PROJECT DESCRIPTION:

44 x 355 LG SOLAR LG355Q1C-A5 (355W) MODULES
ROOF MOUNTED SOLAR PHOTOVOLTAIC MODULES

SYSTEM SIZE: 10.44 kW DC STC

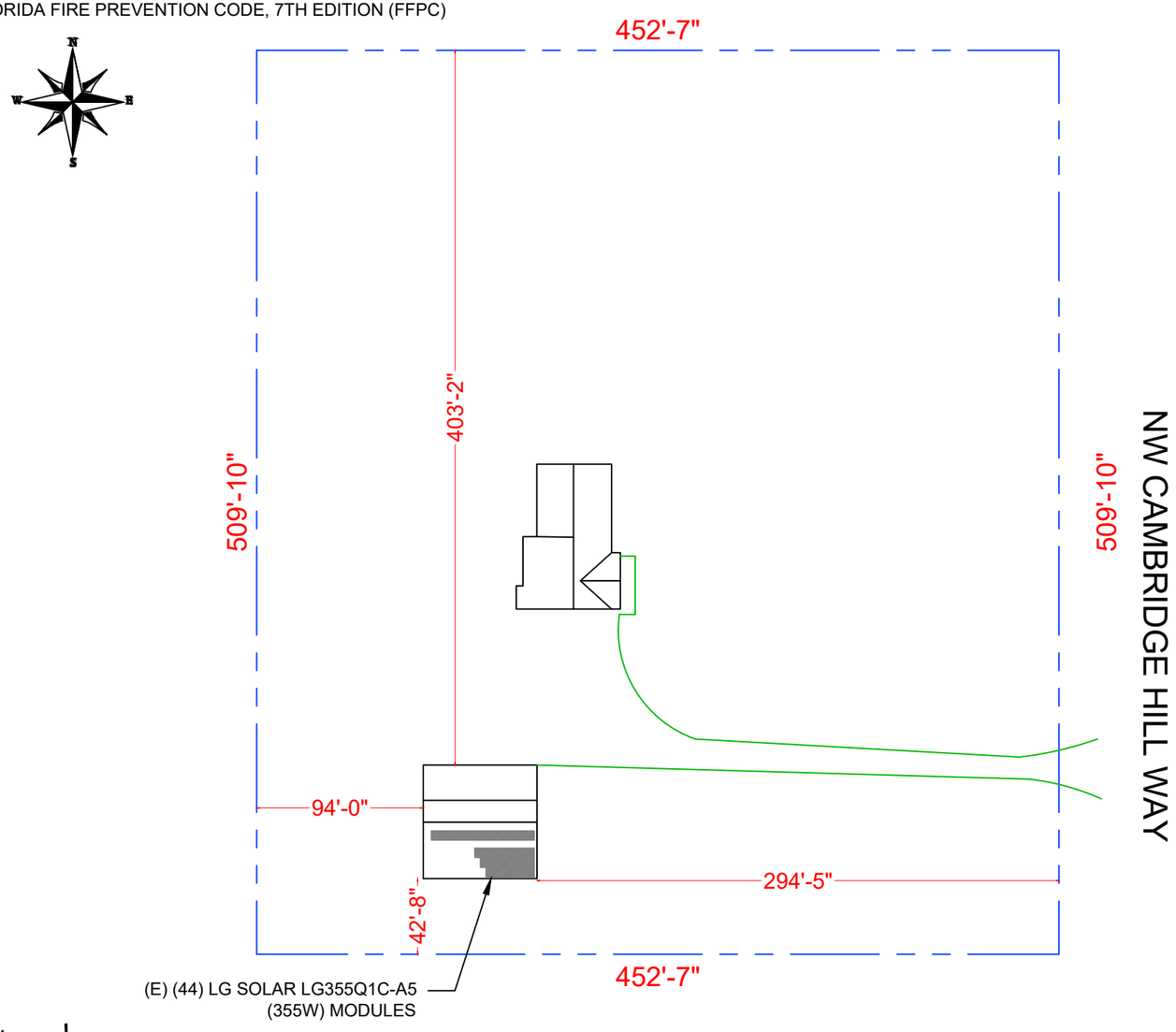
EQUIPMENT SUMMARY
EXISTING 44 LG SOLAR LG355Q1C-A5 MODULES
EXISTING 44 ENPHASE IQ7PLUS-72-2-US MICRO-INVERTERS

GOVERNING CODES :
FLORIDA RESIDENTIAL CODE, 7TH EDITION 2020 (FRC)
FLORIDA PLUMBING CODE, 7TH EDITION 2020 (FPC)
FLORIDA BUILDING CODE, 7TH EDITION 2020 EDITION (FBC)
FLORIDA MECHANICAL CODE, 7TH EDITION 2020 (FMC)
2017 NATIONAL ELECTRICAL CODE
FLORIDA FIRE PREVENTION CODE, 7TH EDITION (FFPC)

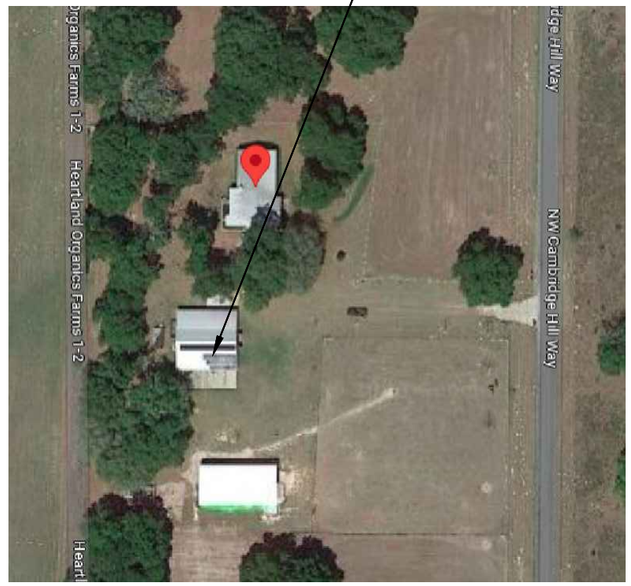
SHEET INDEX

SCOPE OF WORK:

THE SCOPE OF WORK FOR THIS PROJECT IS THE ADDITION OF A BATTERY ON THE EXISTING SOLAR AND BATTERY SYSTEM. THE EXISTING SOLAR PANEL, RACKING AND INVERTER SYSTEM SHALL REMAIN.



