


ABBREVIATIONS	ELECTRICAL NOTES	JURISDICTION NOTES																									
<p>A AMPERE AC ALTERNATING CURRENT BLDG BUILDING CONC CONCRETE DC DIRECT CURRENT EGC EQUIPMENT GROUNDING CONDUCTOR (E) EXISTING EMT ELECTRICAL METALLIC TUBING FSB FIRE SET-BACK GALV GALVANIZED GEC GROUNDING ELECTRODE CONDUCTOR GND GROUND HDG HOT DIPPED GALVANIZED I CURRENT Imp CURRENT AT MAX POWER Isc SHORT CIRCUIT CURRENT kVA KILOVOLT AMPERE kW KILOWATT LBW LOAD BEARING WALL MIN MINIMUM (N) NEW NEUT NEUTRAL NTS NOT TO SCALE OC ON CENTER PL PROPERTY LINE POI POINT OF INTERCONNECTION PV PHOTOVOLTAIC SCH SCHEDULE S STAINLESS STEEL STC STANDARD TESTING CONDITIONS TYP TYPICAL UPS UNINTERRUPTIBLE POWER SUPPLY V VOLT Vmp VOLTAGE AT MAX POWER Voc VOLTAGE AT OPEN CIRCUIT W WATT 3R NEMA 3R, RAIN TIGHT</p>	<p>1. THIS SYSTEM IS GRID-INTERTIED VIA A UL-LISTED POWER-CONDITIONING INVERTER. 2. THIS SYSTEM HAS NO BATTERIES, NO UPS. 3. A NATIONALLY-RECOGNIZED TESTING LABORATORY SHALL LIST ALL EQUIPMENT IN COMPLIANCE WITH ART. 110.3. 4. WHERE ALL TERMINALS OF THE DISCONNECTING MEANS MAY BE ENERGIZED IN THE OPEN POSITION, A SIGN WILL BE PROVIDED WARNING OF THE HAZARDS PER ART. 690.17. 5. EACH UNGROUNDED CONDUCTOR OF THE MULTIWIRED BRANCH CIRCUIT WILL BE IDENTIFIED BY PHASE AND SYSTEM PER ART. 210.5. 6. CIRCUITS OVER 250V TO GROUND SHALL COMPLY WITH ART. 250.97, 250.92(B). 7. DC CONDUCTORS EITHER DO NOT ENTER BUILDING OR ARE RUN IN METALLIC RACEWAYS OR ENCLOSURES TO THE FIRST ACCESSIBLE DC DISCONNECTING MEANS PER ART. 690.31(E). 8. ALL WIRES SHALL BE PROVIDED WITH STRAIN RELIEF AT ALL ENTRY INTO BOXES AS REQUIRED BY UL LISTING. 9. MODULE FRAMES SHALL BE GROUNDED AT THE UL-LISTED LOCATION PROVIDED BY THE MANUFACTURER USING UL LISTED GROUNDING HARDWARE. 10. MODULE FRAMES, RAIL, AND POSTS SHALL BE BONDED WITH EQUIPMENT GROUND CONDUCTORS.</p>	<p style="text-align: center;">VICINITY MAP</p>  <p style="text-align: center;">INDEX</p> <p>Sheet 1 COVER SHEET Sheet 2 SITE PLAN Sheet 3 STRUCTURAL VIEWS Sheet 4 STRUCTURAL VIEWS Sheet 5 UPLIFT CALCULATIONS Sheet 6 THREE LINE DIAGRAM Cutsheets Attached</p> <table border="1" data-bbox="2439 1552 3039 1743"> <thead> <tr> <th>REV</th> <th>BY</th> <th>DATE</th> <th>COMMENTS</th> </tr> </thead> <tbody> <tr> <td>REV A</td> <td>JEQG</td> <td>2/27/19</td> <td>BATTERY REMOVAL</td> </tr> <tr> <td>*</td> <td>*</td> <td>*</td> <td>*</td> </tr> <tr> <td>*</td> <td>*</td> <td>*</td> <td>*</td> </tr> <tr> <td>*</td> <td>*</td> <td>*</td> <td>*</td> </tr> <tr> <td>*</td> <td>*</td> <td>*</td> <td>*</td> </tr> </tbody> </table>		REV	BY	DATE	COMMENTS	REV A	JEQG	2/27/19	BATTERY REMOVAL	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
REV	BY	DATE	COMMENTS																								
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LICENSE	GENERAL NOTES																										
	<p>1. ALL WORK SHALL COMPLY WITH THE 2015 IRC NJ EDITION. 2. ALL ELECTRICAL WORK SHALL COMPLY WITH THE 2014 NATIONAL ELECTRIC CODE.</p>																										
MODULE GROUNDING METHOD: ZEP SOLAR																											
AHJ: Voorhees Township																											
UTILITY: Atlantic City Electric																											

