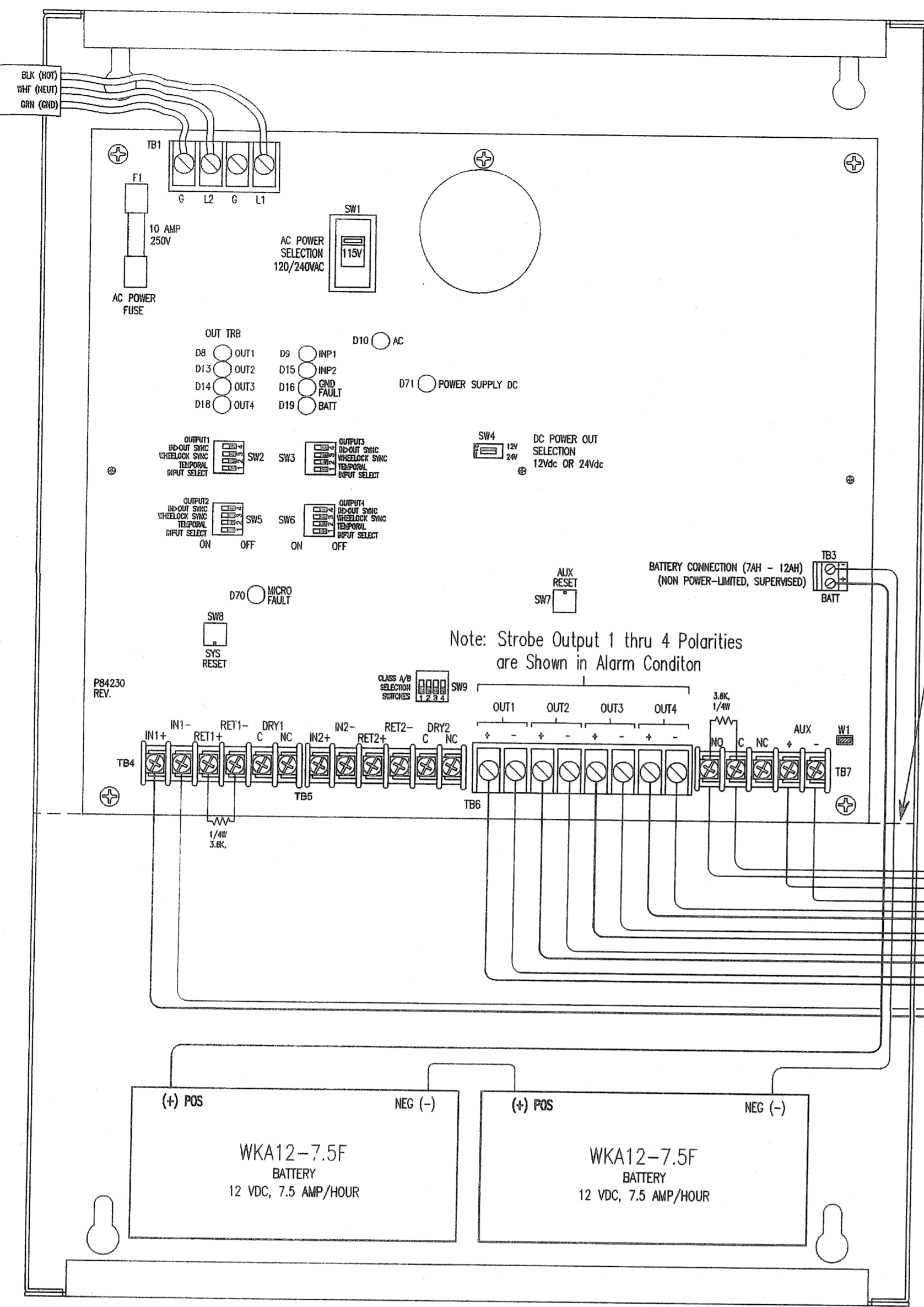


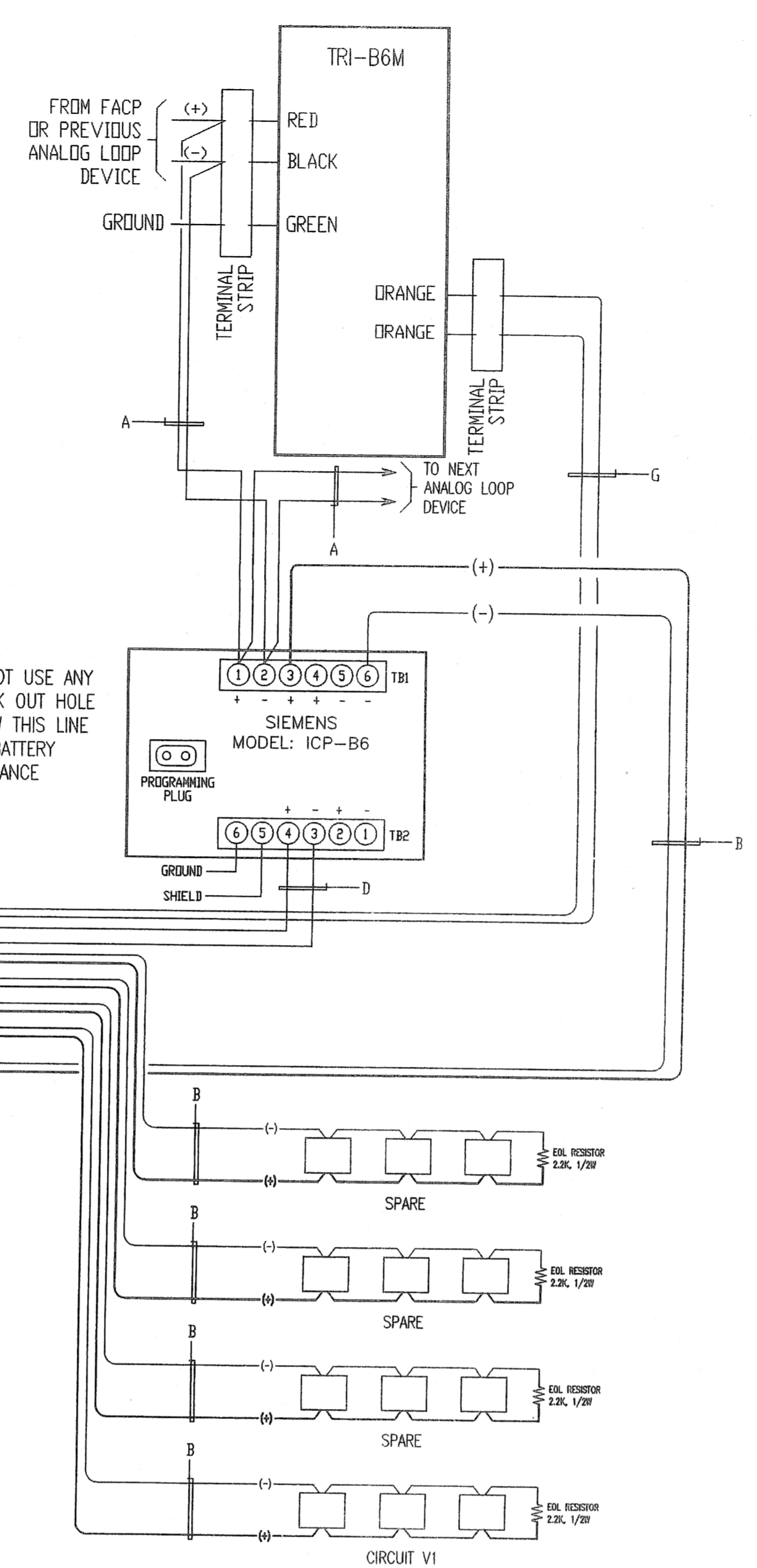
AC POWER:  
120VAC, 50/60Hz or  
24VDC, 50/60Hz  
(NON-POWER-LIMITED, SUPERVISED)



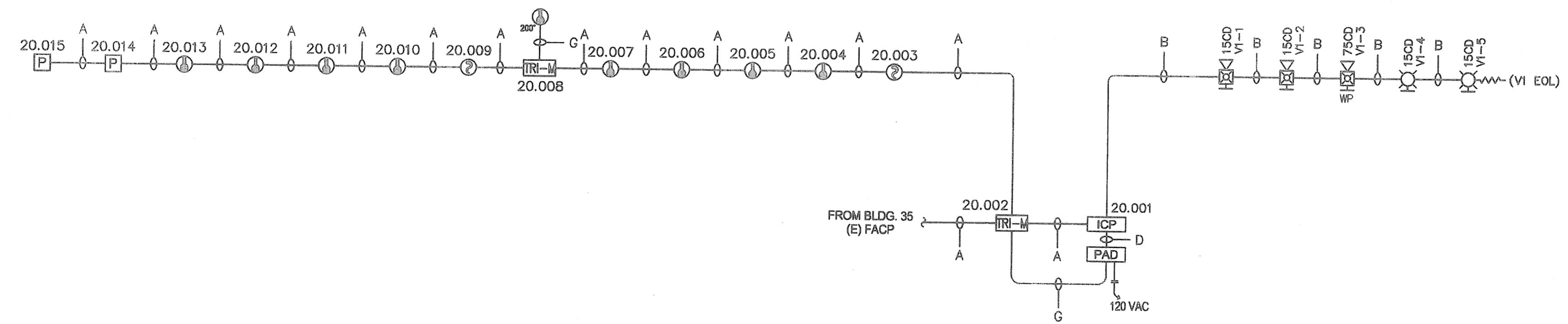
NOTE:  
1) USE APPROPRIATE END-OF-LINE RESISTOR VALUES for:  
MXL F.A. CONTROL PANEL ----- 2.2K, 1/2 WATT  
ZC1-BB ZONE CONTROL CARD ----- 24K, 1/2 WATT  
PS-24-BMC WHEELLOCK POWER BOOSTER----- 2.2K, 1/2 WATT