1 PLOT PLAN WITH ROOF PLAN
A-00 SCALE: 1"=80'-0"



2 HOUSE PHOTO
A-00 SCALE: NTS

3 VICINITY MAP
A-00 SCALE: NTS

SOLAR TREK

SOLAR TREK INC.
3347 SW 7TH ST.
OCALA, FL 34474 USA

REVISIONS		
DESCRIPTION	DATE	REV
INITIAL	08-17-2023	01

PROJECT NAME

WILLIAM VRASTIL
176 NORTHWEST CAMBRIDGE HILL WAY
LAKE CITY, FL 32055

SHEET NAME
PLOT PLAN & VICINITY MAP

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
A-00

Signature with Seal
Digitally signed by Jeffrey A Torres
Date: 2023.08.21 09:43:59 -04'00'

JEFFREY A. TORRES, P.E.
FL PE #80379
SUNSMART ENGINEERING, LLC
FL COA #35170
925 SUNSHINE LANE
ALTAMONTE SPRINGS, FL 32714
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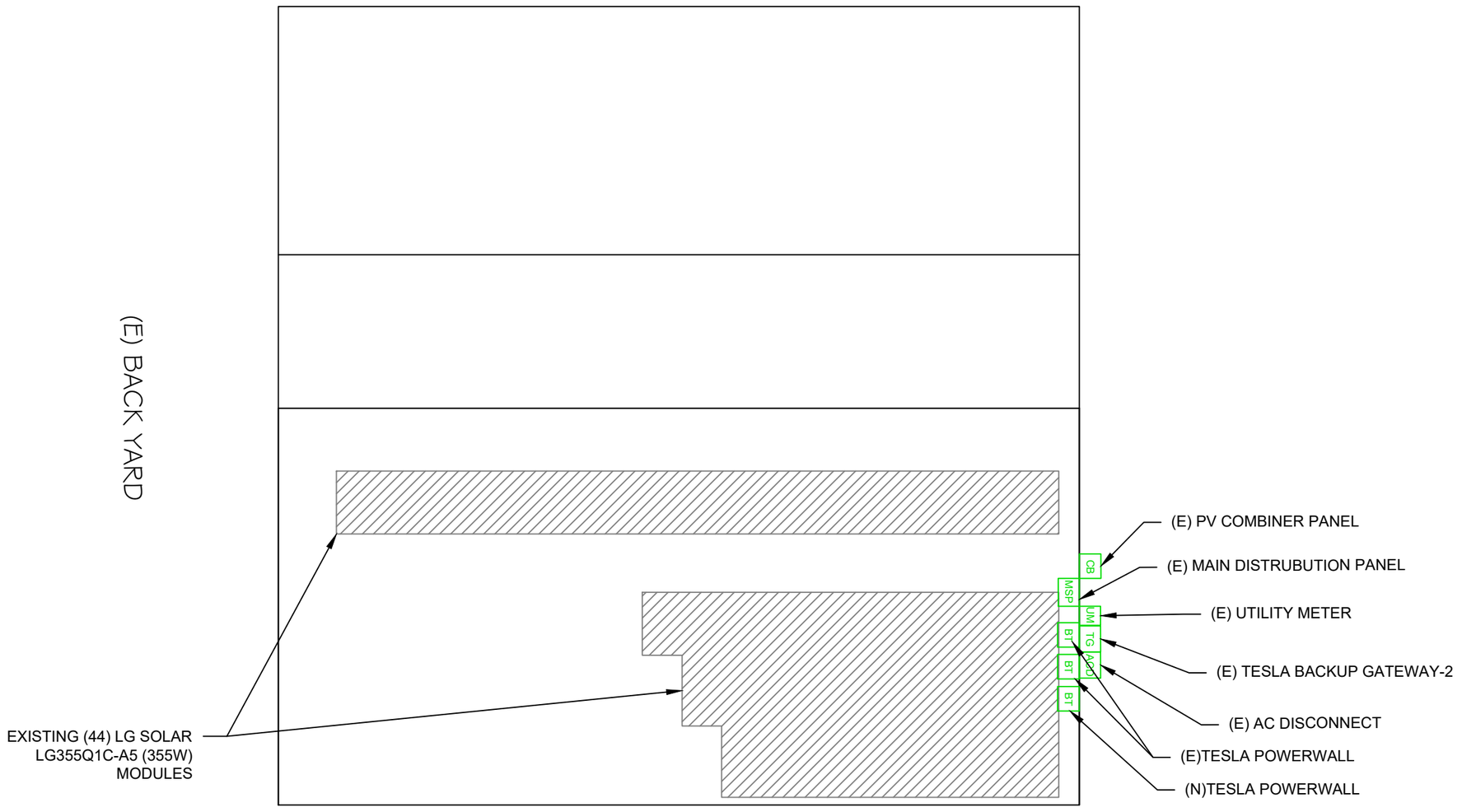
SOLAR ARRAY 10.44 kW-DC STC
EXISTING (44) LG SOLAR LG355Q1C-A5 (355W) MODULES



