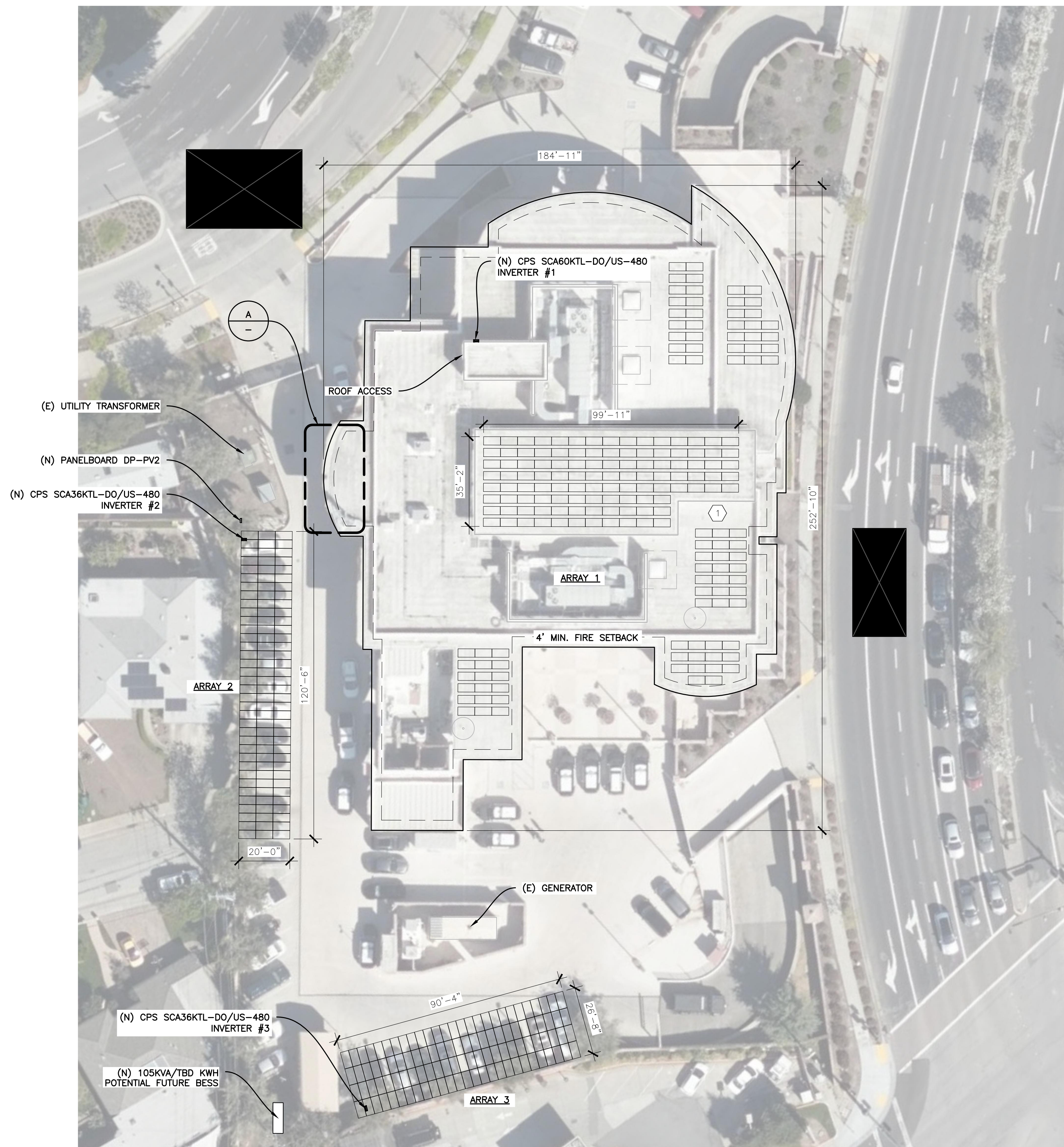


ELECICAL ROOM #003 - BASEMENT
SCALE: 1/4" = 1'-0"