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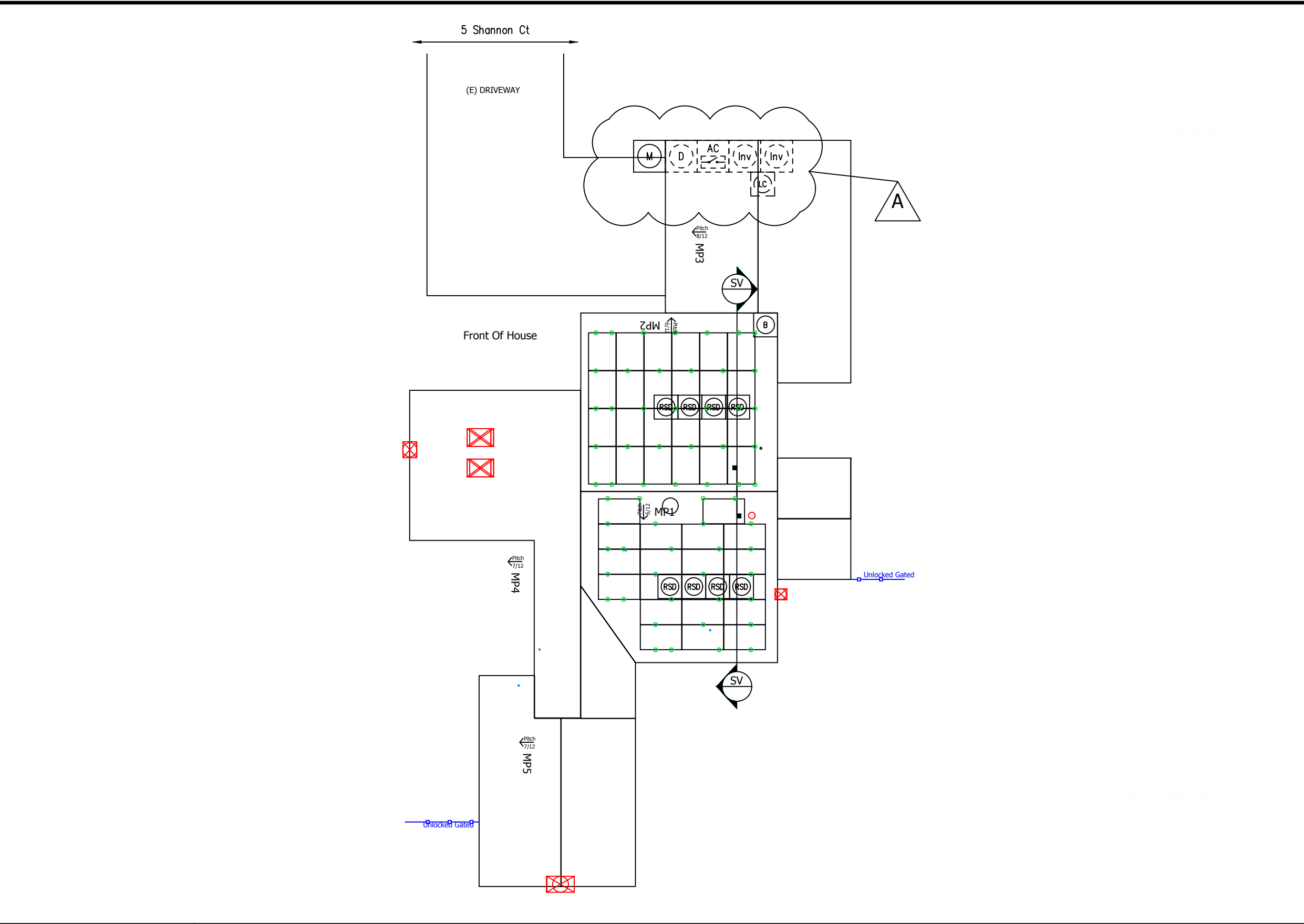
JOB NUMBER: JB-0809538 00
MOUNTING SYSTEM: ZS Comp V4 w Flashing-Insert
MODULES: (44) SolarCity Standard #SC330
INVERTER: Delta # Solivia 7.6 TL