LEGEND

- BT - TESLA POWERWALL
- TG - TESLA BACKUP GATEWAY-2
- UM - UTILITY METER
- CB - PV COMBINER PANEL
- JB - JUNCTION BOX
- ACD - AC DISCONNECT
- MSP - MAIN DISTRIBUTION PANEL
- ▭ - ROOF OBSTRUCTION
- – – – - CONDUIT

1 ELECTRICAL PLAN
E-01 SCALE: 1"=10'-0"

SOLAR TREK

SOLAR TREK INC.
3347 SW 7TH ST.
OCALA, FL 34474 USA

REVISIONS

DESCRIPTION	DATE	REV
INITIAL	08-17-2023	01

PROJECT NAME

WILLIAM VRASTIL

176 NORTHWEST
CAMBRIDGE HILL WAY
LAKE CITY, FL 32055

SHEET NAME
ELECTRICAL SITE PLAN

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
E-01

Signature with Seal

Digitally signed by Jeffrey A Torres
Date: 2023.08.21 09:44:17 -04'00'

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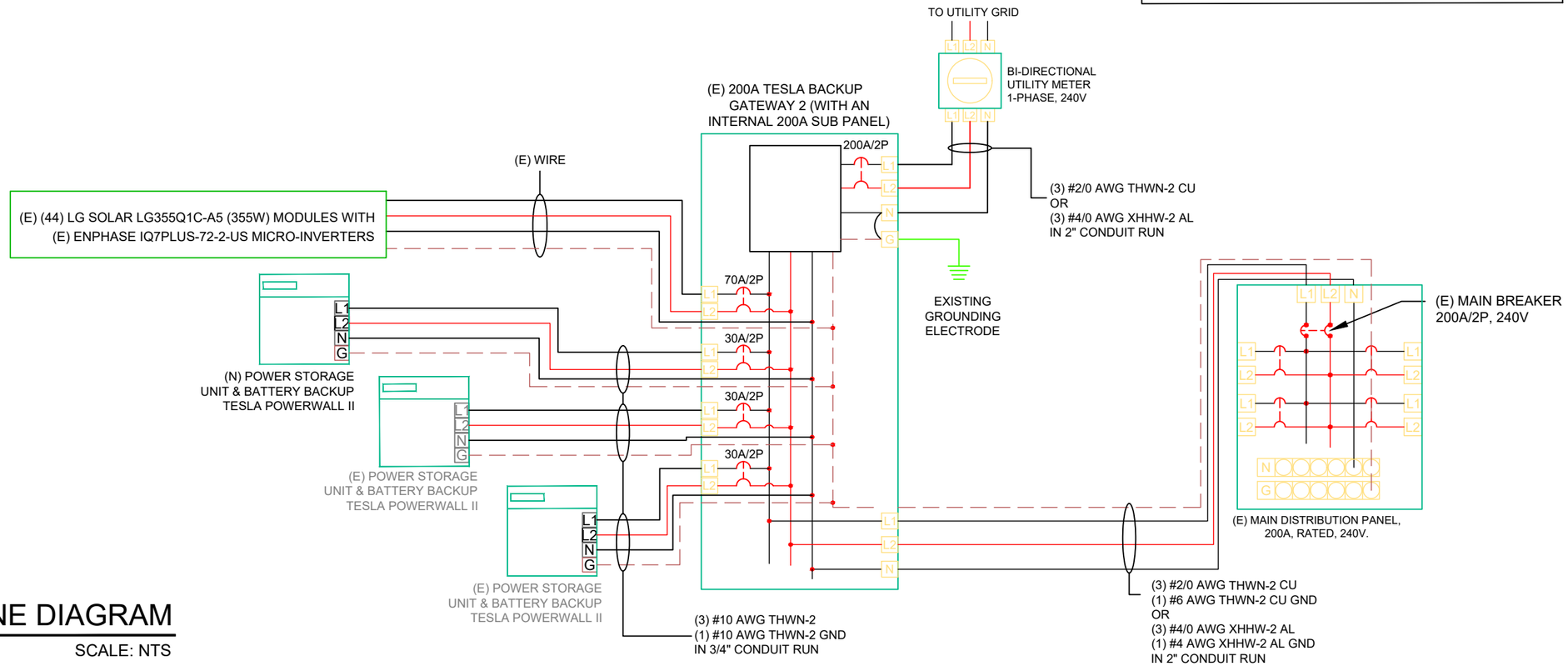
SOLAR ARRAY 10.44 kW-DC STC
EXISTING (44) LG SOLAR LG355Q1C-A5 (355W) MODULES



1 | ELECTRICAL LINE DIAGRAM

E-02

SCALE: NTS

SOLAR MODULE SPECIFICATIONS	
MANUFACTURER / MODEL #	LG SOLAR LG355Q1C-A5 (355W) MODULES
VMP	36.3V
IMP	9.79A
VOC	42.7V
ISC	10.78A
MODULE DIMENSION	66.93"L x 40.0"W x 1.57"D (In Inch)

INVERTER SPECIFICATIONS	
MANUFACTURER / MODEL #	ENPHASE IQ7PLUS-72-2-US MICRO-INVERTERS
MPPT VOLTAGE RANGE	27-45V
MAXIMUM INPUT VOLTAGE	60V
MAXIMUM UNIT PER BRANCH	11
MAXIMUM OUTPUT CURRENT	1.21A
CEC WEIGHTED EFFICIENCY	97%