WHEELLOCK POWER BOOSTER (PS-24-8MC)

TRI-B6M MONITOR PS-24-8MC FOR TROUBLE CONDITION



DO NOT USE ANY KNOCK OUT HOLE BELOW THIS LINE FOR BATTERY CLEARANCE



FIRE ALARM RISER DIAGRAM - SOFTBALL TEAM ROOM BUILDING  
NOT TO SCALE

WHEELLOCK POWER BOOSTER CIRCUIT SCHEDULE

CIRCUIT NO:	PANEL NO:	DEVICE TYPE	LOCATION
CKT V1	PS-24-8MC #1	HORN/STROBES	SOFTBALL TEAM ROOM
SPARE	PS-24-8MC #1		
SPARE	PS-24-8MC #1		
SPARE	PS-24-8MC #1		

VOLTAGE DROP CALCULATION BASED ON #12 AWG MAXIMUM DISTANCE TO RETAIN A 7.5% VOLTAGE DROP

CKT	DISTANCE (ft.)	CURRENT LOAD (amps)	VOLTAGE DROP (%)	MAX DISTANCE (ft.) ALLOWED
V1	145	0.436	0.871	1248.09

VOLTAGE DROP CALCULATIONS (WORST CASE SHOWN)

FORMULA:  $VOLTAGE\ DROP\ CALCULATIONS\ (FOR\ A\ GIVEN\ LENGTH\ OF\ CONDUCTOR) = \frac{I \times D \times 21.6}{C.M.}$

WHERE:  
 I = AMPERES PER TERMINAL LOAD  
 D = ONE WAY DISTANCE OF CONDUCTOR (IN FEET) MEASURED FROM SOURCE OF SUPPLY TO LOAD  
 21.6 = CONSTANT (RESISTANCE OF CONDUCTORS AT 10.8 OHMS PER L.M. FOR TWICE THE LENGTH)  
 C.M. = CROSS SECTIONAL AREA IN CIRCULAR MILS (SEE TABLE AT RIGHT)

WIRE SIZE	CIRCULAR MILS (C.M.)
12 AWG	6530
14 AWG	4110
16 AWG	2580
18 AWG	1620
20 AWG	1020

GIVEN:  
 CIRCUIT DESIGNATION = V1  
 APPROX. LENGTH OF CONDUCTOR = 145 FEET  
 CURRENT LOAD = 0.436 AMPS  
 WIRE SIZE USED = 12 AWG

VOLTAGE DROP =  $\frac{0.436 \times 145 \times 21.6}{6530} = \frac{1385.552}{6530} = 0.209$  VOLTS

% OF VOLTAGE DROP =  $\frac{0.209}{24} \times 100 = 0.8713$  or **0.871 %**

NOTES:  
 1. THE OPERATING VOLTAGE OF DEVICE USED IS 18 TO 31 VDC. THE RESULTING VOLTAGE DROP IS WITHIN THIS OPERATING RANGE.  
 2. PERMISSIBLE VOLTAGE DROP IS 10% OR LESS