CUSTOMER: DANIEL LEVY
5 SHANNON CT
VOORHEES TOWNSHIP, NJ 08043

DESCRIPTION: 14.52 KW PV ARRAY
PAGE NAME: COVER SHEET

DESIGN: Jose Eduardo Quezada Gomez
SHEET: 1 REV: a DATE: 2/27/2019





MP1	PITCH: 25 AZIMUTH: 156 MATERIAL: Comp Shingle	ARRAY PITCH: 25 ARRAY AZIMUTH: 156 STORY: 2 Stories
MP2	PITCH: 25 AZIMUTH: 336 MATERIAL: Comp Shingle	ARRAY PITCH: 25 ARRAY AZIMUTH: 336 STORY: 2 Stories

LEGEND

- (E) UTILITY METER & WARNING LABEL
- INVERTER W/ INTEGRATED DC DISCO & WARNING LABELS
- DC DISCONNECT & WARNING LABELS
- AC DISCONNECT & WARNING LABELS
- DC JUNCTION/COMBINER BOX & LABELS
- DISTRIBUTION PANEL & LABELS
- LOAD CENTER & WARNING LABELS
- DEDICATED PV SYSTEM METER
- RAPID SHUTDOWN
- STANDOFF LOCATIONS
- CONDUIT RUN ON EXTERIOR
- CONDUIT RUN ON INTERIOR
- GATE/FENCE
- HEAT PRODUCING VENTS ARE RED
- INTERIOR EQUIPMENT IS DASHED

SITE PLAN

Scale: 1/16" = 1'



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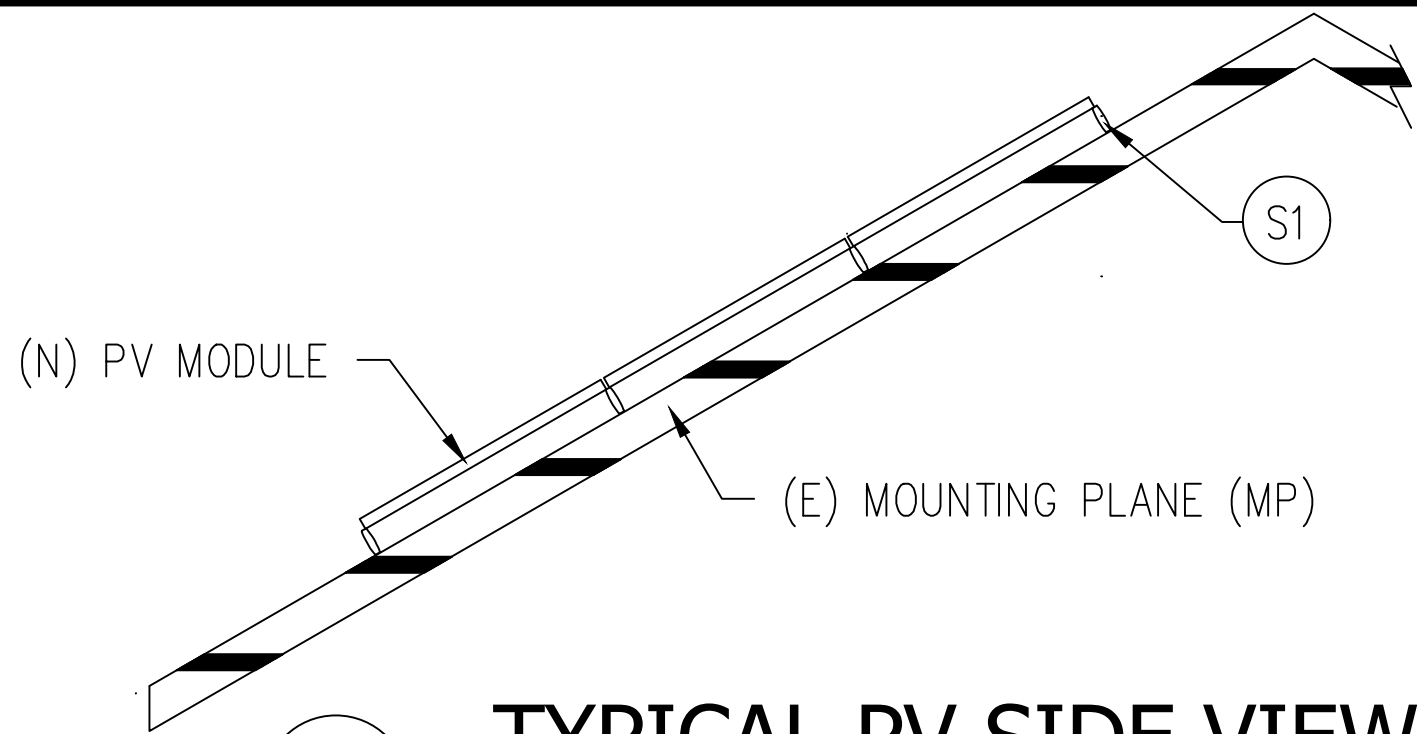
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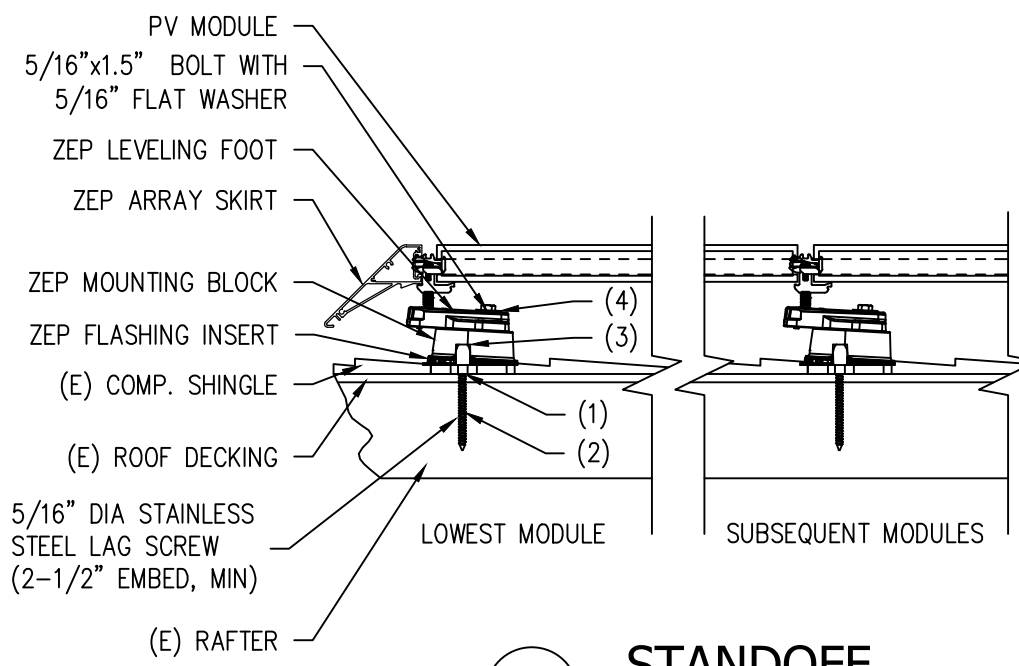
DESCRIPTION: 14.52 KW PV ARRAY
 PAGE NAME: SITE PLAN

