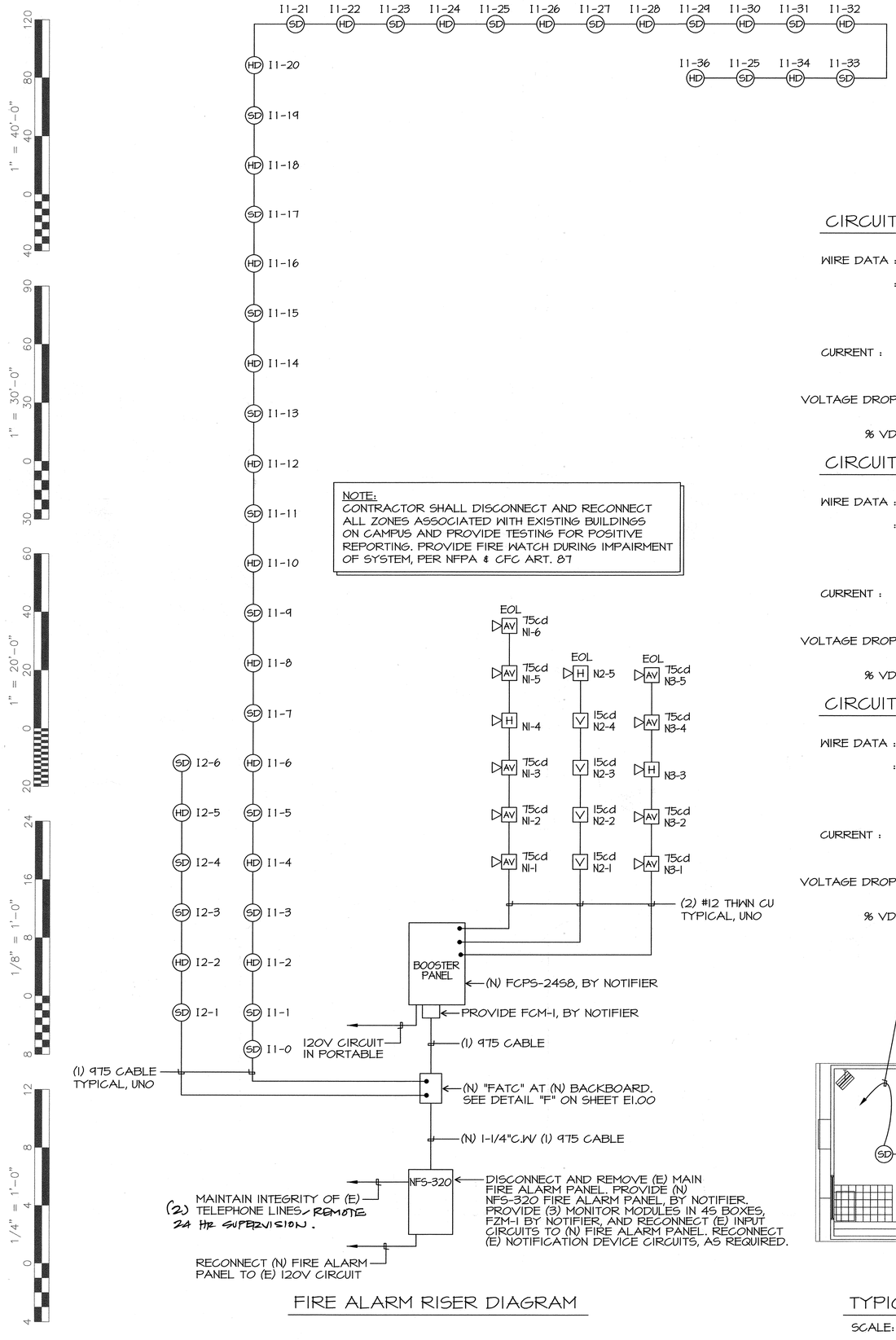


FIRE ALARM RISER DIAGRAM

CIRCUIT 'N1' VOLTAGE DROP CALC

WIRE DATA : USING #12 AWG. THWN WIRE AT 6530 CIR. MILS.

: (N) BOOSTER PANEL, TO NOTIFICATION CIRCUIT #1 (HORN/STROBE) EOL DEVICE

CURRENT : HORN 0.057 x 1 = 0.057A
HORN / STROBE = 0.176 x 5 = 0.88A
SUBTOTAL = 0.937A

VOLTAGE DROP = $\frac{2 \times 0.937A \times 562FT \times 2.05}{1000} = 2.16V$

% VD = 2.16V / 24V x 100% = 9%

CIRCUIT 'N2' VOLTAGE DROP CALC

WIRE DATA : USING #12 AWG. THWN WIRE AT 6530 CIR. MILS.

