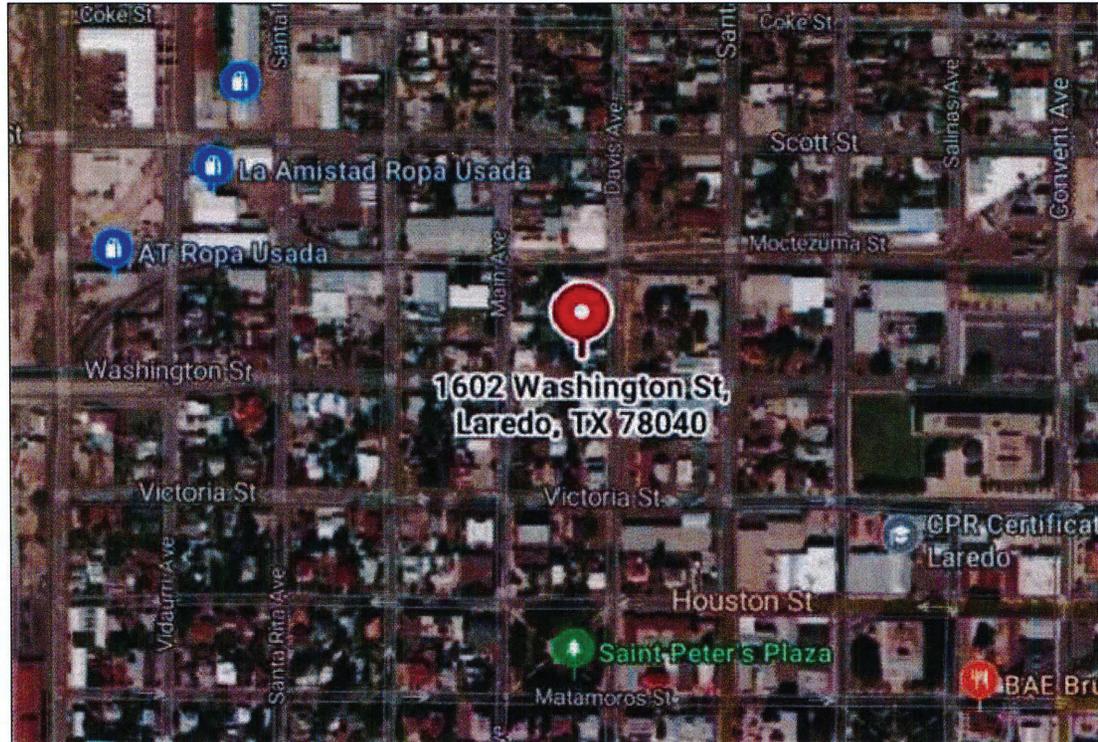


# 1602 WASHINGTON STREET 6.10 KW DC PHOTOVOLTAIC SYSTEM

TABLE OF CONTENTS:

E1.1	THREE-LINE DIAGRAM
E1.2	BUILDING ELEVATIONS
E2.1	SITE PLAN
E2.2	LABELS
E2.3	STREET VIEW
E3.1	MODULE DATA SHEET
E3.2	RSD DATA SHEET
E3.3	INVERTER DATA SHEET



VICINITY MAP

PROJECT SITE:  
1602 WASHINGTON STREET,  
LAREDO, TX 78040

PEG ENERGY  
7800 IH 10, SUITE 610  
SAN ANTONIO, TX 78230  
(956) 203-0669

PROJECT:  
**6.10 KW-DC PV SYSTEM**  
1602 WASHINGTON STREET,  
LAREDO, TX 78040

SUBMITTAL DATE: 01-26-2026
REVISION DATE:
REVISION DATE:

DESIGNED BY: A.E.Z.
DRAWN BY: A.E.Z.
CHECKED BY:

SHEET TITLE:  
**TITLE SHEET**

SHEET ID:  
**E0**

EQUIPMENT SCHEDULE					
○ TAG	DESCRIPTION	COUNT	PART NUMBER		NOTES
1	SOLAR MODULE	21	JAP6-72-305/388	JINKO SOLAR	
2	RSD	11	RSD-D-20	APSMART	
3	JBOX	1	278304	KRALOY	
4	GROWATT INVERTER	1	MIN 6000L-XH-US	GROWATT	
5	AC DISC SWITCH	1	DG22URB	EATON 60A/2P/NF	
6	EXIST. MAIN SERVICE PANEL	1	-	-	-
7	PV BREAKER	1	-	60A/2P	
8	EXIST. GROUNDING ELECTRODE	1	-	-	VERIFY EXISTING GROUNDING ELECTRODE SYSTEM, UPGRADE IF REQUIRED
9	SUPPLEMENTAL GROUND ROD	1	-	5/8" XB" COPPER GROUND	

CONDUIT AND CONDUCTOR SCHEDULE					
△ TAG	DESCRIPTION OR CONDUCTOR TYPE	COND. GAUGE	NUMBERS OF CONDUCTORS	CONDUIT TYPE	CONDUIT SIZE
1	PV CABLE	#10/#8G	6/1	EMT	3/4"
2	THWN-2	#10/#10G	6/1	PVC	3/4"
3	THWN-2	#10/#10G	6/1	EMT	3/4"
4	THWN-2	#6/#8G	3/1	EMT	3/4"
5	EXIST. BARE COPPER WIRE	#6	1	PVC	3/4"
6	BARE COPPER WIRE	#6	1	N/A	3/4"