DESIGN: Jose Eduardo Quezada Gomez
 SHEET: 2 REV: a DATE: 2/27/2019





SV **TYPICAL PV SIDE VIEW**
NTS



- INSTALLATION ORDER**
- (1) LOCATE RAFTER, MARK HOLE LOCATION, AND DRILL PILOT HOLE.
 - (2) ATTACH FLASHING INSERT TO MOUNTING BLOCK AND ATTACH TO RAFTER USING LAG SCREW.
 - (3) INJECT SEALANT INTO FLASHING INSERT PORT, WHICH SPREADS SEALANT EVENLY OVER THE ROOF PENETRATION.
 - (4) INSTALL LEVELING FOOT ON TOP OF MOUNTING BLOCK & SECURELY FASTEN WITH BOLT.

S1 **STANDOFF**
Scale: 1 1/2" = 1'

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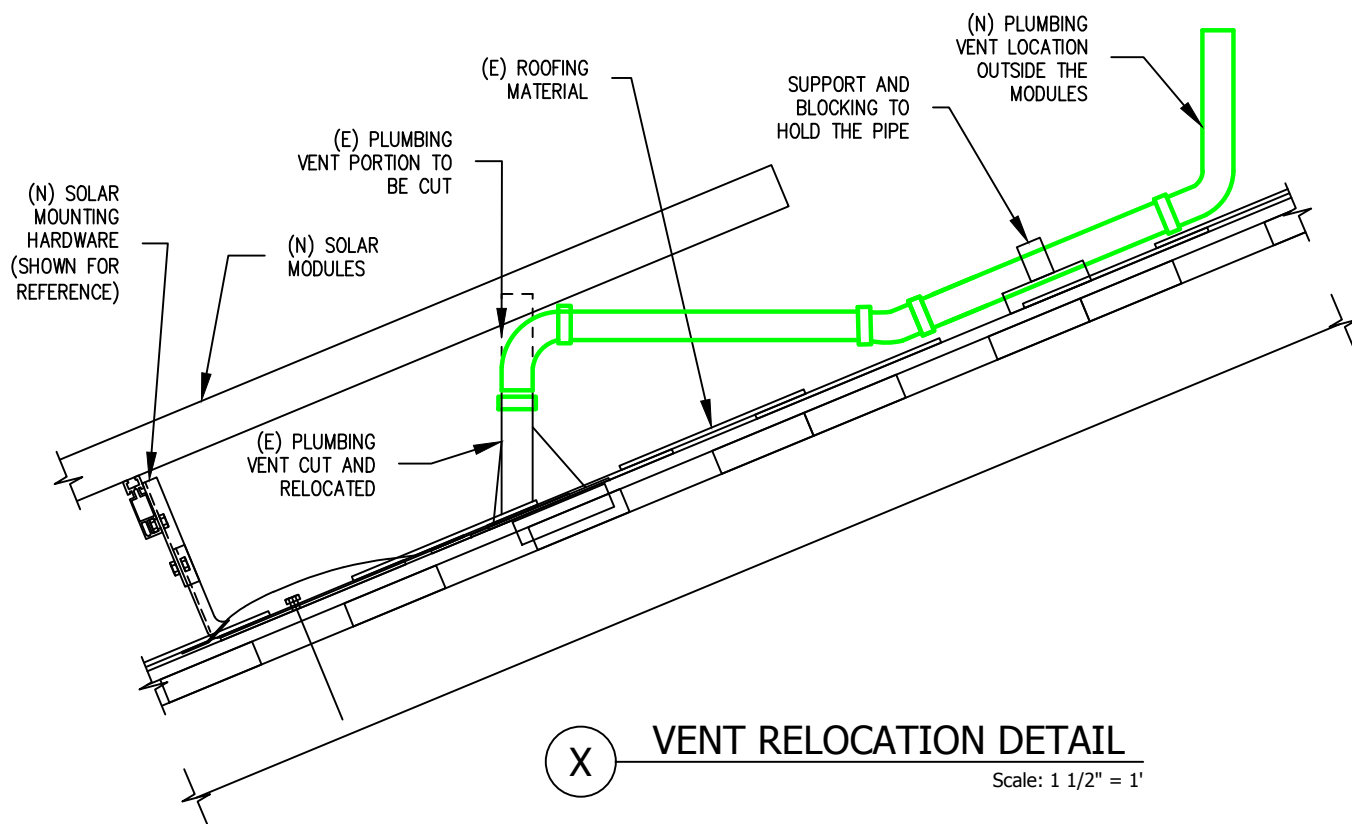
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DESCRIPTION: 14.52 KW PV ARRAY
 PAGE NAME: STRUCTURAL VIEWS

DESIGN: Jose Eduardo Quezada Gomez
 SHEET: 3 REV: a DATE: 2/27/2019





X VENT RELOCATION DETAIL
Scale: 1 1/2" = 1'

DESIGN SUMMARY

02.27.2019
Version #74.1
Job# 0809538

Jobsite Specific Design Criteria

Design Code		ASCE 7-10	
Importance Factor	I	1.0	
Ultimate Wind Speed	V-Ult	115 mph	Fig. 1609A
Exposure Category		C	Section 26.7
Ground Snow Load	pg	25.0 psf	ASCE Table 7-1

MP Specific Design Information

MP Name	MP1	MP2				
Roofing	Comp Roof	Comp Roof				
Standoff	Comp Mount SRV	Comp Mount SRV				
Pitch	25°	25°				
SL/RL: PV	13.2 psf	13.2 psf				
SL/RL: Non-PV	18.5 psf	18.5 psf				

Standoff Spacing and Layout

MP Name	MP1	MP2				
X-Spacing	72"	72"				
X-Cantilever	24"	24"				
Y-Spacing	41"	41"				
Y-Cantilever	NA	NA				
X-Spacing	48"	48"				
X-Cantilever	21"	21"				
Y-Spacing	62"	62"				
Y-Cantilever	NA	NA				
Layout	Staggered	Staggered				

X and Y are maximums that are always relative to the structure framing that supports the PV. X is across rafters and Y is along rafters.