AMBIENT TEMPERATURE SPECS	
RECORD LOW TEMP	-7°
AMBIENT TEMP (HIGH TEMP 2%)	35°
CONDUIT MINIMUM HEIGHT FROM ROOF	0.5"
CONDUCTOR TEMPERATURE RATING	90°
MODULE TEMPERATURE COEFFICIENT OF Voc	-0.28%/°C

AC CONDUCTOR AMPACITY CALCULATIONS: FROM BATTERY TO TESLA BACKUP GATEWAY 2

EXPECTED WIRE TEMP (In Celsius)	35°
TEMP. CORRECTION PER TABLE (310.15)(B)(2)(a)	0.96
# OF CURRENT CARRYING CONDUCTORS	2
# OF C.C. CONDUCTORS CORRECTION PER NEC 310.15(B)(3)(a)	1.00
CIRCUIT CONDUCTOR SIZE	8 AWG
CIRCUIT CONDUCTOR AMPACITY	55A
REQUIRED CIRCUIT CONDUCTOR AMPACITY PER NEC 690.8(A) & (B)	
1.25 x MAX AC OUTPUT x TOTAL # OF MICROINVERTERS	30.00A
DERATED CIRCUIT CONDUCTOR AMPACITY	52.80A
Result should be greater than (30.00A)	

ELECTRICAL NOTES

1.) ALL EQUIPMENT SHALL BE LISTED BY UL OR OTHER NRTL, AND LABELED FOR ITS APPLICATION.
2.) ALL CONDUCTORS SHALL BE COPPER, RATED FOR 600 V AND 90°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.
4.) WORKING CLEARANCES AROUND ALL NEW AND EXISTING ELECTRICAL EQUIPMENT SHALL COMPLY WITH NEC 110.26.
5.) DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF SYSTEM. CONTRACTOR SHALL FURNISH ALL NECESSARY OUTLETS, SUPPORTS, FITTINGS , AND ACCESSORIES TO MEET 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 ACCESSIBLE.
8.) INSTALL MODULE AND RACKING GROUNDING HARDWARE PER MANUFACTURER'S INSTRUCTION.

2 | WIRING CALCULATIONS

E-02

SCALE: NTS

SOLAR TREK

SOLAR TREK INC.
3347 SW 7TH ST.
OCALA, FL 34474 USA

REVISIONS		
DESCRIPTION	DATE	REV
INITIAL	08-17-2023	01

PROJECT NAME

WILLIAM VRASTIL
176 NORTHWEST
CAMBRIDGE HILL WAY
LAKE CITY, FL 32055

SHEET NAME
ELECTRICAL
LINE DIAGRAM &
WIRING CALCULATIONS

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
E-02

Signature with Seal

Digitally signed by Jeffrey A Torres
Date: 2023.08.21 09:44:24 -04'00'

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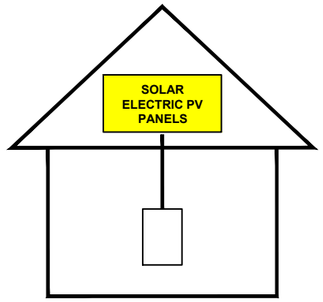
JEFF.TORRES@SUNSMARTENGINEERING.COM

SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN

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



LABEL LOCATION:
AT SERVICE DISCONNECTING MEANS
PER NEC 690.56(C)(1)(a)

WARNING

POWER SOURCE OUTPUT CONNECTION

DO NOT RELOCATE THIS OVERCURRENT DEVICE

LABEL LOCATION:
POINT OF INTERCONNECTION (WHEN APPLICABLE)
PER NEC 705.12(B)(2)(3)(b)

SOLAR TREK

SOLAR TREK INC.
3347 SW 7TH ST.
OCALA, FL 34474 USA

REVISIONS		
DESCRIPTION	DATE	REV
INITIAL	08-17-2023	01

PROJECT NAME

WILLIAM VRASTIL
176 NORTHWEST
CAMBRIDGE HILL WAY
LAKE CITY, FL 32055

SHEET NAME
SYSTEM LABELING

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
E-03

Signature with Seal

Digitally signed by Jeffrey A Torres
Date: 2023.08.21 09:44:32 -04'00'

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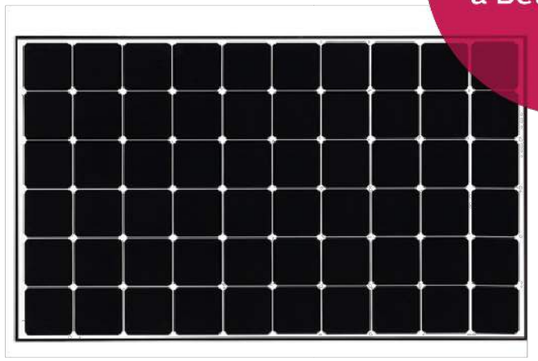
LG
Life's Good

Innovation for a Better Life



LG NeON® R LG355Q1C-A5

60 cell

The LG NeON® R is a high-power luxury solar panel featuring newly developed Back Contact Technology™. The advanced cell structure locates all of the module's electrodes on the back side of the panel, minimizing power loss and boosting efficiency.

Enhanced Warranties
LG offers a 25-year product warranty for LG NeON® R, including labor, in addition to an enhanced performance warranty. After 25 years, LG NeON® R is guaranteed to produce at least 88.4% of its initial power output.

High Power Output
The LG NeON® R has been designed to significantly enhance its output, making it efficient even in limited spaces.

Roof Aesthetics
LG NeON® R has been designed with aesthetics in mind: the lack of any electrodes on the front creates an improved, modern aesthetic.