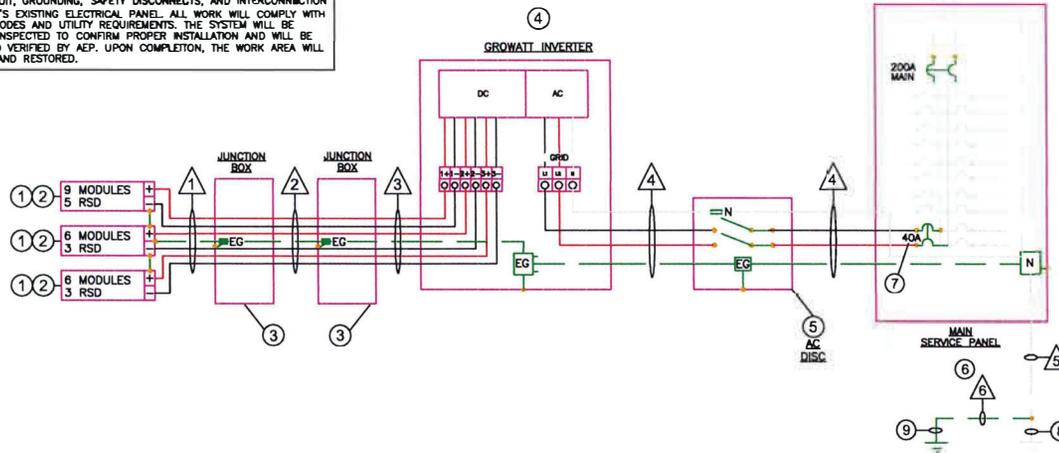
PV MODULES RATING @STC	
MODULE MAKE	JIA SOLAR
MODULE MODEL	JAP6-72-305/388
MAX POWER POINT CURRENT [Imp]	8.83A
MAX POWER POINT VOLTAGE [Vmp]	36.71V
OPEN-CIRCUIT VOLTAGE [Voc]	45.35V
SHORT-CIRCUIT CURRENT [Isc]	8.78A
MAXIMUM POWER [Pmax]	325W

INVERTER RATING	
INVERTER MFG	GROWATT
INVERTER MODEL	MIN 6000L-XH-US
MAX INPUT DC VOLTAGE	600V
MAX INPUT DC CURRENT (MODULE ISC)	15.9A
NOMINAL OUTPUT AC VOLTAGE	240V
PEAK OUTPUT AC CURRENT	25A
DC-DC INVERTER EFFICIENCY	97.00%

LABELS	
PHOTOVOLTAIC AC DISCONNECT	
AC OUTPUT CURRENT	25 A
NOMINAL AC VOLTAGE	240 V
LABEL AT 60A/2P DISC SW	

scope of work

NOTE: THIS PROJECT INCLUDES THE INSTALLATION OF A NEW SOLAR PHOTOVOLTAIC (PV) SYSTEM CONSISTING OF FREESTANDING SOLAR PERGOLA AND ADDITIONAL SOLAR MODULES INSTALLED ON THE ROOFTOP OF THE EXISTING RESIDENCE, ALL CONNECTED TO THE UTILITY GRID. THE SOLAR PERGOLA WILL BE FREESTANDING AND NOT ATTACHED TO ANY EXISTING STRUCTURES. WORK WILL INCLUDE LAYOUT VERIFICATION AND INSTALLATION OF PERGOLA FOOTINGS, STRUCTURAL SUPPORTS, AND FRAMING DESIGNED TO SUPPORT SOLAR MODULES. SOLAR MODULES WILL BE MOUNTED ON THE SOLAR PERGOLA STRUCTURE AND ON DESIGNATED ROOF AREAS OF THE HOME USING APPROVED MOUNTING SYSTEMS. THE PROJECT INCLUDES INSTALLATION OF INVERTER(S), REQUIRED MOUNTING HARDWARE, ELECTRICAL WIRING, CONDUIT, GROUNDING, SAFETY DISCONNECTS, AND INTERCONNECTION TO THE HOME'S EXISTING ELECTRICAL PANEL. ALL WORK WILL COMPLY WITH APPLICABLE CODES AND UTILITY REQUIREMENTS. THE SYSTEM WILL BE TESTED AND INSPECTED TO CONFIRM PROPER INSTALLATION AND WILL BE REVIEWED AND VERIFIED BY AEP. UPON COMPLETION, THE WORK AREA WILL BE CLEANED AND RESTORED.



AEP  
U.P. SERVICE  
120/240V  
1-PHASE

EXISTING AEP  
REVENUE METER

1 ELECTRICAL THREE - LINE DIAGRAM  
Scale: N.T.S.

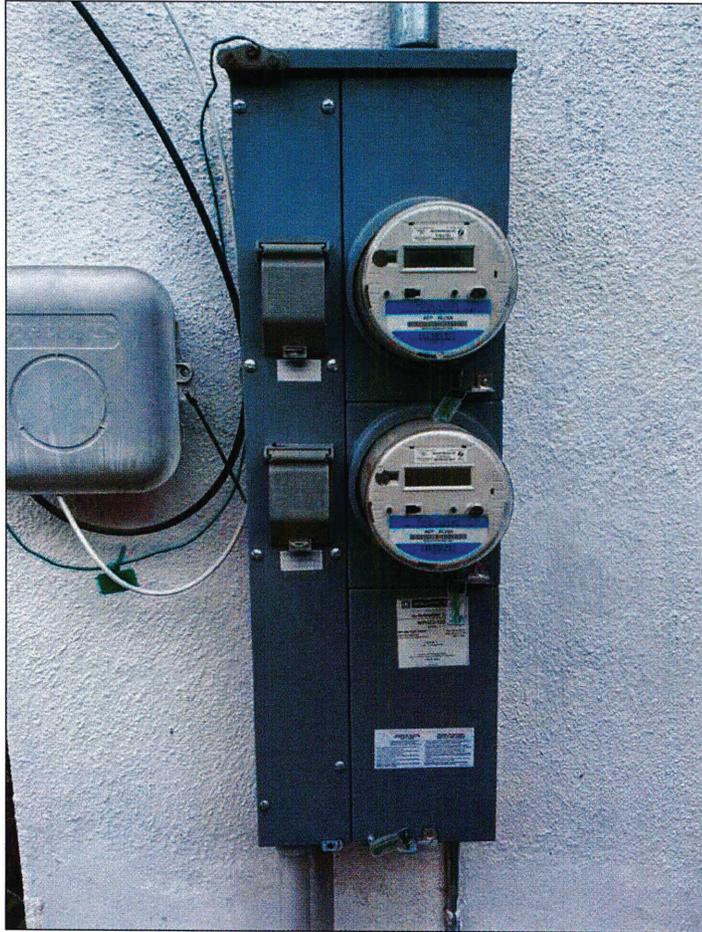
PEG ENERGY  
7800 IH 10, SUITE 610  
SAN ANTONIO, TX 78230  
(956) 203-0669