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DESCRIPTION:
14.52 KW PV ARRAY

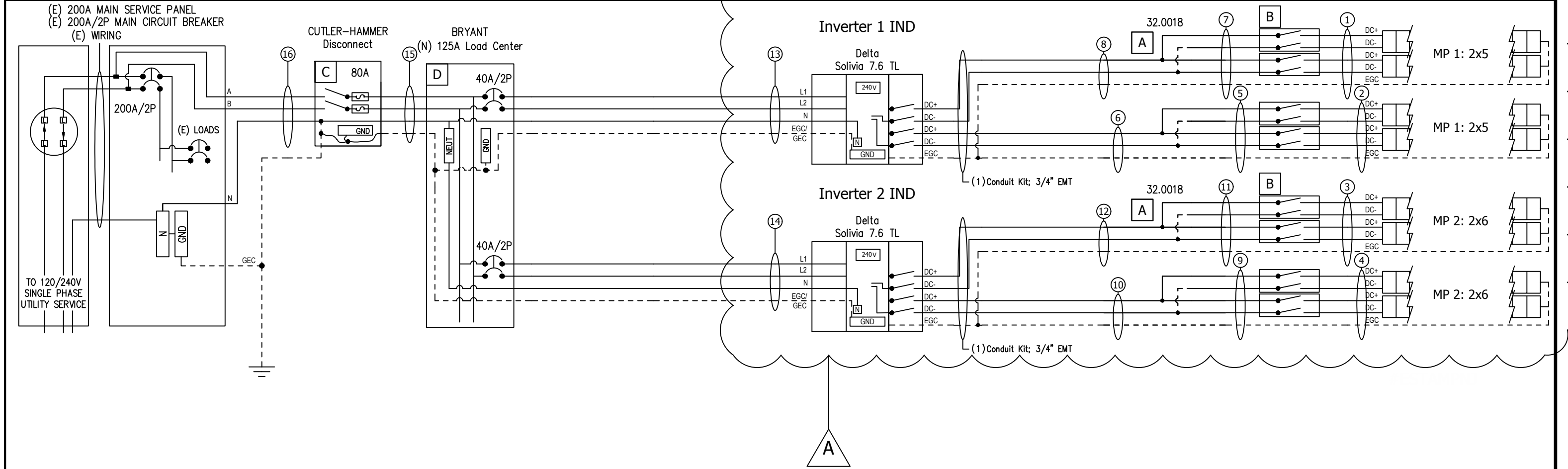
PAGE NAME:
UPLIFT CALCULATIONS

DESIGN:
Jose Eduardo Quezada Gomez

SHEET: 5 REV: a DATE: 2/27/2019

TESLA

GROUND SPECS BOND (N) #8 GEC TO (N) GROUND ROD AT PANEL WITH IRREVERSIBLE CRIMP	MAIN PANEL SPECS Panel Number: CH30JMM200 Meter Number: 28285848 Underground Service Entrance	GENERAL NOTES Inv 1: DC Ungrounded Inv 2: DC Ungrounded Tie-In: Supply Side Connection	INVERTER SPECS INV 1 - (1) Delta # Solivia 7.6 TL Inverter; 7600W, 240V, 97.5%, Zigbee, PLC, RGM LABEL: A INV 2 - (1) Delta # Solivia 7.6 TL Inverter; 7600W, 240V, 97.5%, Zigbee, PLC, RGM LABEL: B INV 3	MODULE SPECS - (44) SolarCity Standard #SC330 PV Module; 330W, 311.3 PTC, 40MM, Blk Frm, Wht Backsheet, MC4, 600v, ZEP, Voc: 69.7 Vpmax: 58 Isc AND Imp ARE SHOWN IN THE DC STRINGS IDENTIFIER	LICENSE
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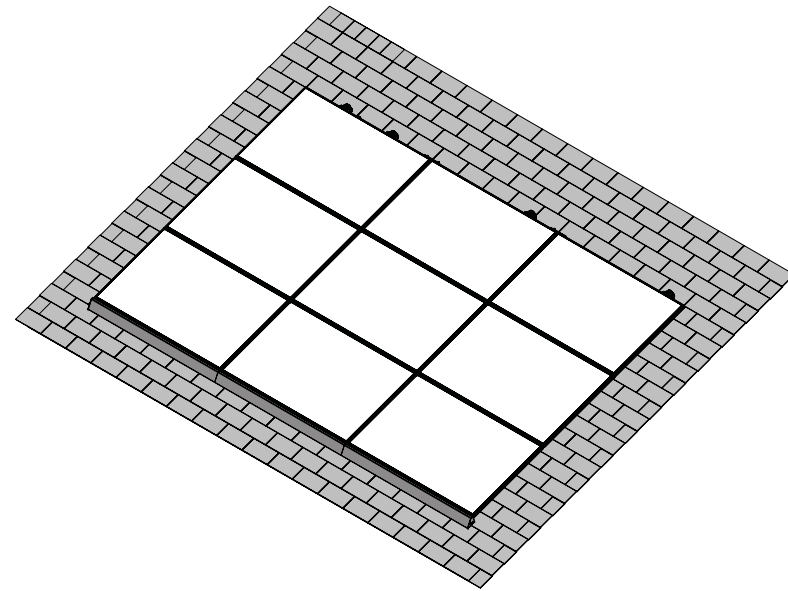


