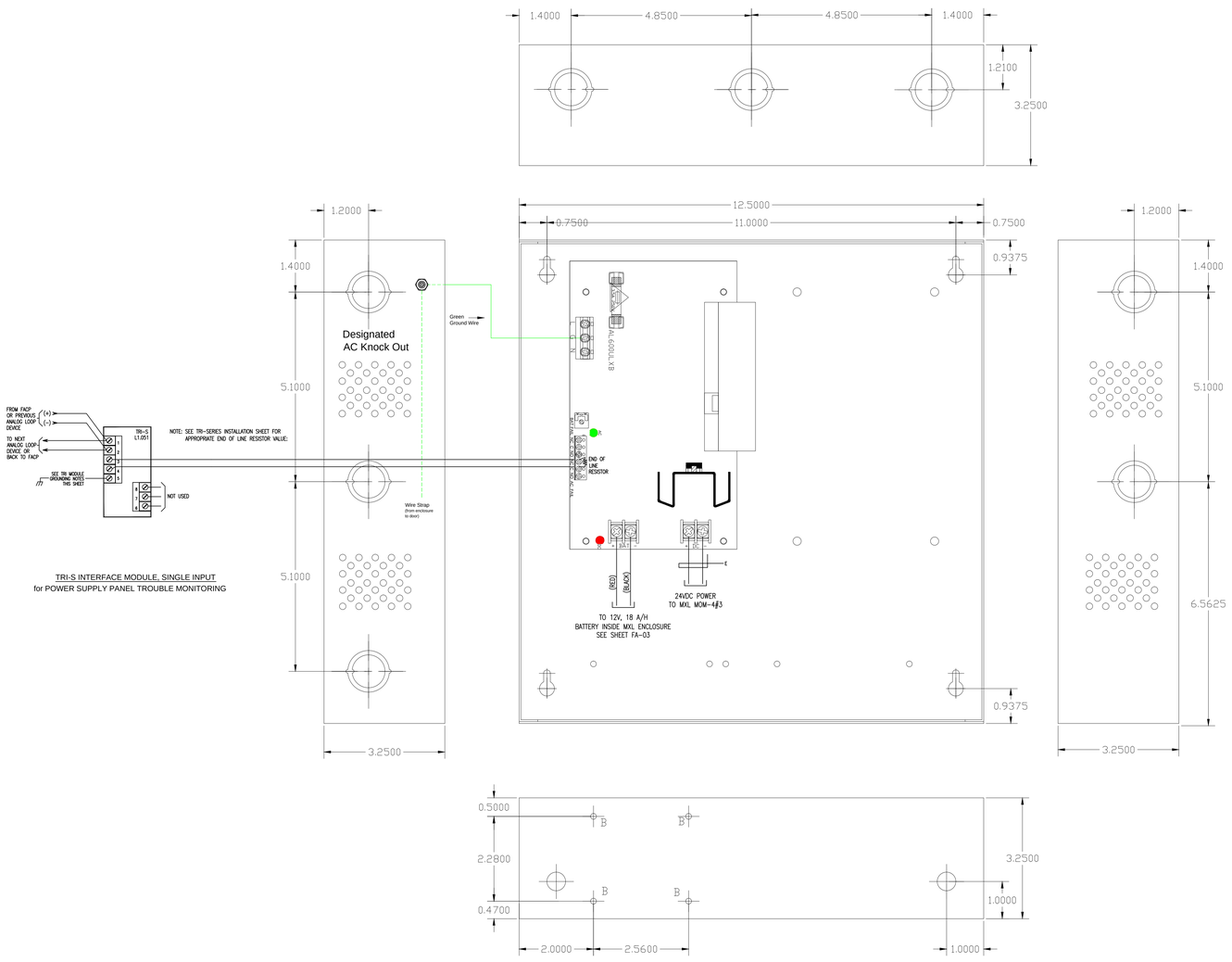

POWER SUPPLY PANEL (ALTRONIX AL600ULXR)
LOCATED AT FLOOR 1 ELECTRICAL ROOM 118A

PSP(AL600ULXR) BATTERY CALCULATION

SUPERVISORY CURRENT					
DESCRIPTION	QTY	MODULE CURRENT	EOL CURRENT	DEVICE CURRENT	TOTAL ROW CURRENT
CSM-4 CONTROLLABLE SIGNAL MODULE	2	0.010			0.020
12mA per NAC circuit (2 ckt. per card)	4		0.012		0.048
CZM-4 CONVENTIONAL ZONE MODULE	1	0.055			0.055
3mA per Zone (4 zones per card)	4			0.003	0.012
NIM-1W NETWORK INTERFACE MODULE	1	0.070			0.070
D2300CPS FIBER OPTIC MODULE	2	0.057			0.114
TOTAL CURRENT					**0.319**

ALARM CURRENT			
NOTIFICATION CIRCUITS			**TOTAL CKT CURRENT LOAD**
PSP	**3.13**	CIRCUIT AV9	1.191
		CIRCUIT AV10	0.859
		CIRCUIT AV11	1.078
		TOTAL ALARM CURRENT (AMPS)	**3.128**

