

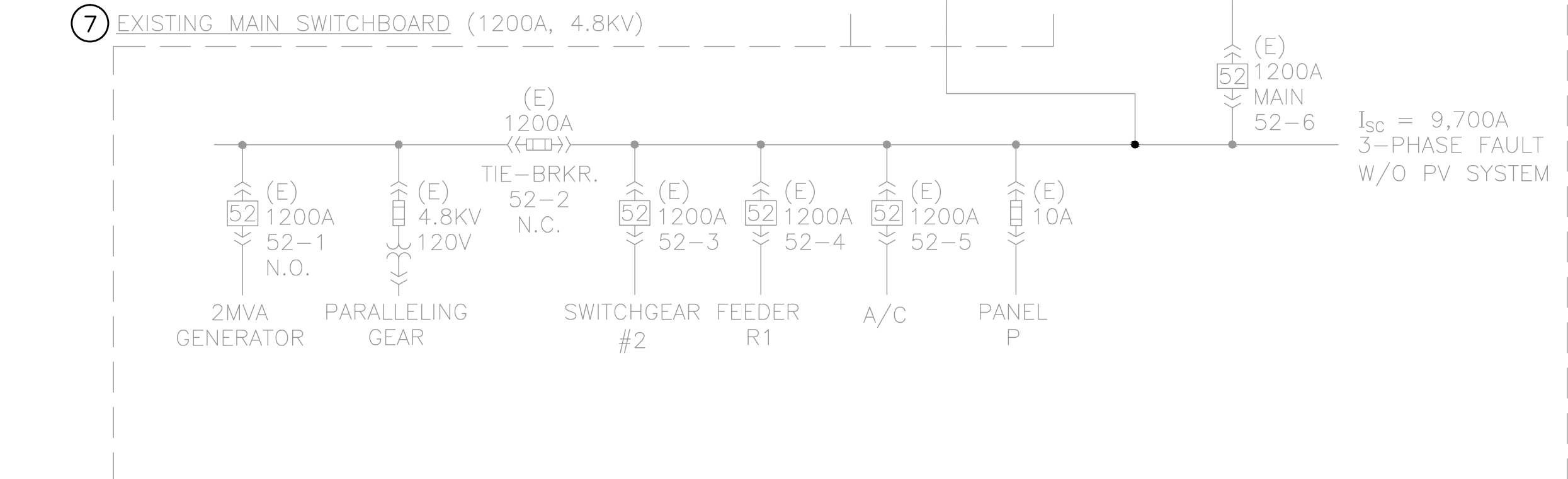
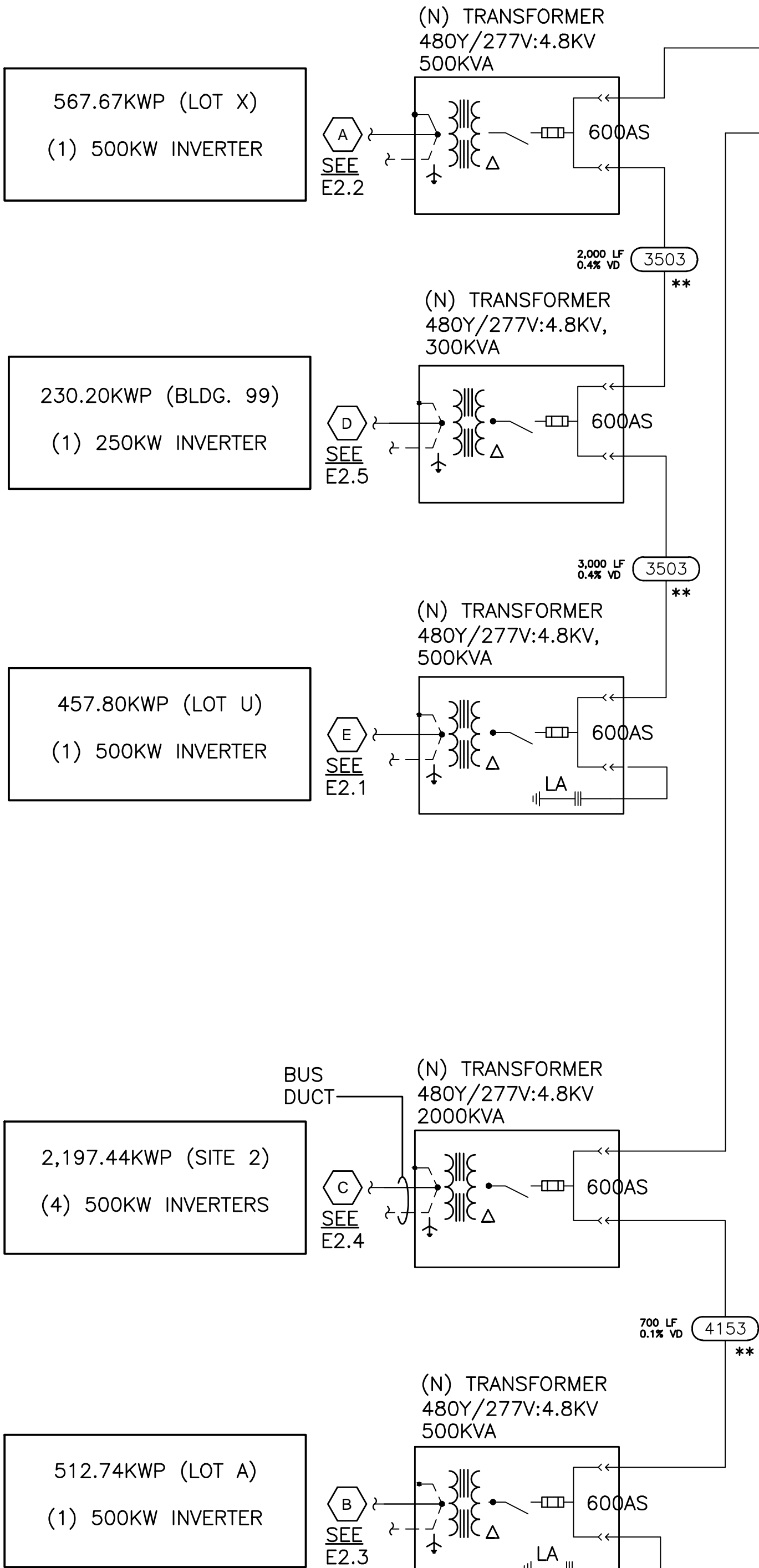
NOTE: NEMA 3R FULLY ENCLOSED W/ACCESS DOORS. (DOORS NOT SHOWN FOR CLARITY). SEE E5.7 FOR SITE LOCATION.