01 SITE PLAN

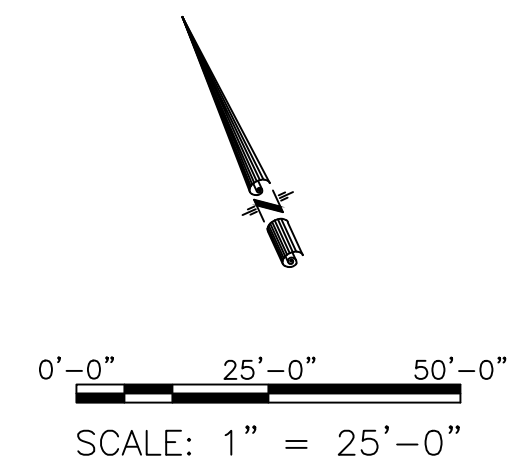
MODULE COUNTS AND RATINGS PER ARRAY												
ARRAY	TYPE	MODULE TYPE	MODULE DIMENSIONS	MODULE RATING	AZIMUTH	TILT	MODULES	PV SOURCE CIRCUITS	SPARE MODULES	TOTAL MODULES	KWDC	KWAC
ARRAY 1	ROOF MOUNT	JA SOLAR JAM72S10-410/MR	79.3" X 39.2" X 1.6"	410W	155°	10°	198	11	0	198	81.2KWDC	60.0KWAC
ARRAY 2	CANOPY	JA SOLAR JAM72S10-410/MR	79.3" X 39.2" X 1.6"	410W	245°	7°	108	6	0	108	44.3KWDC	36.0KWAC
ARRAY 3	CANOPY	JA SOLAR JAM72S10-410/MR	79.3" X 39.2" X 1.6"	410W	140°	7°	108	6	0	108	44.3KWDC	36.0KWAC
MODULES PER PV SOURCE CIRCUIT				18	TOTALS		414	23	0	414	169.7KWDC	132.0KWAC

KEYNOTES

1. ROOF CONDITION TO BE ASSESSED BY LICENSED STRUCTURAL ENGINEER TO DETERMINE ITS ADEQUACY TO SUPPORT SOLAR STRUCTURE AND PANELS.

GENERAL NOTES

1. (414) JA SOLAR JAM72S10-410/MR MODULES.
2. (1) CPS SCA60KTL-DO/US-480 INVERTER & (2) CPS SCA36KTL-DO/US-480 INVERTER
3. (1) 105KVA/TBD KWH POTENTIAL FUTURE BATTERY SYSTEM
4. RACKING IS TBD
5. CONTRACTOR TO ENSURE THAT THE PHOTOVOLTAIC ARRAY AND ASSOCIATED EQUIPMENT MEET FIRE CODE.
6. INVERTERS COMPLY WITH RAPID SHUTDOWN PER CEC ART. 690.12