Outstanding Durability
With its newly reinforced frame design, LG NeON® R can endure a front load up to 6000 Pa, and a rear load up to 5400 Pa.

Improved Performance on Sunny Days
LG NeON R now performs better on sunny days, thanks to its improved temperature coefficient.

Near Zero LID (Light Induced Degradation)
The n-type cells used in LG NeON® R have almost no boron. This leads to less LID right after installation.

About LG Electronics

LG Electronics is a global player who has been committed to expanding its capacity, based on solar energy business as its future growth engine. We embarked on a solar energy source research program in 1985, supported by LG Group's rich experience in semi-conductor, LCD, chemistry, and materials industry. We successfully released first Mono X® series to the market in 2010, which were exported to 32 countries in the following 2 years, thereafter. In 2013, NeONTM (previously known as Mono X® NeON) & 2015 NeON2 with CELLD technology won "Intersolar Award", which proved LG is the leader of innovation in the industry.

LG NeON® R LG355Q1C-A5

Mechanical Properties

Cells	6 x 10
Cell Vendor	LG
Cell Type	Monocrystalline / N-type
Cell Dimensions	161.7 x 161.7 mm / 6 inches
Dimensions (L x W x H)	1700 x 1016 x 40 mm 66.93 x 40.0 x 1.57 inch
Front Load	6,000Pa / 125 psf
Rear Load	5,400Pa / 113 psf
Weight	18.5 kg / 40.79 lb
Connector Type	MC4
Junction Box	IP68 with 3 Bypass Diodes
Length of Cables	1000 mm x 2 ea
Glass	Tempered Glass with AR Coating
Frame	Anodized Aluminium

Certifications and Warranty

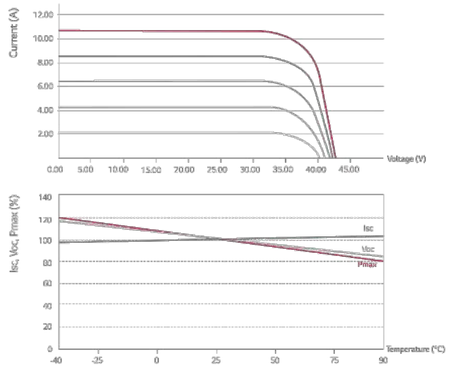
Certifications	IEC 61215, IEC 61730-1/-2 UL 1703 IEC 61701 (Salt mist corrosion test) IEC 62716 (Ammonia corrosion test) ISO 9001
Module Fire Performance (USA)	Type 1
Fire Resistance Class (CANADA)	Class C (ULC / ORD C1703)
Product Warranty	25 years
Output Warranty of Pmax	Linear warranty**

**1) 1st year : 98%, 2) After 1st year : 0.4% annual degradation, 3) 25 years : 88.4%

Temperature Characteristics

NOCT	44 ± 3 °C
Pmpp	-0.30 %/°C
Voc	-0.24 %/°C
Isc	0.04 %/°C

Characteristic Curves



Electrical Properties (STC *)

Module	355
Maximum Power (Pmax)	355
MPP Voltage (Vmpp)	36.3
MPP Current (Impp)	9.79
Open Circuit Voltage (Voc)	42.7
Short Circuit Current (Isc)	10.78
Module Efficiency	20.6
Operating Temperature	-40 ~ +90
Maximum System Voltage	1000
Maximum Series Fuse Rating	20
Power Tolerance (%)	0 ~ +3

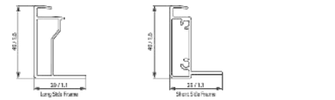
* STC (Standard Test Condition): Irradiance 1,000 W/m², Ambient Temperature 25 °C, AM 1.5
* The nameplate power output is measured and determined by LG Electronics at its sole and absolute discretion.
* The typical change in module efficiency at 200 W/m² in relation to 1000 W/m² is -2.0%.

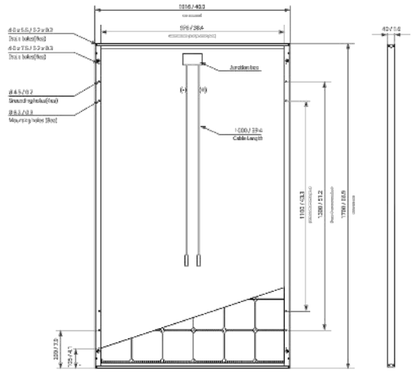
Electrical Properties (NOCT*)

Module	355
Maximum Power (Pmax)	267
MPP Voltage (Vmpp)	36.2
MPP Current (Impp)	7.39
Open Circuit Voltage (Voc)	40.2
Short Circuit Current (Isc)	8.68

* NOCT (Nominal Operating Cell Temperature): Irradiance 800 W/m², ambient temperature 20 °C, wind speed 1 m/s

Dimensions (mm/in)





* The distance between the center of the mounting/grounding holes.

LG Life's Good

North America Solar Business Team
LG Electronics U.S.A. Inc
1000 Sylvan Ave, Englewood Cliffs, NJ 07632

Contact: lg.solar@lge.com
www.lgsolarusa.com

Innovation for a Better Life

SOLAR TREK

SOLAR TREK INC.
3347 SW 7TH ST.
OCALA, FL 34474 USA

REVISIONS		
DESCRIPTION	DATE	REV
INITIAL	08-17-2023	01

PROJECT NAME

WILLIAM VRASTIL
176 NORTHWEST
CAMBRIDGE HILL WAY
LAKE CITY, FL 32055

SHEET NAME
MODULE DATA SHEET

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
DS-01

Signature with Seal

Digitally signed by Jeffrey A Torres
Date: 2023.08.21 09:44:39 -04'00'

JEFFREY A. TORRES, P.E.
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SUNSMART ENGINEERING, LLC
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JEFF.TORRES@SUNSMARTENGINEERING.COM

ENPHASE.