PROJECT:  
6.10 KW-DC PV SYSTEM  
1602 WASHINGTON STREET,  
LAREDO, TX 78040

DESIGNED BY: A.E.Z.	SUBMITTAL DATE: 01-28-2026
DRAWN BY: A.E.Z.	REVISION DATE:
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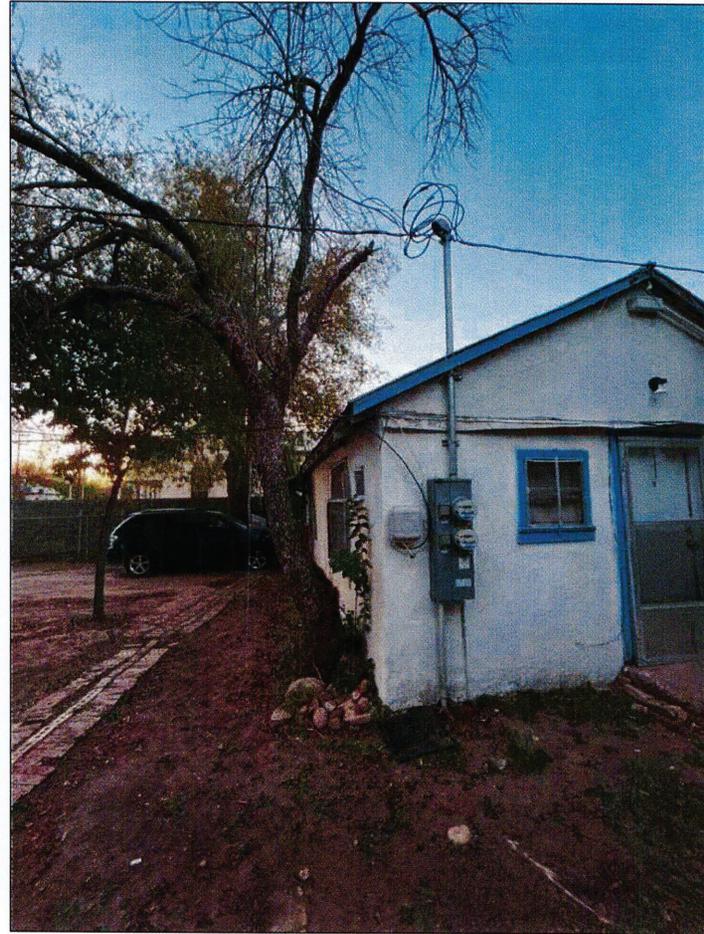
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THREE LINE  
DIAGRAM

SHEET ID:  
E.1.1



① EXISTING ELECTRICAL SERVICE

Scale: N.T.S.



② EXISTING EAST BLDG ELEVATION

Scale: N.T.S.

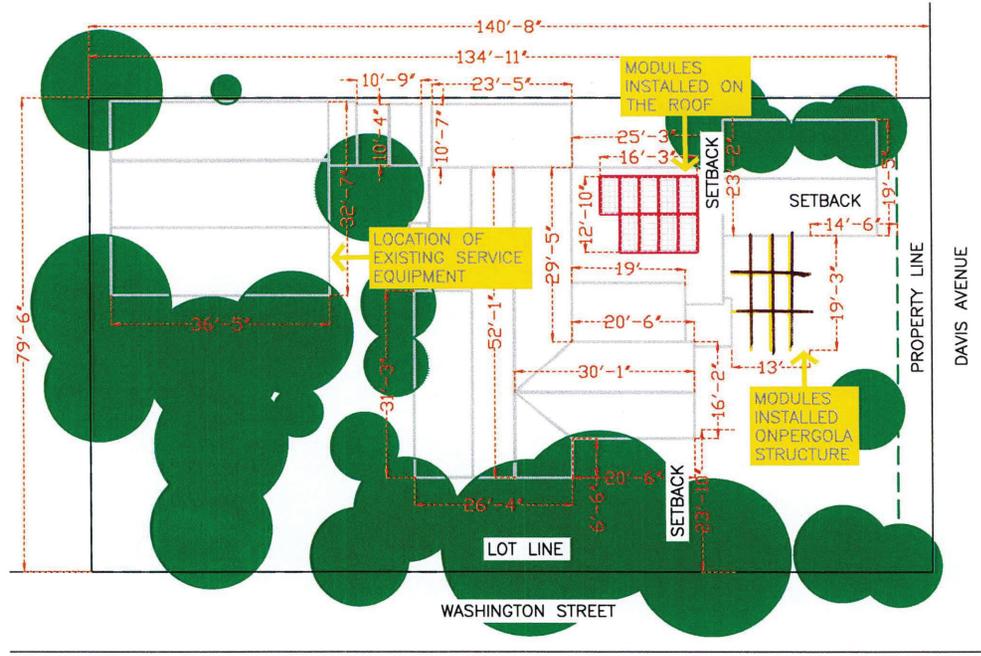
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SHEET TITLE:  
BLDG  
ELEVATIONS

SHEET ID:  
E1.2



**LEGEND**

● TREE

1

**EXISTING SITE PLAN**

Scale: 1" = 20'-0"

NORTH

DESIGNED BY: A.E.Z.		SUBMITTAL DATE: 01-28-2028	
DRAWN BY: A.E.Z.		REVISION DATE: 	
CHECKED BY: 		REVISION DATE: 	
SHEET TITLE: <b>SITE PLAN</b>			
SHEET ID: <b>E2.1</b>			
PROJECT: <b>6.10 KW-DC PV SYSTEM</b> 1602 WASHINGTON STREET, LAREDO, TX 78040		PEG ENERGY 7800 IH 10, SUITE 610 SAN ANTONIO, TX 78230 (956) 203-0669	

FIGURE 2000.6  
LABELING REQUIREMENTS FOR TYPICAL PHOTOVOLTAIC (PV) SYSTEMS

LABELS LISTED BELOW REPRESENT BASIC LABELING ASSOCIATED WITH A TYPICAL PHOTOVOLTAIC (PV) SYSTEM INSTALLATION AND IS NOT INTENDED TO INCLUDE ALL LABELING WHICH MAY BE REQUIRED BY THE NEC AND AHJ.