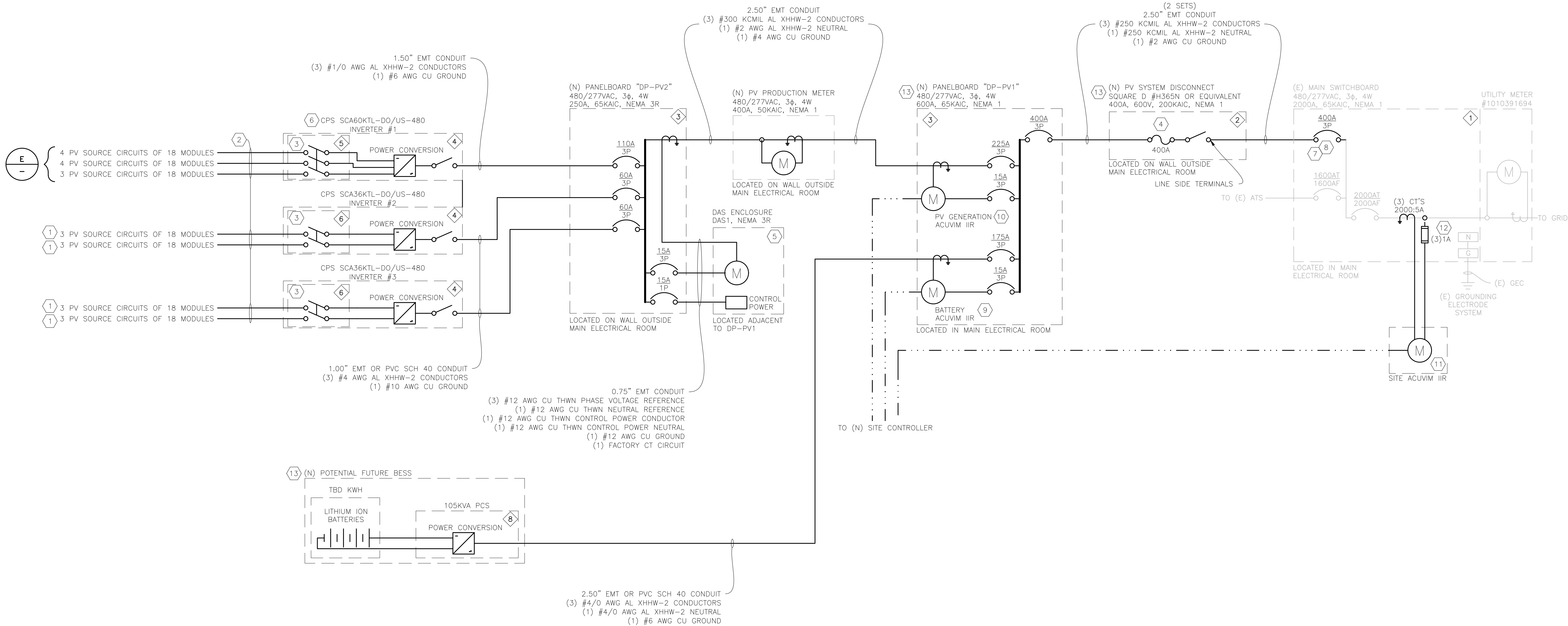


REV.	DATE	DESCRIPTION
-	03/10/21	30% DESIGN
-	06/16/21	REVISED 30% DESIGN
-	09/01/21	BESS KWH REMOVED

PROJECT NAME	DATE	DESIGNER	DATE	PROJECT NAME	DATE
MCCALMONT ENGINEERING	03/04/2021	DESIGNER	03/04/2021	MCCALMONT ENGINEERING	03/04/2021
CHECK	SCALE	CHECK	SCALE	CHECK	SCALE
AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED
PROJECT SHEET	PROJECT SHEET	PROJECT SHEET	PROJECT SHEET	PROJECT SHEET	PROJECT SHEET
1253-01.377	24" X 36"	1253-01.377	24" X 36"	1253-01.377	24" X 36"

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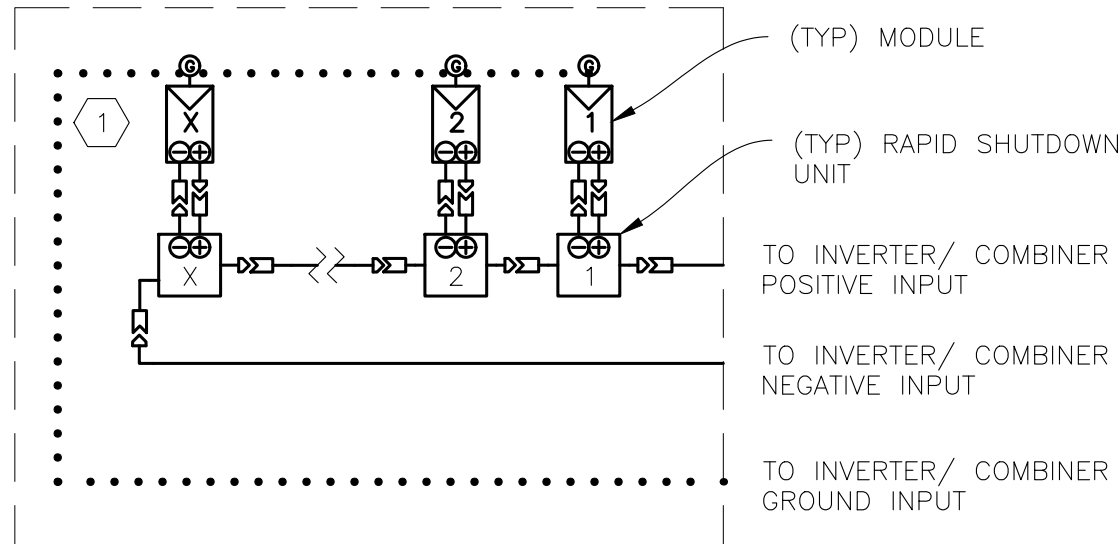