DATA SHEET
US

IQ7 and IQ7+ Microinverters

The high-powered, smart grid–ready IQ7 and IQ7+ Microinverters dramatically simplify installation while achieving the highest system efficiency.

Part of the Enphase Energy System, the IQ7 Series Microinverters integrate with the IQ Gateway, IQ Battery, and the Enphase Installer App monitoring and analysis software.

Enphase 25 year limited warranty

IQ7 Series Microinverters extend the reliability standards set forth by previous generations and undergo over a million hours of power-on testing, enabling Enphase to provide an industry-leading warranty of up to 25 years.

Connect PV modules quickly and easily to IQ7 Series Microinverters using the included Q-DCC-2 adapter cable with plug-and-play MC4 connectors.

UL CERTIFIED SAFETY

IQ7 Series Microinverters are UL listed as PV Rapid Shutdown Equipment and conform with various regulations when installed according to the manufacturer's instructions.

Easy to install

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

Productive and reliable

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

Smart grid–ready

- Complies with advanced grid support, voltage, and frequency ride-through requirements
- Remotely updates to respond to changing grid requirements
- Configurable for varying grid profiles
- Meets CA Rule 21 (UL 1741-SA) IEEE 1547:2018 (UL 1741-SB, 3rd Ed.)

IQ7 and IQ7+ Microinverters

INPUT DATA (DC)	UNITS	IQ7-60-2-US	IQ7PLUS-72-2-US
Commonly used module pairings[1]	W	235–350	235–440
Module compatibility		60-cell/120 half-cell PV modules only	60-cell/120-half-cell and 72-cell/144-half-cell PV modules
MPPT voltage range	V	27–37	27–45
Operating range	V	16–48	16–60
Min./max. start voltage	V	22/48	22/60
Max. input DC voltage	V	50	60
Max. continuous input DC current	A	10	12
Max. input DC short-circuit current	A	25	
Max. module Isc	A	20	
Overvoltage class DC port		II	
DC port back-feed current	mA	0	
PV array configuration		1 × 1 ungrounded array; No additional DC side protection required; AC side protection requires max 20 A per branch circuit	

OUTPUT DATA (AC)	UNITS	IQ7-60-2-US	IQ7PLUS-72-2-US
Peak output power	VA	250	295
Max. continuous output power	VA	240	290
Nominal (L-L) voltage/range[2]	V	240/211–264, 208/183–229	
Max. continuous output current	A	1.0 (240 V)/1.15 (208 V)	1.21 (240 V)/1.39 (208 V)
Nominal frequency	Hz	60	
Extended frequency range	Hz	49–68	
AC short circuit fault current over three cycles	Arms	5.8	
Max. units per 20 A (L-L) branch circuit[3]		16/13	13/11
Total harmonic distortion	%	<5	
Overvoltage class AC port		III	
AC port back-feed current	mA	18	
Power factor setting		1.0	
Grid-tied power factor (adjustable)		0.85 leading ... 0.85 lagging	
Peak efficiency	%	97.6 (240 V)	97.5 (240 V)/97.3 (208 V)
CEC weighted efficiency	%	97	
Nighttime power consumption	mW	60	

MECHANICAL DATA	
Ambient temperature range	-40°C to 65°C (-40°F to 149°F)
Relative humidity range	4% to 100% (condensing)
DC connector type	MC4 (or Amphenol H4 UTX with additional Q-DCC-5 adapter)
Dimensions (H × W × D)	212 mm (8.3") × 175 mm (6.9") × 30.2 mm (1.2") without bracket
Weight	1.08 kg (2.38 lbs)
Cooling	Natural convection—no fans
Approved for wet locations	Yes
Pollution degree	PD3
Enclosure	Class II double-insulated, corrosion-resistant polymeric enclosure
Environ. category/UV exposure rating	NEMA Type 6/outdoor

COMPLIANCE	
Certifications	CA Rule 21 (UL 1741-SA), UL 62109-1, IEEE 1547:2018 (UL 1741-SB 3rd Ed.), HEI Rule 14H SRD 2.0, 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, and NEC 2020 section 690.12 and C22.1-2015 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, when installed according to the manufacturer's instructions.

(1) Pairing PV modules with wattage above the limit may result in additional clipping losses. See the compatibility calculator at https://link.enphase.com/module-compatibility.
(2) Nominal voltage range can be extended beyond nominal if required by the utility. (3) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

IQ7-IQ7Plus-DS-02-EN-US-2023-04-14

SOLAR TREK

SOLAR TREK INC.
3347 SW 7TH ST.
OCALA, FL 34474 USA

REVISIONS

DESCRIPTION	DATE	REV
INITIAL	08-17-2023	01

PROJECT NAME

WILLIAM VRASTIL
176 NORTHWEST
CAMBRIDGE HILL WAY
LAKE CITY, FL 32055

SHEET NAME
MICROINVERTER DATA SHEET

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
DS-02

Signature with Seal

Digitally signed by Jeffrey A Torres
Date: 2023.08.21 09:44:47 -04'00'

JEFFREY A. TORRES, P.E.
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FL COA #35170
925 SUNSHINE LANE
ALTAMONTE SPRINGS, FL 32714
JEFF.TORRES@SUNSMARTENGINEERING.COM

POWERWALL

Tesla Powerwall is a fully-integrated AC battery system for residential or light commercial use. Its rechargeable lithium-ion battery pack provides energy storage for solar self-consumption, time-based control, and backup.