Voc* = MAX VOC AT MIN TEMP

POI (1) Ground Rod 5/8" x 8', Copper (2) ILSCO # IPC 4/0-2/0 Insulation Piercing Connector; Main 4/0-2, Tap 2/0-6	C (1) CUTLER-HAMMER # DG223NRB Disconnect; 100A, 240Vac, Fusible, NEMA 3R (1) CUTLER-HAMMER # DG100NB Ground/Neutral Kit; 60-100A, General Duty (DG) (1) CUTLER-HAMMER # DS16FK Class R Fuse Kit (2) FERRAZ SHAWMUT # TR80R Fuse; 80A, 250V, Class RK5 PV BACKFEED OCP	AC	B (8) Delta # Solivia Smart RSS Rapid Shutdown, 600V, 20A, NEMA 4X, MC4	DC
SSC SUPPLY SIDE CONNECTION. DISCONNECTING MEANS SHALL BE SUITABLE AS SERVICE EQUIPMENT AND SHALL BE RATED PER NEC.	D (1) BRYANT # BR48L125RP Load Center; 125A, 120/240V, NEMA 3R (2) CUTLER-HAMMER # BR240 Breaker; 40A/2P, 2 Spaces	15 (1) AWG #4, THWN-2, Black (1) AWG #4, THWN-2, RED Cu, Stranded; 1' (1) AWG #4, THWN-2, White NEUTRAL Vmp = 240 VAC Imp = 63.4 AAC (1) AWG #8, THWN-2, Green EGC/GEC - (1) CONDUIT KIT 1' x 10' EMT Conduit	7 (4) AWG #10, PV Wire, 600V, Black Voc* = 381.21 VDC Isc = 12.14 ADC (1) AWG #10, THWN-2, Green EGC Vmp = 290 VDC Imp = 11.4 ADC (1) Conduit Kit; 3/4" EMT	1 (4) AWG #10, PV Wire, 600V, Black Voc* = 381.21 VDC Isc = 6.07 ADC (1) AWG #10, THWN-2, Green EGC Vmp = 290 VDC Imp = 5.7 ADC (1) Conduit Kit; 3/4" EMT
16 (1) AWG #4, THWN-2, Black (1) AWG #4, THWN-2, RED Cu, Stranded; 1' (1) AWG #4, THWN-2, White NEUTRAL Vmp = 240 VAC Imp = 63.4 AAC (1) AWG #8, Solid Bare Copper GEC - (1) CONDUIT KIT 1' x 10' EMT Conduit	13 (1) AWG #8, THWN-2, Black (1) AWG #8, THWN-2, Red (1) AWG #10, THWN-2, White NEUTRAL Vmp = 240 VAC Imp = 31.7 AAC (1) AWG #8, THWN-2, Green EGC/GEC - (1) CONDUIT KIT; 3/4" EMT	8 (2) AWG #10, PV Wire, 600V, Black Voc* = 381.21 VDC Isc = 12.14 ADC (1) AWG #10, THWN-2, Green EGC Vmp = 290 VDC Imp = 11.4 ADC (1) Conduit Kit; 3/4" EMT	9 (4) AWG #10, PV Wire, 600V, Black Voc* = 457.45 VDC Isc = 12.14 ADC (1) AWG #10, THWN-2, Green EGC Vmp = 348 VDC Imp = 11.4 ADC (1) Conduit Kit; 3/4" EMT	2 (4) AWG #10, PV Wire, 600V, Black Voc* = 381.21 VDC Isc = 6.07 ADC (1) AWG #10, THWN-2, Green EGC Vmp = 290 VDC Imp = 5.7 ADC (1) Conduit Kit; 3/4" EMT
	14 (1) AWG #8, THWN-2, Black (1) AWG #8, THWN-2, Red (1) AWG #10, THWN-2, White NEUTRAL Vmp = 240 VAC Imp = 31.7 AAC (1) AWG #8, THWN-2, Green EGC/GEC - (1) CONDUIT KIT; 3/4" EMT	10 (1) AWG #10, THWN-2, Green EGC Voc* = 457.45 VDC Isc = 12.14 ADC (2) AWG #10, PV Wire, 600V, Black Vmp = 348 VDC Imp = 11.4 ADC (1) Conduit Kit; 3/4" EMT	11 (4) AWG #10, PV Wire, 600V, Black Voc* = 457.45 VDC Isc = 12.14 ADC (1) AWG #10, THWN-2, Green EGC Vmp = 348 VDC Imp = 11.4 ADC (1) Conduit Kit; 3/4" EMT	3 (4) AWG #10, PV Wire, 600V, Black Voc* = 457.45 VDC Isc = 6.07 ADC (1) AWG #10, THWN-2, Green EGC Vmp = 348 VDC Imp = 5.7 ADC (1) Conduit Kit; 3/4" EMT
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				5 (4) AWG #10, PV Wire, 600V, Black Voc* = 381.21 VDC Isc = 12.14 ADC (1) AWG #10, THWN-2, Green EGC Vmp = 290 VDC Imp = 11.4 ADC (1) Conduit Kit; 3/4" EMT
				6 (2) AWG #10, PV Wire, 600V, Black Voc* = 381.21 VDC Isc = 12.14 ADC (1) AWG #10, THWN-2, Green EGC Vmp = 290 VDC Imp = 11.4 ADC (1) Conduit Kit; 3/4" EMT