**PV DC DISCONNECT**  
(2017 NEC ARTICLES: 690.53)

**PV SYSTEM DC DISCONNECT**

MAXIMUM VOLTAGE: XXX  
 MAXIMUM CIRCUIT CURRENT: XXX  
 MAXIMUM RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER OR DC TO DC CONVERTER (IF INSTALLED): XXX

**PV AC DISCONNECT**  
(2017 NEC ARTICLE 690.13 (B))

**PV SYSTEM AC DISCONNECT**

RATED AC OUTPUT CURRENT: XXX  
 NOMINAL OPERATING AC VOLTAGE: XXX

**PV METER SOCKET**

**PV METER**

**CPS ENERGY REVENUE METER SOCKET:**

**REVENUE METER**

**NOTE:** PLACARD BELOW REQUIRED ON BOTH REVENUE AND PV METER SOCKETS WHERE METERS HAVE BEEN APPROVED TO BE REMOTE FROM ONE ANOTHER.



**INVERTER OUTPUT CONNECTION:**  
(2017 NEC ARTICLE 705.12 (B) (2) (3) (b))

**WARNING: INVERTER OUTPUT CONNECTION DO NOT RELOCATE THIS OVERCURRENT DEVICE**

**RACEWAYS/ENCLOSURES CONTAINING DC CONDUCTORS:**

**WARNING: PHOTOVOLTAIC POWER SOURCE**

**NOTES:**

- 1- LABELING SHALL BE PERMANENTLY AFFIXED AND SUITABLE FOR THE ENVIRONMENT AND IN ACCORDANCE WITH 2017 NEC, ARTICLE 110.21 (B).
- 2- PV METER SHALL BE LOCATED ADJACENT TO THE REVENUE METER UNLESS PRE-APPROVED BY CPS ENERGY TO BE LOCATED REMOTELY DUE TO SPECIAL CIRCUMSTANCES.

**CUSTOMER SERVICE PANEL**  
DIRECTORY/POLAQUE (2017 NEC ARTICLE 705.10)

**CAUTION**

PLACED ON SERVICE PANEL AND ON SYSTEM DISCONNECTS FOR OTHER ELECTRIC POWER PRODUCTION SOURCES WHEN NOT GROUPED

**RAPID SHUTDOWN PLACARD (2017 NEC ARTICLE 690.56)**

**SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN**

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

PLACED ON SERVICE PANEL FOR SYSTEMS THAT SHUTDOWN THE ARRAY AND CONDUCTORS LEAVING ARRAY.

**RAPID SHUTDOWN PLACARD (2017 NEC ARTICLE 690.56)**

**SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN**

TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUTDOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN ARRAY. CONDUCTORS WITHIN ARRAY REMAIN ENERGIZED IN SUNLIGHT

PLACED ON SERVICE PANEL FOR SYSTEMS THAT ONLY SHUT DOWN CONDUCTORS WITHIN 10 FT OF LEAVING THE ARRAY.

**RAPID SHUTDOWN SWITCH:**  
(2017 NEC ARTICLE 690.12 (C))

**RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM**

PLACED ON INVERTER DC DISCONNECT SWITCH WHEN SWITCH SHUTS DOWN THE ARRAY AND CONDUCTORS LEAVING ARRAY

**PV/AC AGGREGATE PANEL:**

**PV/AC AGGREGATE PANEL: DO NOT REMOVE, ADD OR RELOCATE ANY CIRCUITS FROM THIS PANEL**

PROVIDE THIS LABEL FOR SOLAREEDGE AND MICRO-INVERTER SYSTEMS ONLY.

PROVIDE THIS LABEL FOR ALL OTHERS EXCEPT SOLAREEDGE AND MICRO-INVERTER SYSTEMS.

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(956) 203-0669

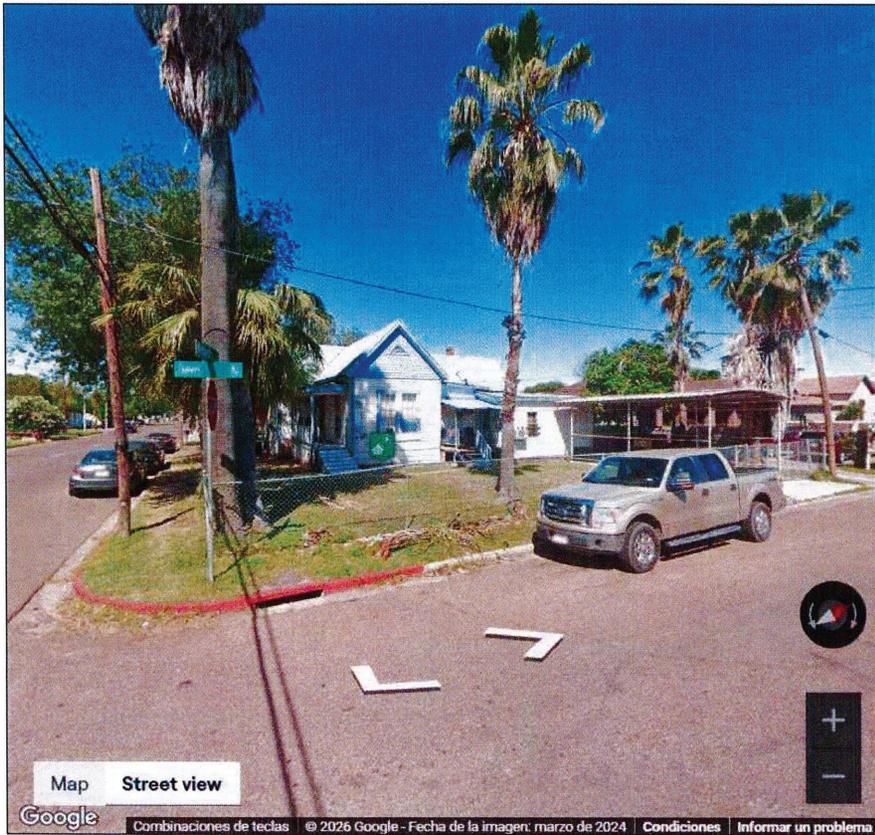
PROJECT:  
**6.10 KW-DC PV SYSTEM**  
1602 WASHINGTON STREET,  
LAREDO, TX 78040