Powerwall's electrical interface provides a simple connection to any home or building. Its revolutionary compact design achieves market-leading energy density and is easy to install, enabling owners to quickly realize the benefits of reliable, clean power.

PERFORMANCE SPECIFICATIONS

AC Voltage (Nominal)	120/240 V
Feed-In Type	Split Phase
Grid Frequency	60 Hz
Total Energy	14 kWh
Usable Energy	13.5 kWh
Real Power, max continuous	5 kW (charge and discharge)
Real Power, peak (10 s, off-grid/backup)	7 kW (charge and discharge)
Apparent Power, max continuous	5.8 kVA (charge and discharge)
Apparent Power, peak (10 s, off-grid/backup)	7.2 kVA (charge and discharge)
Maximum Supply Fault Current	10 kA
Maximum Output Fault Current	32 A
Overcurrent Protection Device	30 A
Imbalance for Split-Phase Loads	100%
Power Factor Output Range	+/– 1.0 adjustable
Power Factor Range (full-rated power)	+/– 0.85
Internal Battery DC Voltage	50 V
Round Trip Efficiency[1,3]	90%
Warranty	10 years

[1]Values provided for 25°C (77°F), 3.3 kW charge/discharge power.
[2]In Backup mode, grid charge power is limited to 3.3 kW.
[3]AC to battery to AC, at beginning of life.

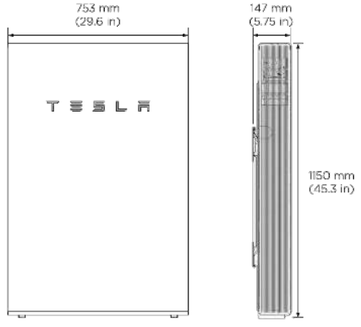
COMPLIANCE INFORMATION

Certifications	UL 1642, UL 1741, UL 1973, UL 9540, IEEE 1547, UN 38.3
Grid Connection	Worldwide Compatibility
Emissions	FCC Part 15 Class B, ICES 003
Environmental	RoHS Directive 2011/65/EU
Seismic	AC156, IEEE 693-2005 (high)

MECHANICAL SPECIFICATIONS

Dimensions[1]	1150 mm x 755 mm x 147 mm (45.3 in x 29.6 in x 5.75 in)
Weight[1]	114 kg (251.3 lbs)
Mounting options	Floor or wall mount

[1]Dimensions and weight differ slightly if manufactured before March 2019. Contact Tesla for additional information.

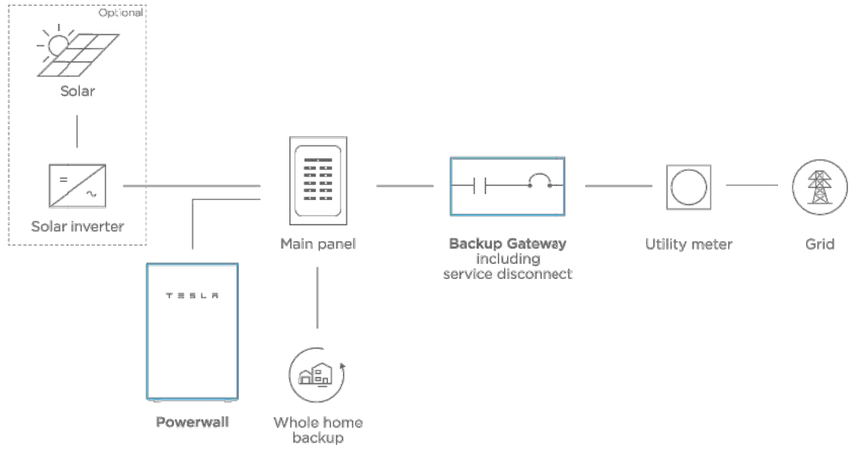


ENVIRONMENTAL SPECIFICATIONS

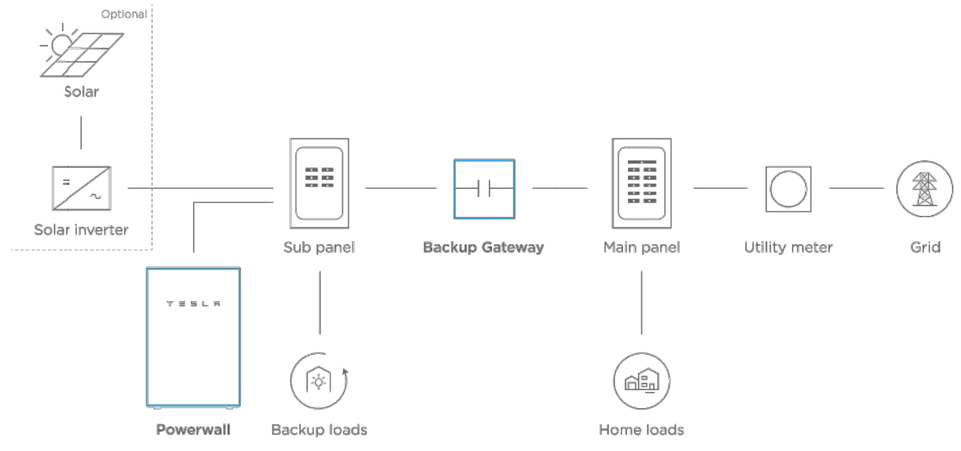
Operating Temperature	-20°C to 50°C (-4°F to 122°F)
Recommended Temperature	0°C to 30°C (32°F to 86°F)
Operating Humidity (RH)	Up to 100%, condensing
Storage Conditions	-20°C to 30°C (-4°F to 86°F) Up to 95% RH, non-condensing State of Energy (SoE): 25% initial
Maximum Elevation	3000 m (9843 ft)
Environment	Indoor and outdoor rated
Enclosure Type	NEMA 3R
Ingress Rating	IP67 (Battery & Power Electronics) IP56 (Wiring Compartment)
Wet Location Rating	Yes
Noise Level @ 1m	< 40 dBA at 30°C (86°F)