SUMMARY

A = TOTAL SUPERVISORY CURRENT
x SUPERVISORY TIME REQUIRED
0.319 AMPS x 24 HR
= **7.656** (AMP/HR)

B = TOTAL ALARM CURRENT
x ALARM TIME REQUIRED
3.128 AMPS x .083 HR
= **0.782** (AMP/HR)

C = A + B
= **8.438** (AMP/HR)

SUPERVISORY TIME REQUIRED----------24 HR
ALARM TIME REQUIRED------5 MINS. or .083 HR

BATTERY PROVIDED..... **PS-12180**
BATTERY SIZE..... **18** (AMP/HR)

TOTAL SYSTEM REQUIRED (A/H)
= **8.438 AMP/HOUR**
BATTERY RESERVE AFTER
24 HOURS SUPERVISORY
& 5 MINUTES ALARM (AMP/HOUR)

= **9.562 AMP/HOUR**

MXL PANEL ACTUAL VOLTAGE DROP CALCULATIONS
WIRE SIZE USED: #14 AWG DROP: 5 FEET

CKT	DISTANCE (ft.)	CURRENT LOAD (amps)	VOLTAGE DROP	REMAINING VOLTAGE
AV9	500	1.191	3.130	20.870
AV10	610	0.859	2.754	21.246
AV11	700	1.078	3.966	20.034

NOTIFICATION APPLIANCE CIRCUIT POWER REQUIREMENTS & VOLTAGE DROP CALCULATIONS

DESCRIPTION	CURRENT PER APPLIANCE	# OF APPLIANCES CIRCUIT AV9	CIRCUIT AV10	CIRCUIT AV11								
SIEMENS ZR WALL STROBE 15 cd	0.064	1	1	1								
SIEMENS ZR WALL STROBE 30 cd	0.098	0	0	3								
SIEMENS ZR WALL STROBE 75 cd	0.175	0	1	0								
SIEMENS ZR WALL STROBE 110 cd	0.233	0	0	0								
SIEMENS ZH WALL HORN/STROBE 15 cd	0.078	8	4	3								
SIEMENS ZH WALL HORN/STROBE 30 cd	0.113	1	1	1								
SIEMENS ZH WALL HORN/STROBE 75 cd	0.195	2	1	1								
SIEMENS ZH WALL HORN/STROBE 110 cd	0.259	0	0	0								
SIEMENS AS WP WALL HORN/STROBE	0.178	0	0	1								
TOTAL CIRCUIT CURRENT		1.191	0.859	1.078								

I[(1 (D) (21.6)]/CM
WHERE: I = CIRCUIT POWER LOAD 21.6 = CONSTANT
D = CONDUCTOR ONE WAY DISTANCE CM = CROSS SECTION AREA OF WIRE (4110 FOR AWG#14)

NAC AV9: I[(1.191 AMP)(500 FT)(21.6)]/4110 VOLTAGE DROP: 3.130 VOLTS REMAINING VOLTAGE: 20.870 VOLTS

NAC AV10: I[(0.859 AMP)(610 FT)(21.6)]/4110 VOLTAGE DROP: 2.754 VOLTS REMAINING VOLTAGE: 21.246 VOLTS

NAC AV11: I[(1.078 AMP)(700 FT)(21.6)]/4110 VOLTAGE DROP: 3.966 VOLTS REMAINING VOLTAGE: 20.034 VOLTS

THE CIRCUITS' AVAILABLE VOLTAGE IS ABOVE THE MINIMUM LISTED VOLTAGE FOR THE APPLIANCES.

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REVISIONS

No.	Revision	By	Date	Appr.
5	BULLETIN 5	JPM	9/16/10	KW
5A	RESPONSE TO HYT BULLETIN 5 REVIEW COMMENTS	JPM	10/19/10	KW
6	REVISED PER LBNL FIRE MARSHALS' COMMENTS	JPM	10/25/10	KW
7	REVISED PER HYT REVIEW COMMENTS	JPM	6/8/11	KW
	AS-BUILT	JPM	9/20/12	KW

AS-BUILT

←TO APPROVAL STAMP

MEMBER OF CONTRACT DOCUMENTS

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Fire Protection Engineers and Consultants
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U.L. Certificate ID No. 324787-001

JOB NAME & LOCATION (STREET ADDRESS)

UNIVERSITY OF CALIFORNIA
LAWRENCE BERKELEY NATIONAL LABORATORY
FACILITIES DIVISION

BUILDING 74
FIRE ALARM

LBNL SEISMIC
PHASE 2

One Cyclotron Road,
Berkeley, California 94720

SHEET CONTENTS

ALTRONIX POWER
POWER PANEL (AL600ULXR)

INSTALLATION TYPE

- ☐ NEW INSTALLATION
- ☐ DESIGN/BUILD
- ☐ PER CONTRACT DOCUMENT
- ☐ EXISTING BASE JOB # N/A
- ☐ OTHERS

SYSTEM SALES REP.	Kevin Waxman
PROJECT MANAGER	Mark Millard
DRAWN BY	JPM
CAD FILENAME	FA-04
SCALE	Not Applicable
DATE DRAWN	March 15, 2010
PLOT DATE	March 27, 2014

DRAWING NO.	SHEET	JOB NUMBER
6N74E325	FA-04	44OP-069681

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