SUBMITTAL DATE: 01-28-2026	REVISION DATE:	REVISION DATE:
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DESIGNED BY: A.E.Z.	DRAWN BY: A.E.Z.	CHECKED BY:
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SHEET TITLE:  
**LABELS**

SHEET ID:  
**E2.2**



① STREET VIEW

PEG ENERGY  
 7800 IH 10, SUITE 610  
 SAN ANTONIO, TX 78230  
 (956) 203-0669

PROJECT:  
**6.10 KW-DC PV SYSTEM**  
 1802 WASHINGTON STREET,  
 LAREDO, TX 78040

DESIGNED BY: A.E.Z.	SUBMITTAL DATE: 01-28-2026
DRAWN BY: A.E.Z.	REVISION DATE:
CHECKED BY:	REVISION DATE:

SHEET TITLE:  
**STREET VIEW**

SHEET ID:  
**E2.3**



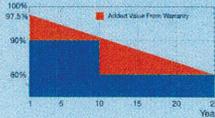
### JA Solar Holdings Co., Ltd.

JA Solar Holdings Co., Ltd. is a world-leading manufacturer of high-performance photovoltaic products that convert sunlight into electricity for residential, commercial, and utility-scale power generation. The company was founded on May 18, 2005, and was publicly listed on NASDAQ on February 7, 2007. JA Solar is one of the world's largest producers of solar cells and modules. Its standard and high-efficiency product offerings are among the most powerful and cost-effective in the industry.

A d d : NO.36, Jiang Chang San Road, Zhabei, Shanghai 200438, China  
 T e l : +86 21 6095 5888 / +86 21 6095 5999  
 F a x : +86 21 6095 5858 / +86 21 6095 5959  
 Email: sales@jasolar.com, market@jasolar.com

### Superior Warranty

- 10-year product warranty
- 25-year linear power output warranty



www.jasolar.com

JA SOLAR

# JAP6

-72/300-320/3BB  
 MULTICRYSTALLINE SILICON MODULE

### Key Features

- Multicrystalline modules designed for commercial and solar farm grid-tied applications
- High output, 16.51% highest conversion efficiency
- Designed for IEC DC 1000V applications
- Anti-reflective and anti-soiling surface reduces power loss from dirt and dust
- Outstanding performance in low-light irradiance environments
- Excellent mechanical load resistance: Certified to withstand high wind loads (2400Pa) and snow loads (5400Pa)
- High salt and ammonia resistance certified by TUV NORD

### Reliable Quality

- Positive power tolerance: 0~+5W
- 100% EL double-inspection ensures modules are defect-free
- Modules binned by current to improve system performance
- Potential Induced Degradation (PID) Resistant

### Comprehensive Certificates

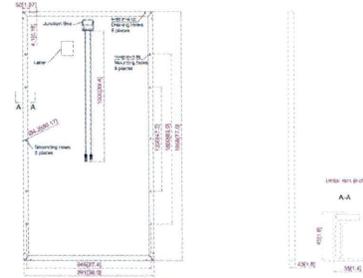
- IEC 61215, IEC 61730, UL1703, CEC Listed, MCS and CE
- ISO 9001: 2008: Quality management systems
- ISO 14001: 2004: Environmental management systems
- BS OHSAS 18001: 2007: Occupational health and safety management systems
- Environmental policy: The first solar company in China to complete Intertek's carbon footprint evaluation program and receive green leaf mark verification for our products



Specifications subject to technical changes and tests. JA Solar reserves the right of final interpretation.

# JAP6

-72/300-320/3BB  
 Engineering Drawings



■ customized cable length available upon request

### MECHANICAL PARAMETERS

Cell (mm)	Poly 156x156
Weight (kg)	26 (approx)
Glass Thickness	4 mm
Dimensions (LxWxH) (mm)	1956x991x45
Cable Cross Section Size (mm <sup>2</sup> )	4
No. of Cells and Connectors	72 (6x12)
Junction Box	IP67, 3 diodes
Connector	MC4 Compatible
Packaging Configuration	23 Per Pallet

### WORKING CONDITIONS

Maximum System Voltage	DC 1000V (IEC)
Operating Temperature	-40°C ~ +85°C
Maximum Series Fuse	15A
Maximum Static Load, Front (e.g., snow and wind)	5400Pa (112 lb/ft <sup>2</sup> )
Maximum Static Load, Back (e.g., wind)	2400Pa (50 lb/ft <sup>2</sup> )
NOCT	45±2°C
Application Class	Class A