2 5KV PV SWITCHGEAR ELEVATION

SCALE: NO SCALE

RECORD DRAWING DISCLAIMER		
THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, SUNPOWER ASSUMES NO RESPONSIBILITY TO THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO SUNPOWER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.		
COPPER FEEDER SCHEDULE		
FEEDER	CONDUIT	CONDUCTORS
6003	(2) 3".	(2) SETS OF (3)#4/0, 5KV, MV-105 (PARALLEL)
4153	(1) 4".	(3)#350, 5KV, MV-105
3503	(1) 4".	(3)#250, 5KV, MV-105
FEEDER TAG KEY		
6003	** FEEDER ADJUSTED FOR VOLTAGE DROP	
	WIRE QUANTITY FEEDER AMPACITY	

CAMPUS POWER SHUT-DOWN SEQUENCE NOTES	
1. COORDINATE ALL UTILITY SHUT-DOWNS WITH LADWP AND THE VA WELL IN ADVANCE OF OUTAGE, TO ALLOW PROPER PREPARATION BY ALL PARTIES. OUTAGE DURATIONS SHALL BE MINIMIZED AS BEST POSSIBLE.	
2. TWO SHUT-DOWNS ARE EXPECTED TO BE REQUIRED; <div>A. UTILIZE FIRST SHUT-DOWN TO INSPECT (E) CONDITION AND CONFIGURATION OF INTERIOR OF CAMPUS SWITCHGEAR AND FULLY DOCUMENT / PHOTOGRAPH RELEVANT INTERIOR SECTIONS OF THE GEAR FOR ADDITIONAL PLANNING AND WORK RELATED TO THE FINAL TIE-IN (DURING SECOND SHUT-DOWN). THIS SHOULD INCLUDE INSPECTION AND IDENTIFICATION OF PROPER AUX CONTACT ON GENERATOR BREAKER FOR TIE-IN TO SHUNT TRIP MAIN PV SYSTEM BREAKER UPON GENERATOR BREAKER CLOSING. ALSO DISCONNECT AND REMOVE (E) GROUND FAULT TESTER AND BUS TAP DURING FIRST OUTAGE.</div> <div>B. AFTER FIRST OUTAGE IS COMPLETED, INSTALL NEW LOAD INTERRUPTER SWITCH IN LOCATION OF OLD GROUND FAULT TESTER. ALSO INSTALL NEW PV SYSTEM SWITCHGEAR AT EXTERIOR OF EQUIPMENT ROOM AND RACEWAYS / CABLING TO NEW LOAD INTERRUPTER SWITCH TO PREPARE FOR TIE-IN TO MAIN GEAR.</div> <div>C. UTILIZE SECOND SHUT-DOWN TO COMPLETE TIE-IN OF NEW LOAD INTERRUPTER SWITCH TO (E) SWITCHGEAR BUS, AHEAD OF THE MAIN BREAKER, BUT DOWNSTREAM OF THE 27/51 RELAYS AND METERING.</div>	
3. UPON COMPLETION OF COMPLETE TIE-IN, VERIFY AND TEST PROPER FUNCTION OF PV SYSTEM SHUT-DOWN INTERLOCK WITH GENERATOR BREAKER, PER NUMBERED SHEET NOTE 6.	
4. COORDINATE ALL WORK WITH LADWP TO COMPLY WITH ALL RELEVANT INTERCONNECT INSPECTIONS, TESTING, AND SPECIFIC REQUIREMENTS NOT NOTED HERE.	



