M	JAMES HORSLEY	2017 LOCHMOOR BLVD	2017 LOCHMOOR BLVD	GROSSE POINTE WOODS, MI 48236
COLBORN THEODORE	THEODORE COLBORN	2009 LOCHMOOR BLVD	2009 LOCHMOOR BLVD	GROSSE POINTE WOODS, MI 48236
JOHNSON JENNIFER	JENNIFER JOHNSON	2001 LOCHMOOR BLVD	2001 LOCHMOOR BLVD	GROSSE POINTE WOODS, MI 48236
JULIEN MARK S	MARK JULIEN	1993 LOCHMOOR BLVD	1993 LOCHMOOR BLVD	GROSSE POINTE WOODS, MI 48236
SIMPSON RYAN	RYAN SIMPSON	1985 LOCHMOOR BLVD	1985 LOCHMOOR BLVD	GROSSE POINTE WOODS, MI 48236
NOJTYLO RONALD LEE	RONALD WOJTYLO	1977 LOCHMOOR BLVD	1977 LOCHMOOR BLVD	GROSSE POINTE WOODS, MI 48236
MCINTYRE ROBERT F	ROBERT MCINTYRE	1969 LOCHMOOR BLVD	1969 LOCHMOOR BLVD	GROSSE POINTE WOODS, MI 48236
SWIFT, JENNIFER - JOSHUA	JENNIFER AND JOSHUA SWIFT	1961 LOCHMOOR BLVD	1961 LOCHMOOR BLVD	GROSSE POINTE WOODS, MI 48236
OMBARDO JOSEPH	JOSEPH LOMBARDO	1953 LOCHMOOR BLVD	1953 LOCHMOOR BLVD	GROSSE POINTE WOODS, MI 48236



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Subject: 1993 Country Club Dr.

Date: 06-24-21



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Subject: 1993 Country Club Dr.

Date: 06-24-21