### ELECTRICAL PARAMETERS

TYPE	JAP6-72-300/3BB	JAP6-72-305/3BB	JAP6-72-310/3BB	JAP6-72-315/3BB	JAP6-72-320/3BB
Rated Maximum Power at STC (W)	300	306	310	315	320
Open Circuit Voltage (Voc) [V]	45.20	45.35	45.45	45.60	45.82
Maximum Power Voltage (Vmp) [V]	36.41	36.71	37.00	37.28	37.56
Short Circuit Current (Isc) [A]	8.73	8.79	8.85	8.91	9.03
Maximum Power Current (Imp) [A]	8.24	8.31	8.38	8.45	8.52
Module Efficiency [%]	15.48	15.73	15.99	16.25	16.51
Power Tolerance (W)	-0 ~ +5W				
Temperature Coefficient of Isc (αisc)	+0.058%/°C				
Temperature Coefficient of Voc (αVoc)	-0.330%/°C				
Temperature Coefficient of Pmax (αPmax)	-0.410%/°C				
STC	Irradiance 1000W/m <sup>2</sup> , Cell Temperature 25°C, Air Mass 1.5				

### NOCT

TYPE	JAP6-72-300/3BB	JAP6-72-305/3BB	JAP6-72-310/3BB	JAP6-72-315/3BB	JAP6-72-320/3BB
Max Power (Pmax) [W]	217.80	221.43	225.06	228.69	232.32
Open Circuit Voltage (Voc) [V]	42.31	42.47	42.58	42.63	42.78
Max Power Voltage (Vmp) [V]	33.77	33.91	34.05	34.08	34.28
Short Circuit Current (Isc) [A]	6.89	6.93	6.99	7.05	7.16
Max Power Current (Imp) [A]	6.45	6.53	6.61	6.71	6.78
Condition	Under Normal Operating Cell Temperature, Irradiance of 800 W/m <sup>2</sup> , spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s				

Electrical data in this catalog do not refer to a single module and they are not part of the offer. They only serve for comparison among different module types.

JA Solar 01.2015

JA SOLAR

PEG ENERGY  
 7800 IH 10, SUITE 610  
 SAN ANTONIO, TX 78230  
 (956) 203-0689

PROJECT:  
 6.10 KW-DC PV SYSTEM  
 1602 WASHINGTON STREET,  
 LAREDO, TX 78040

SUBMITTAL DATE:  
 01-28-2016  
 REVISION DATE:  
 REVISION DATE:

DESIGNED BY:  
 A.E.Z.  
 DRAWN BY:  
 A.E.Z.  
 CHECKED BY:

SHEET TITLE:  
**MODULES DATA SHT**

SHEET ID:  
**E3.1**



Raising the bar in innovative DC MLPE solar power systems

# RSD-D

- Meets NEC 2017, 2020&2023 (690.12) requirements
- Executes rapid shutdown of system when Transmitter signal is absent
- Meets SunSpec requirements
- Dual input channel

RSD-D meets SunSpec requirements, maintaining normal function by continually receiving a heartbeat signal from the APsmart Transmitter. The RSD-D executes rapid system shutdown when the Transmitter signal is absent. Users can manually execute rapid shutdown using Transmitter breaker switch.<sup>(1)(2)</sup>

## RSD-D TECHNICAL DATA

MODEL	RSD-D-15	RSD-D-20
<b>INPUT DATA (DC)</b>		
Range of Input Operating Voltage	8-65V Per Channel	
Maximum Cont. Input Current (Imax)	15A Per Channel	20A Per Channel
Maximum Short Circuit Current (Isc)	25A	
<b>OUTPUT DATA (DC)</b>		
Range of Output Operating Voltage	16-130V	
Maximum Cont. Output Current	15A	20A
Maximum System Voltage	1000V/1500V	
Maximum Series Fuse Rating	30A	
<b>MECHANICAL DATA</b>		
Operating Ambient Temperature Range	-40 oF to +167 oF (-40 °C to +75 °C)	
Dimensions (without cable & connectors)	5.5" x 2" x 0.8"(140 mm x 50.6 mm x 20 mm)	
Cable Length	Input 500mm/Output 2400mm	
Cable Cross Section Size	TUV 4mm <sup>2</sup> /UL12AWG	
Connector	Input: Stäubli MC4 PV-KBT4&KST4 or Customize Output: APsystems specified or Customized	
Enclosure Rating	NEMA Type 6P/IP68	
Protection Temperature	100°C	
<b>FEATURES &amp; COMPLIANCE</b>		
Communication Compliance	PLC	
Safety Compliance	NEC 2017, 2020&2023 (690.12); UL1741; CSA C22.2 No. 330-17; IEC/EN62109-1	
EMC Compliance	FCC Part15; ICES-003	



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<sup>(1)</sup> RSD-D does not have automatic shutdown function for arc detection. When the system is abnormal, the transmitter signal is cut off by pulling the gate, which triggers shutdown.

<sup>(2)</sup> RSD-D is designed to reduce the risk of fire suppression but does not solve the risk of an arc fire.

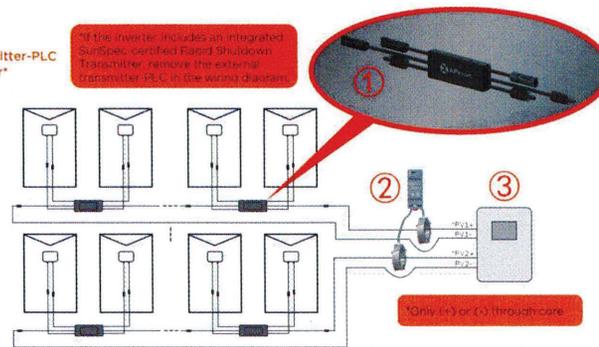
REV.2.3 2023-10-07



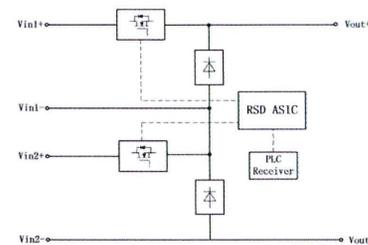
## RSD-D WIRING DIAGRAM

- 1 RSD-D
- 2 Transmitter-PLC
- 3 Inverter\*

\*The inverter includes an integrated SunSpec-certified Rapid Shutdown Transmitter, remove the external transmitter-PLC in the wiring diagram.