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	MOUNTING SYSTEM: ZS Comp V4 w Flashing-Insert		PAGE NAME: THREE LINE DIAGRAM	SHEET: 6		REV: DATE: a 2/27/2019
	MODULES: (44) SolarCity Standard #SC330					
	INVERTER: Delta # Solivia 7.6 TL					

ZS Comp
for composition shingle roofs



Description

- PV mounting solution for composition shingle roofs
- Works with all Zep Compatible Modules
- Auto bonding UL-listed hardware creates structural and electrical bond
- ZS Comp has a UL 1703 Class "A" Fire Rating when installed using modules from any manufacturer certified as "Type 1" or "Type 2"

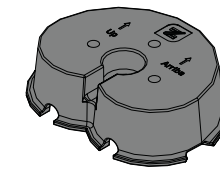
Specifications

- Designed for pitched roofs
- Installs in portrait and landscape orientations
- ZS Comp supports module wind uplift and snow load pressures to 50 psf per UL 2703
- Wind tunnel report to ASCE 7-05 and 7-10 standards
- ZS Comp grounding products are UL listed to UL 2703 and UL 467
- ZS Comp bonding products are UL listed to UL 2703
- Engineered for spans up to 72" and cantilevers up to 24"
- Zep wire management products listed to UL 1565 for wire positioning devices

zepsolar.com

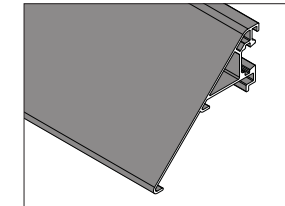
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Components



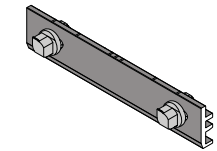
Mounting Block

Part No. 850-1633
Listed to UL 2703



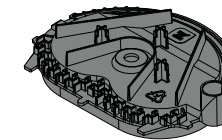
Array Skirt

Part No. 850-1608 or 500-0113
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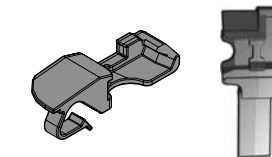
Interlock

Part No. 850-1388 or 850-1613
Listed to UL 2703



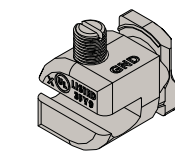
Flashing Insert

Part No. 850-1628
Listed to UL 2703



Grip

Part No. 850-1606 or 850-1421
Listed to UL 2703



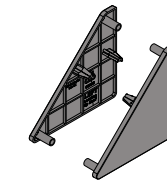
Ground Zep V2

Part No. 850-1511
Listed to UL 467 and UL 2703



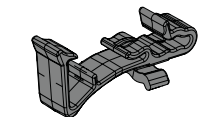
Captured Washer Lag

Part No. 850-1631-001
850-1631-002
850-1631-003
850-1631-004



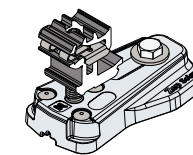
End Cap

Part No.
(L) 850-1586 or 850-1460
(R) 850-1588 or 850-1467



DC Wire Clip

Part No. 850-1509
Listed to UL 1565



Leveling Foot

Part No. 850-1397
Listed to UL 2703

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