01 SINGLE LINE DIAGRAM
SCALE: NTS

GENERAL NOTES

- ALL EQUIPMENT TO BE LISTED.
- ALL EQUIPMENT WIRING AND GROUNDING SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDED PRACTICES. REFER TO THE INSTALLATION AND USER MANUALS FOR GUIDANCE.
- EXPOSED NON-CURRENT CARRYING METAL PARTS OF MODULE FRAMES, EQUIPMENT, AND ENCLOSURES SHALL BE GROUNDED IN ACCORDANCE WITH CEC ART. 250.134 AND 250.136. CONTRACTOR TO REFER TO MANUFACTURER'S INSTALLATION MANUAL FOR APPROVED METHOD OF GROUNDING.
- INSTALLATION SHALL COMPLY WITH THE 2019 CEC.
- ALL EXPOSED RACEWAY OPENINGS SHALL BE SEALED USING A SUITABLE METHOD SUCH AS DUCT SEAL.
- MCCALMONT ENGINEERING NOT RESPONSIBLE FOR ENGINEERING OF EXISTING CIRCUITS.
- BONDING SHALL BE PROVIDED WHERE NECESSARY TO ENSURE ELECTRICAL CONTINUITY AND THE CAPACITY TO CONDUCT SAFELY ANY FAULT CURRENT IN ACCORDANCE WITH CEC ART. 250.
- THE UTILITY MUST BE NOTIFIED PRIOR TO USE AND ACTIVATION OF ANY ONSITE GENERATION SYSTEM(S).
- SYSTEM INCLUDING CONDUIT AND CONDUCTORS SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER IN ACCORDANCE WITH CEC ART. 110.12. ALL ELECTRICAL EQUIPMENT, EXPOSED RACEWAYS, CONDUCTORS, AND CONNECTIONS SHALL BE MECHANICALLY SECURED VIA HARDWARE RATED FOR OUTDOOR AND UV LIGHT EXPOSURE AND WITH A DESIGN LIFE GREATER THAN THE ANTICIPATED LIFE EXPECTANCY OF THE SYSTEM.
- ALL PLAQUES, LABELS AND WARNINGS CAN BE FOUND ON CORRESPONDING LABELS AND WARNINGS SHEET(S).
- CONNECTORS SHALL BE TORQUED PER DEVICE LISTING OR MANUFACTURER'S RECOMMENDATION. SEE THE MANUFACTURER'S INSTALLATION MANUAL FOR THE SPECIFIC TORQUE VALUES. CONNECTORS ARE TO BE MARKED WITH PERMANENT MARKING PAINT AFTER TORQUING.
- PVC CONDUIT SHALL NOT BE USED UNDER THE CONDITIONS SPECIFIED IN CEC ART. 352.12(A)-(D).
- INTERRUPTING CURRENT RATINGS (KAIC) FOR EQUIPMENT SUCH AS PANELBOARDS, CIRCUIT BREAKERS, FUSES, AND DISCONNECTS HAS BEEN SPECIFIED BASED ON THE RATINGS OF THE MAIN SERVICE UNLESS SPECIFIC FAULT CURRENTS AT THE SITE HAVE BEEN PROVIDED BY THE UTILITY.
- NEW OVERCURRENT PROTECTION DEVICES SHALL HAVE THE SAME INTERRUPTING CURRENT RATING (KAIC) AS THE RATING OF THE PANELBOARD OR SWITCHBOARD IN WHICH THEY ARE LOCATED.
- CONTRACTOR TO VERIFY THE TERMINALS AND BENDING RADII OF PROCURED ELECTRICAL EQUIPMENT ARE APPROPRIATE TO ACCOMMODATE THE SIZE OF THE SPECIFIED CONDUCTORS.
- MODULES AND RACKING SYSTEM MUST BE PROPERLY GROUNDED PER THE GROUNDING METHOD PROVIDED IN THE RACKING MANUFACTURER'S INSTALLATION MANUAL. IF NO METHOD IS STIPULATED, AN ILSOCO GBL-4DBT OR EQUIVALENT GROUNDING LUG PER DETAIL GD SHOULD BE USED TO GROUND EACH MODULE AND RAIL OR PURLIN WITH THE APPROPRIATELY SIZED GROUND WIRE AND TORQUE SPECIFICATION PER THE TABLE IN THE DETAIL.
- CONTRACTOR MAY UPSIZE CONDUIT SIZE WHILE ENSURING CONNECTED ENCLOSURES/EQUIPMENT IS CAPABLE OF ACCOMMODATING LARGER CONDUIT SIZES THAN LISTED.
- SEE NOTE 3.18 ON SHEET E-000 FOR APPROPRIATE CONDUIT TYPES DEPENDING ON THE INSTALLATION LOCATION OF THE CORRESPONDING CONDUCTORS.