PS-24-8MC NAC PANEL No. 1 BATTERY CALCULATIONS

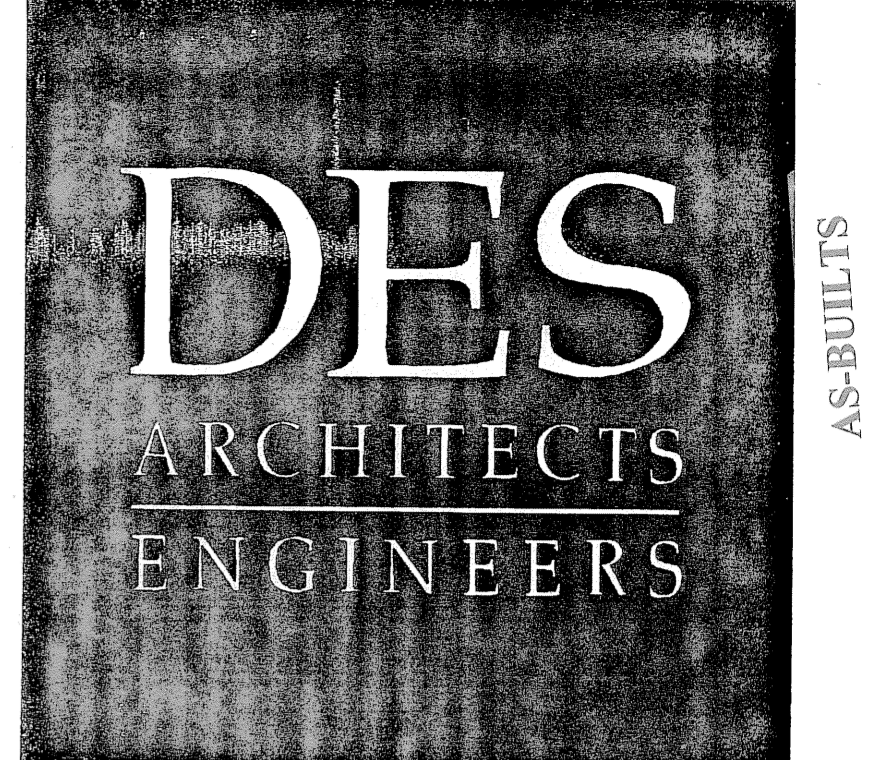
DESCRIPTION	QTY	DEVICE CURRENT	STAND BY CURRENT	ALARM CURRENT
PS-24-8MC NAC PANEL	1		0.075	0.075
TOTAL SUPERVISORY CURRENT			0.075	
TOTAL ALARM CURRENT				0.075
TOTAL CKT ALARM CURRENT				0.075

CKT# TOTAL CIRCUIT LOAD  
 V1 0.436  
 Spare 0  
 Spare 0  
 Spare 0

SUMMARY  
 A = TOTAL SUPERVISORY CURRENT x SUPERVISORY TIME REQUIRED = 0.075 AMPS x 24 HR = 1.800 AMP-HOUR  
 B = TOTAL ALARM CURRENT x ALARM TIME REQUIRED = 0.436 AMPS x 0.75 AMPS x .06 HR = 0.042 AMP-HOUR  
 C = A + B = 1.842 AMP-HOUR

SUPERVISORY TIME REQUIRED = 24 HR  
 ALARM TIME REQUIRED = 5 MINS. or .083 HR  
 BATTERY PROVIDED: WKA12-7.5F  
 BATTERY SIZE: 7.5 AMP-HOUR  
 TOTAL SYSTEM REQUIRED (A+B) = 1.842 AMP-HOUR  
 BATTERY RESERVE AFTER 24 HOURS SUPERVISORY & 5 MINUTES ALARM = 5.655 AMP-HOUR

NOTE:  
 ① FOOTBALL HALL OF FAME BUILDING IS A STAND-ALONE SYSTEM. FIRE ALARM DIAGRAM IS NOT NEEDED. PLEASE REFER TO SHEET FA0.06 FOR LOCATION OF FIRE ALARM DEVICES.



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**SAN MATEO COUNTY COMMUNITY COLLEGE DISTRICT ATHLETIC FIELDS PHASE 2**  
 COLLEGE OF SAN MATEO SOFTBALL FIELD TEAM ROOM & FOOTBALL HALL OF FAME San Mateo, Ca. 94402  
 1700 W. Hillsdale Blvd.

**FIRE ALARM POWER SUPPLY DETAILS / RISER DIAGRAM**

ISSUE DATE DESCRIPTION:  
 DSA 04/26/07 DSA SUBMISSION

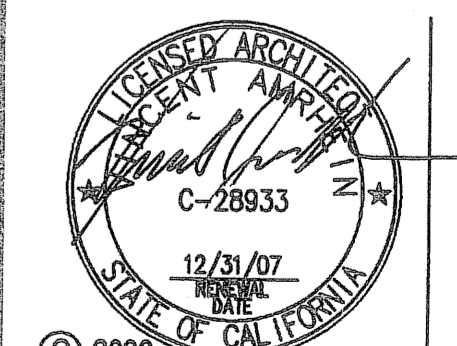
DRAWN BY: JOVEN MANLUTAC & JERI FABIAN

REVIEWED BY: KELLY ROGERS

APPROVED BY: KELLY ROGERS

SIEMENS JOB NO: 440P-022170

IDENTIFICATION STAMP  
 DIVISION OF THE STATE ARCHITECT  
 APPL # 01-108848  
 FILE # 41-C1  
 AC SAC FLS (S) SS  
 DATE OCT 10 2007



SHEET NO. **FA0.04**

Oct 09, 2007 - 2:19pm  
 K:\PIS\Ops\Engineering\California Projects\San Mateo\1700 West Hillsdale Boulevard - CSI\Whelock Bldg\02 Revised per Engineer's Co-440P-022170.dwg  
 mardelauj