NOTE: ITEMS SHOWN LIGHT ARE EXSITING. ITEMS SHOWN DARK ARE NEW.

TOTAL ARRAY RATING	
3,966.288 KWP	
11,424 MODULES, SUNPOWER SPR-327	
744 MODULES, SUNPOWER SPR-310	
8 MODULES PER STRING, 1,521 STRINGS	
SPR-327	
STRING AMPERAGE: 5.98A IMP, 6.46A ISC	
STRING VOLTAGE: 437.6V VMP, 520.8V VOC	
SPR-310	
STRING AMPERAGE: 5.67A IMP, 6.05A ISC	
STRING VOLTAGE: 437.6V VMP, 515.2V VOC	

NUMBERED ELECTRICAL NOTES:	
1	PROVIDE CONTINUOUS PATH FOR GROUND CONDUCTOR FROM THE AC SWITCHGEAR TO THE EXISTING MAIN SERVICE SWITCHBOARD GROUND BUS. GROUNDING ELECTRODE CONDUCTOR TO SERVE AS EQUIPMENT GROUND. PROVIDE LAY-IN LUGS TO BOND ALL EQUIPMENT ALONG THIS PATH TO THE GROUNDING ELECTRODE CONDUCTOR TO ALLOW FOR CONTINUOUS RUN.
2	CONFIRM LOCATION OF UTILITY LOCKABLE DISCONNECT PRIOR TO CONSTRUCTION WITH ENGINEER OF RECORD IF LOCKABLE DISCONNECT CANNOT BE LOCATED WITHIN 10 FEET OF UTILITY METER.
3	UTILITY LOCKABLE DISCONNECT EQUIPMENT MODEL DELIVERED ON-SITE MUST MATCH THE EQUIPMENT CALLED OUT IN THESE PLANS. CONTRACTOR HAS THE RESPONSIBILITY TO INFORM SUNPOWER PROJECT MANAGER, CONSTRUCTION MANAGER AND ENGINEER OF RECORD IN THE EVENT THAT A NON-CONFORMING UTILITY-LOCKABLE DISCONNECT IS PROVIDED.
4	USE #6 AWG BARE CU CONDUCTOR TO BOND INVERTER GROUNDING BAR TO (N) DC GROUND ROD ELECTRODE PER NEC 250.52 & 250.53
5	UTILITY INTERACTIVE PV SYSTEM INVERTERS SHALL AUTOMATICALLY DROP OUT UPON LOSS OF NORMAL UTILITY POWER. PV SYSTEM INPUT SHALL ALSO BE SHUNT TRIPPED PER NOTE 6 BELOW, TO INSURE NO PARALLEL OPERATION WITH GENERATOR SYSTEM.
6	(REQUIREMENT TO BE VERIFIED WITH LADWP) UPON LOSS OF UTILITY POWER, UNDER VOLTAGE RELAY (27) AT UTILITY MAIN SHALL OPEN MAIN PRIOR TO GENERATOR START. WHEN GENERATOR BREAKER CLOSSES TO THE BUS, AUX CONTACT ON GENERATOR BREAKER SHALL SHUNT TRIP PV SYSTEM INPUT UPON GENERATOR BREAKER CLOSING. WHEN NORMAL UTILITY RETURNS, UTILITY MAIN RE-CLOSES, AND GENERATOR BREAKER OPENS, AUX CONTACT ON GENERATOR BREAKER SHALL ALLOW MANUAL RE-CLOSURE OF PV SYSTEM INPUT.
7	PROVIDE RELISTING / TESTING OF (E) MAIN SERVICE GEAR AFTER PV SYSTEM INTERCONNECTION, INCLUDING UTILITY APPROVAL.