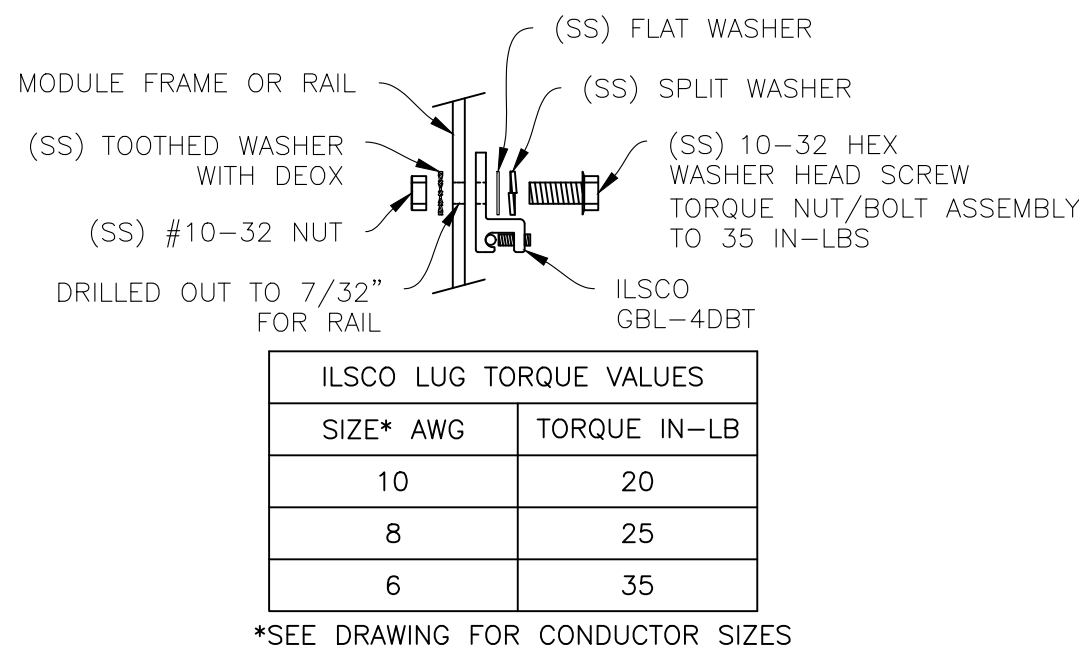
(TYP) STRING OF (18) TIGO TS4-A-F RAPID SHUTDOWN UNITS WHERE "X" REPRESENTS THE NUMBER OF MODULES AND THE NUMBER OF TS4-A-F UNITS IN SERIES