## WORKING SCHEMATIC DIAGRAM



## ORDERING INFORMATION

426101	1500V UL/1000V TUV, 15A, 2.4m cable, Stäubli MC4 PV-KBT4&KST4
446101	1500V UL/1000V TUV, 20A, 2.4m cable, Stäubli MC4 PV-KBT4&KST4
4261xx*	15A, 2.4m cable, Customize connector
4461xx*	20A, 2.4m cable, Customize connector

\*Please see the RSD Series Ordering information



8627 N Mopac Expy, Suite 150, Austin, TX 78759 | +1-737-218-8486 |  
+1-866-374-8538 | support@APsmartGlobal.com | APsmartGlobal.com

REV.2.3 2023-10-07

PEG ENERGY  
7800 IH 10, SUITE 610  
SAN ANTONIO, TX 78230  
(956) 203-0669

PROJECT:  
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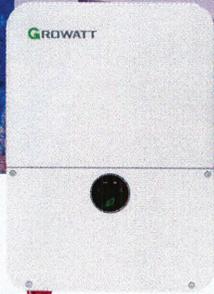
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SHEET TITLE:  
MODULES  
DATA SHEET

SHEET ID:  
E3.2

# MIN 3000~7600TL-XH-US

- Battery Ready for DC Coupled and AC Coupled systems
- With backup power and dark start operations
- Support RSD and AFCI
- Support multiple energy management modes: Self-consumption, Zero Export, TOU and Off-grid
- Comply with UL1741SA/SB, CA Rule 21 & HECO



**GROWATT**

<https://us.growatt.com>

P O W E R  
- I N G  
T O M O R R O W

Datasheet	MIN 3000TL-XH-US	MIN 3800TL-XH-US	MIN 5000TL-XH-US	MIN 6000TL-XH-US	MIN 7600TL-XH-US
<b>Input Data (PV)</b>					
Max. Recommended PV Power(GTCT)	6000W	7600W	10000W	12000W	15200W
DC/AC Ratio			2		
Max. DC System Voltage			600V		
Startup Voltage			80V		
Full load voltage range	120-500V	150-500V	200-500V	140-500V	200-500V
Nominal Voltage			360V		
Operating Voltage Range			Growatt Battery 50~550V/LG Battery 50~450V		
No. of MPPT	2	2	2	3	3
No. of PV Strings per MPPT	2/2	2/2	2/2	2/2/2	2/2/2
Max. Input Current per MPPT			13.5A		
Max. Short-circuit Current per MPPT			16.9A		
<b>Input/Output Data (Battery)</b>					
I/O Voltage Range	Growatt APX Battery 380V~550V / Growatt ARO Battery 360V~550V/LG Battery 360V~450V				
Nominal DC Voltage	400V				
I/O DC Current	8.9A	11.1A	14.4A	17.2A	21.7A
I/O DC Power	3200W	4000W	5200W	6700W	8500W
Battery Technology	LFP				
Battery Capacity per Module	APX 8kWh / ARO 3.3kWh / LG 10kWh, 16kWh / LG emblock S10: 10.6kWh / LG emblock S14: 14.1kWh / LG emblock S17: 17.7kWh				
Scalability	APX 50~300kWh / ARO 6.6~39kWh / LG Prime 10H 10~20kWh 16H 16~32kWh / LG emblock S10: 10.6~21.2kWh S14: 14.1~28.2kWh S17: 17.7~35.4kWh				
Compatible Batteries	Growatt APX HV Battery / Growatt ARO HV Battery / LG 10H Prime / LG 16H Prime / LG emblock S10 / LG emblock S14 / LG emblock S17				
<b>Output Data (AC)</b>					
AC Nominal Power@240V AC	3000W	3800W	5000W	6000W	7600W
AC Nominal Power@208V AC	2400W	3200W	4200W	5200W	6500W
Max. AC Apparent Power	3000VA	3800VA	5000VA	6000VA	7600VA
Nominal AC Voltage	208V/240V				
AC Voltage Range @208V AC @240V AC	181V~229V/211V~264V				
AC Grid Frequency	50/60Hz				
AC Grid Frequency Range	±1%				
Max. Output Current	12.5A	16A	21A	25A	32A
Max. Output Overcurrent Protection	20A	26A	34A	40A	49A
Power Factor@(Nominal Power)	>0.99				
Adjustable Power Factor	0.8 Leading~0.8 Lagging				
THD	< 3%				
AC Grid Connection Type	L1/L2/N/PE				
<b>Output Data (Backup)</b>					
AC Nominal Power	3000W	3800W	5000W	6000W	7600W
Max. AC Power Output	4700VA	6000VA	7900VA	9400VA	12000VA
Nominal AC Voltage	240V				
Max. Output Current	20A	25A	33A	40A	50A
THD	2% linear load, 5% non-linear load				
AC Port-V2 inverter	2AC Ports, 1 for ON Grid, 1 for Backup(EPS) compatible with ATS-US for Partial Home Backup				
AC Port-V3 inverter	1AC Port for 1 ON Grid compatible with SYN200-US for Whole Home Backup				
<b>Efficiency</b>					
Max Efficiency	98.0%		98.2%	98.4%	98.4%
CEC Efficiency@240V AC	97.0%	97.0%	97.5%	97.0%	97.5%
CEC Efficiency@208V AC	96.5%	97.0%	97.5%	97.0%	97.0%
<b>Protection Devices</b>					
DC Reverse-polarity Protection	Yes				
DC Switch	Yes				
DC Surge Protection	Type II				
Insulation Resistance Monitoring	Yes				
AC Surge Protection	Type III				
AC Short-circuit Protection	Yes				
Ground Fault Monitoring	Yes				
Grid Monitoring	Yes				
Anti-islanding Protection	Yes				
Residual-current Monitoring Unit	Yes				
AFCI Protection	Yes				
<b>General Data</b>					
Dimensions (W / H / D)	15.75/22.41/6.98 inch (400/569/170 mm)				
Weight	32.3lbs (14.65kg)				
Operating Temperature Range	-13°F ~ +140°F (-25°C ~ +60°C) de-rating above 113°F				
Altitude	9843ft (3000m)				
Internal Consumption at Night	<1W (for PV inverter)<5W (for storage inverter)				
Cooling	Natural Convection				
Electronics Protection Degree	NEMA4X (IP65)				
Relative Humidity	0~95%				
<b>Interfaces</b>					
RS485	Yes				
WiFi/4G Communication	Optional				
Warranty: 10 Years	Yes/optional for extended 15 and 20 years warranty				
Revenue Grade Meter	ANSI C12.20 (meet 0.5% accuracy)				
*Support up to 50HP motor load					
*The above parameters are established in accordance with APX, LG battery					
*Due to the characteristics of the LG emblock S10 / LG emblock S14 / LG emblock S17, when the PV is disconnected the inverter of BESS system will disconnect the grid and restart					
*Optional built-in AFI transmitter (N.C is Surge RSD certified)					