GENERAL ELECTRICAL NOTES:	
- ALL EQUIPMENT IS NEW UNLESS OTHERWISE NOTED.	
- ALL DC COMPONENTS SHALL BE LISTED FOR 600VDC.	
- CONDUIT ENTRY/CONNECTION TO ELECTRICAL ENCLOSURES SHALL BE SUITABLE FOR GROUNDING (PER NEC 250.97) AND SHALL BE SEALED AGAINST ENVIRONMENT.	
- ALL NEW EQUIPMENT TO HAVE AN AIC RATING GREATER THAN OR EQUAL TO THAT OF THE EXISTING EQUIPMENT UNLESS OTHERWISE NOTED.	
- CONSULT INVERTER INSTALLATION GUIDE FOR WIRING METHODS AND OPERATING PROCEDURES.	
- INVERTER-INTEGRATED PROTECTION INCORPORATES THE FOLLOWING PROTECTIVE FUNCTIONS (PER UL-1741):	
50/51 PHASE OVERCURRENT	
59 OVERVOLTAGE	
27 UNDERVOLTAGE	
810 OVERFREQUENCY	
81U UNDERFREQUENCY	
51N GND FAULT DETECTION & INTERRUPT	
ANTI-ISLANDING PROTECTION	
- DC VOLTAGE FROM THE ARRAY IS ALWAYS PRESENT AT THE DISCONNECT AND DC TERMINALS OF THE INVERTER DURING DAYLIGHT HOURS. LIVE WIRING SAFETY AND CAUTIONARY PRACTICES SHOULD BE EMPLOYED DURING INSTALLATION AND MAINTENANCE OPERATIONS.	
- ALL CIRCUIT BREAKERS POTENTIALLY SUBJECT TO BACKFEED CURRENTS SHALL BE SUITABLE FOR SUCH OPERATION PER NEC 690.64(B)(5). BREAKERS LABELED 'LINE' AND 'LOAD' ARE NOT SUITABLE FOR SUCH USE.	

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STATE OF CALIFORNIA

ENGINEER'S STAMP

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SEPULVEDA AMBULATORY CARE

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NORTH HILLS, CA 91343

OVERALL SINGLE LINE
DIAGRAM

REV	QUOTE #	DESCRIPTION	DATE	DB	CB
1	-	RECORD DRAWINGS	8/2/13	JK	PC
2					
3					
4					
5					
6					
7					
8					

OPPORTUNITY

113470

PROJECT

10897

DATE DRAWN

06-24-2011

DRAWN BY

0 1/8" 1"

IF BAR IS NOT ONE INCH, DRAWING IS NOT TO SCALE

E2.0

SHEET