STRING DETAIL WITH RAPID SHUTDOWN UNIT
NTS

LEGEND

- Labels and Warnings Identification
- Keynote Identification



GROUND LUG DETAIL
NTS

KEYNOTES

- PV SOURCE CIRCUITS CONSIST OF JA SOLAR JAM72S10-410/MR MODULES. SEE SINGLE LINE DIAGRAM FOR NUMBER OF MODULES CONNECTED IN SERIES.
VMP = 41.88V
VOC = 50.12V
IMP = 9.79A
ISC = 10.45A
- PV SOURCE CIRCUIT CONNECTORS BETWEEN MODULES AND COMBINER BOXES SHALL BE THE SAME MANUFACTURER AND OF THE SAME MODEL SERIES. THERE SHALL BE NO MIXING MANUFACTURERS OR MODELS FOR ANY CONNECTION POINTS. CONTRACTOR SHALL VERIFY THAT CONDUIT SIZE FOR PV SOURCE CIRCUITS WILL FIT INVERTER SPECIFICATIONS.
PV SOURCE CIRCUITS TO USE:
-#10 AWG CU 1000/2000V PV WIRE CONDUCTORS PER UL 4703
-#8 AWG CU GROUND
-MAXIMUM OF (2) PV SOURCE CIRCUITS PER 1.00 INCH CONDUIT.
-MAXIMUM OF (5) PV SOURCE CIRCUITS PER 1.25 INCH CONDUIT.
-MAXIMUM OF (6) PV SOURCE CIRCUITS PER 1.50 INCH CONDUIT.
-MAXIMUM OF (11) PV SOURCE CIRCUITS PER 2.00 INCH CONDUIT.
- EACH PV SOURCE CIRCUIT UNGROUNDED CONDUCTOR SHALL TERMINATE AT A DEDICATED 20A 1000VDC RATED FUSE IN THE CORRESPONDING COMBINER.
- USE MERSEN FUSE #A4J400, CLASS J, 400A.
- MONITORING SHALL INCLUDE RS-485 BELDEN 3106A OR EQUIVALENT FOR COMMUNICATION WIRE. REFER TO SHEET E-501 FOR MONITORING SYSTEM CONDUIT SPECIFICATION. REFER TO MONITORING SYSTEM DIAGRAM AND/OR INSTALLATION MANUAL FOR ADDITIONAL DETAIL.
- INVERTER SHOULD BE PROGRAMMED WITH FIRMWARE 9.0 (OR LATER), AND EQUIPPED WITH THE RAPID SHUTDOWN WIREBOX, NOT THE STANDARD WIREBOX.
- LOAD SIDE CONNECTION PER 2019 CEC ART. 705.12(B)(2)(3)(B) ON CUSTOMER SIDE OF SERVICE DISCONNECT, BASED ON THE SUM OF SERVICE OVERCURRENT DEVICE AND 125% LOCATE THE GENERATING SYSTEM OVERCURRENT DEVICE ON THE BUS END OPPOSITE THE MAIN OVERCURRENT DEVICE/MAIN LUG.
- ACUVIM IIR METER TO BE INSTALLED TO MEASURE THE POWER AND ENERGY FLOW OF THE BATTERY INVERTER FEEDER.
- ACUVIM IIR METER TO BE INSTALLED TO MEASURE THE POWER AND ENERGY FLOW OF THE SOLAR OUTPUT.
- ACUVIM IIR METER TO BE INSTALLED TO MEASURE THE POWER AND ENERGY OF THE SITE.
- SWITCHBOARD MANUFACTURER TO INSTALL LITTLEFUSE #KLD1R1 CLASS CC, 1A FUSES AND APPROPRIATE FUSE BLOCKS.
- EQUIPMENT SIZED FOR POTENTIAL FUTURE BATTERY SYSTEM.

REV.	DATE	DESCRIPTION
1	03/10/21	30% DESIGN
1	06/16/21	REVISED 30% DESIGN
1	09/07/21	BESS KWH REMOVED

SINGLE LINE DIAGRAM

PROJECT NAME	DATE	FILE NAME
DESIGNER	03/04/2021	
CHECKER	SCALE	AS NOTED
DRAWN BY		
PROJECT NUMBER	253-01.377	
SHEET SIZE	24" x 36"	

STAMP

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E-601