GROWATT USA INC. Address: 9227 Reseda Blvd. #435 Northridge, CA 91324. Sales Hotline: 818 800 9455 Service Hotline: 1866 684 0298 Email: usa@growatt.com

PROJECT:  
PEG ENERGY  
7800 IH 10, SUITE 610  
SAN ANTONIO, TX 78230  
(956) 203-0669

6.10 KW-DC PV SYSTEM  
1602 WASHINGTON STREET,  
LAREDO, TX 78040

SUBMITTAL DATE:  
01-28-2026  
REVISION DATE:

DESIGNED BY:  
A.E.Z.  
DRAWN BY:  
A.E.Z.  
CHECKED BY:

SHEET TITLE:  
INVERTER  
DATA SHEET

SHEET ID:  
E3.3

June 4, 2019

Sol Attach, LLC  
535 Shady Hollow  
New Braunfels, TX 78132



Attn: Kevin Stapleton, CEO

RE: Solar Mounting System for Pitched Rooftops with Sol Attach Roof Mounting System in Texas

To Whom It May Concern:

Anchor Engineering, Inc. has reviewed the Sol Attach Roof Mounting System for the design assumptions outlined below and we have concluded that the Sol Attach Roof Mounting System is in compliance with the following codes/standards.

1. ASCE 7-05 – Minimum Design Loads for Buildings and Other Structures, by ASCE/SEI, 2005.
2. ASCE 7-10 – Minimum Design Loads for Buildings and Other Structures, by ASCE/SEI, 2010.
3. ASCE 7-16 – Minimum Design Loads for Buildings and Other Structures, by ASCE/SEI, 2018.
4. 2006 IBC/ 2009 IBC/ 2012 IBC/ 2015 IBC, 2018 IBC by International Code Council, 2006/2009/2012/2015/2018.
5. 2006 IRC/ 2009 IRC/ 2012 IRC/ 2015 IRC, 2018 IRC by International Code Council, 2006/2009/2012/2015/2018.

Design Assumptions:

- Maximum mean roof height of no more than 30'-0" as defined by ASCE 7-05/ASCE 7-10/ASCE7-16.
- Importance Factor of no more than 1.0 as defined by ASCE 7-05/ASCE 7-10/ASCE7-16.
- Dry service conditions.
- Array may be located within roof zones 1, 2, or 3.
- Analysis of the mount is based upon the maximum effects of either the largest gravity loads or wind uplift loads. The point loads (either positive or negative) can act in either direction depending upon the type of loading (i.e. wind, snow...etc.).
- Fasteners installed per manufacturer specifications.
- When using the Sol Attach, four PV mounts per PV module such that adjacent modules share two PV mounts.
- Use two Sol Attach per side unless noted otherwise (See charts below).
- At end clamp locations the Sol Attach Mount is only activated by one half of the panel.
- Snow load = 5 psf.

Product Specifications:

- Aluminum alloy is 6061-T6.
- Kwikseal II Woodbinder Screws. The screws must penetrate the sheathing fully and have a minimum of three threads exposed.
- (3) screws per Sol Attach Mount at end clamp locations.

Module Specifications:

- Modules may be installed in landscape or portrait orientation.
- Modules may have a maximum short side dimension of 39.1".
- Modules may have a maximum long side dimension of 77.1".
- Modules may be a maximum of 59.5lb.

❖ 2535 17<sup>th</sup> STREET, DENVER, CO 80211 ❖ 303-783-4797 ❖ 303-830-9133 FAX ❖



Roof Pitch: 7-27°			
Wind Speed, (V <sub>ult</sub> )	Wind Speed, (V <sub>wnd</sub> )	Exposure	Fastener Req'd per Sol Attach w/ 7/16" OSB
155 mph ≥ x	120 mph ≥ x	C	(6) Screws
155 mph ≥ x > 148 mph	120 mph ≥ x > 115 mph	B	(6) Screws
148 mph ≥ x	115 mph ≥ x	B	(4) Screws

Roof Pitch: 27-45°			
Wind Speed, (V <sub>ult</sub> )	Wind Speed, (V <sub>wnd</sub> )	Exposure	Fastener Req'd per Sol Attach w/ 7/16" OSB
155 mph ≥ x >	120 mph ≥ x	B, C	(4) Screws

Please see attached data sheets for the Sol Attach Roof Mounting System specification sheet.

The Sol Attach Roof Mounting System was evaluated for pull-out resistance of the fasteners and punching shear in the OSB. Review of any building structural element is outside the scope of this letter.

Should questions arise, or if further information is required, please contact our office.

Sincerely,  
Anchor Engineering, Inc.



Firm # 1979

Jason Stebbins, P.E.  
Project Manager

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PROJECT:  
6.10 KW-DC PV SYSTEM  
1602 WASHINGTON STREET,  
LAREDO, TX 78040

DESIGNED BY: A.E.Z.	SUBMITTAL DATE: 01-26-2018
DRAWN BY: A.E.Z.	REVISION DATE:
CHECKED BY:	REVISION DATE:

SHEET TITLE:  
COMPLIANCE  
LETTER

SHEET ID:  
E3.4