TYPICAL SYSTEM LAYOUTS

WHOLE HOME BACKUP



PARTIAL HOME BACKUP



SOLAR TREK

SOLAR TREK INC.
3347 SW 7TH ST.
OCALA, FL 34474 USA

REVISIONS		
DESCRIPTION	DATE	REV
INITIAL	08-17-2023	01

PROJECT NAME

WILLIAM VRASTIL
176 NORTHWEST
CAMBRIDGE HILL WAY
LAKE CITY, FL 32055

SHEET NAME
BATTERY DATA SHEET

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
DS-03

Signature with Seal
Digitally signed by Jeffrey A Torres
Date: 2023.08.21 09:44:57 -04'00'

JEFFREY A. TORRES, P.E.
FL PE #80379
SUNSMART ENGINEERING, LLC
FL COA #35170
925 SUNSHINE LANE
ALTAMONTE SPRINGS, FL 32714
JEFF.TORRES@SUNSMARTENGINEERING.COM

POWERWALL
Backup Gateway 2

The Backup Gateway 2 for Tesla Powerwall provides energy management and monitoring for solar self-consumption, time-based control, and backup.

The Backup Gateway 2 controls connection to the grid, automatically detecting outages and providing a seamless transition to backup power. When equipped with a main circuit breaker, the Backup Gateway 2 can be installed at the service entrance. When the optional internal panelboard is installed, the Backup Gateway 2 can also function as a load center.

The Backup Gateway 2 communicates directly with Powerwall, allowing you to monitor energy use and manage backup energy reserves from any mobile device with the Tesla app.

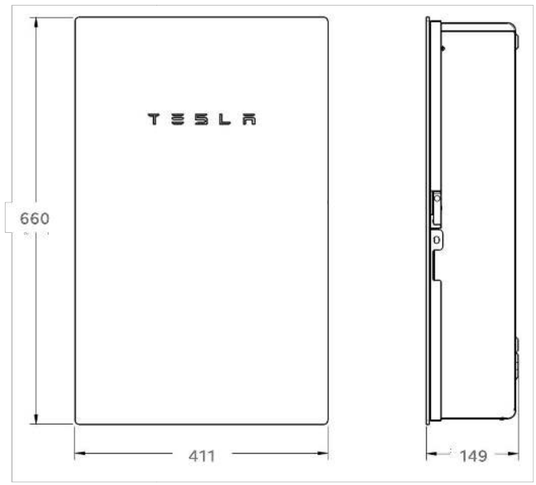
PERFORMANCE SPECIFICATIONS

AC Voltage (Nominal)	120/240V
Feed-In Type	Split Phase
Grid Frequency	60 Hz
Current Rating	200 A
Maximum Input Short Circuit Current	10 kA[1]
Overcurrent Protection Device	100-200A; Service Entrance Rated[1]
Overvoltage Category	Category IV
AC Meter	Revenue accurate (+/– 0.2 %)
Primary Connectivity	Ethernet, Wi-Fi
Secondary Connectivity	Cellular (3G, LTE/4G)[2]
User Interface	Tesla App
Operating Modes	Support for solar self-consumption, time-based control, and backup
Backup Transition	Automatic disconnect for seamless backup
Modularity	Supports up to 10 AC-coupled Powerwalls
Optional Internal Panelboard	200A 6-space / 12 circuit Eaton BR Circuit Breakers
Warranty	10 years

[1] When protected by Class J fuses, Backup Gateway 2 is suitable for use in circuits capable of delivering not more than 22kA symmetrical amperes.
[2] The customer is expected to provide internet connectivity for Backup Gateway 2; cellular should not be used as the primary mode of connectivity. Cellular connectivity subject to network operator service coverage and signal strength.

MECHANICAL SPECIFICATIONS

Dimensions	660 mm x 411 mm x 149 mm (26 in x 16 in x 6 in)
Weight	20.4 kg (45 lb)
Mounting options	Wall mount, Semi-flush mount



COMPLIANCE INFORMATION

Certifications	UL 67, UL 869A, UL 916, UL 1741 PCS CSA 22.2 0.19, CSA 22.2 205
Emissions	FCC Part 15, ICES 003

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-20°C to 50°C (-4°F to 122°F)
Operating Humidity (RH)	Up to 100%, condensing
Maximum Elevation	3000 m (9843 ft)
Environment	Indoor and outdoor rated
Enclosure Type	NEMA 3R

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OCALA, FL 34474 USA

REVISIONS

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INITIAL	08-17-2023	01

PROJECT NAME

WILLIAM VRASTIL
176 NORTHWEST
CAMBRIDGE HILL WAY
LAKE CITY, FL 32055

SHEET NAME
GATEWAY 2
DATA SHEET

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
DS-04

Signature with Seal

JEFFREY A. TORRES LICENSE No 80379 STATE OF FLORIDA PROFESSIONAL ENGINEER

This item has been electronically signed and sealed by Jeffrey A. Torres P.E. using a Digital Signature and date shown to left of seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Digitally signed by Jeffrey A Torres
Date: 2023.08.21 09:45:04 -04'00'

JEFFREY A. TORRES, P.E.
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