: (N) BOOSTER PANEL, TO NOTIFICATION CIRCUIT #2 (HORN) EOL DEVICE

CURRENT : HORN 0.057 x 1 = 0.057A
STROBE = 0.059 x 4 = 0.236A
SUBTOTAL = 0.293A

VOLTAGE DROP = $\frac{2 \times 0.293A \times 130FT \times 2.05}{1000} = 0.16V$

% VD = 0.16V / 24V x 100% = 0.7%

CIRCUIT 'N3' VOLTAGE DROP CALC

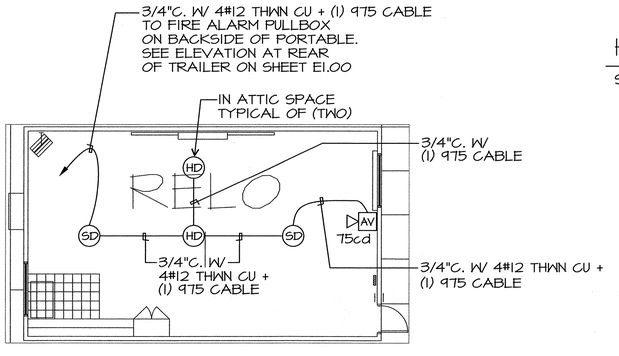
WIRE DATA : USING #12 AWG. THWN WIRE AT 6530 CIR. MILS.

: (N) BOOSTER PANEL, TO NOTIFICATION CIRCUIT #3 (HORN/STROBE) EOL DEVICE

CURRENT : HORN 0.057 x 1 = 0.057A
HORN / STROBE = 0.176 x 4 = 0.704A
SUBTOTAL = 0.761A

VOLTAGE DROP = $\frac{2 \times 0.761A \times 546FT \times 2.05}{1000} = 1.7V$

% VD = 1.7V / 24V x 100% = 7.1%



TYPICAL PORTABLE FIRE ALARM PLAN

SCALE: 1/8" = 1'-0"

FA SYMBOL LIST MATRIX

SYMBOL	DEVICE	MFR & CAT N.	REMARKS	CSFM LISTING
SD	SMOKE DETECTOR	NOTIFIER FSP-851	PROVIDE BASE B110 LP ON 4"SQ. DEEP BOX	7272-0028:206
AV	HORN STROBE (WALL MOUNT)	NOTIFIER P1224MC-75cd	PROVIDE 4"SQ. DEEP BOX	7135-1653:163
H WP	EXTERIOR HORN	NOTIFIER HI2/24K	PROVIDE MBB #46"	7135-1653:116
HD	HEAT DETECTOR (IN ATTIC SPACE)	NOTIFIER FST-851	PROVIDE 4"SQ. DEEP BOX	7270-0028:196
V	STROBE (WALL MOUNT)	NOTIFIER S1224MC-15cd	PROVIDE 4"SQ. DEEP BOX	7125-1653:162
	FIRE ALARM BOOSTER PANEL	NOTIFIER FCPS-2458	PROVIDE 7AH BATTERY	7315-0028:225
	MAIN FIRE ALARM PANEL	NOTIFIER NFS-320	PROVIDE 18AH BATTERY	7165-0028:243

BATTERY CALCS

STAND BY

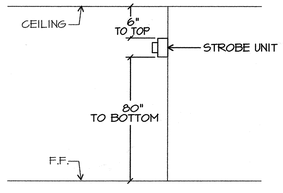
FCPS-2458	BOOSTER PANEL	= 0.065A

SUBTOTAL = 0.065A
x 24 HOURS = 1.56AH

ALARM

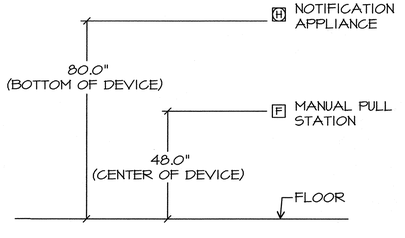
FCPS-2458	BOOSTER PANEL	= 0.145 = 0.145A
P1224MC	HORN STROBE 75cd	= 0.176 x 9 = 1.584A
S1224MC	STROBE 15cd	= 0.059 x 4 = 0.236A
HI2/24K	WP HORN	= 0.057 x 3 = 0.171A

SUBTOTAL = 2.136A
x 5min (0.0833) = 0.18AH
1.56AH + 0.18AH = 1.74AH
1.2 x 1.74AH = 2.088AH
SYSTEM BATTERY = 7.0AH
SPARE = 4.9AH



HORN/STROBE MOUNTING DETAIL

SCALE: NONE



F/A PULLSTATION MOUNTING DETAIL

SCALE: NONE

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ARCHITECTURE - ENGINEERING - INTERIOR DESIGN - CONSTRUCTION MANAGEMENT
6011 N. Fresno, Suite 130 - Fresno, California 93710
Phone (559)436-0881 Fax (559) 436-0887 E-Mail: design@somam.com
www.integrateddesigns.com

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Sheet Title: FIRE ALARM SYMBOLS & DETAILS

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9 PORTABLE CLASSROOMS - 1 RESTROOM
BAKERSFIELD CITY SCHOOL DISTRICT
1000 MING AVE. BAKERSFIELD, CA 93307

Issue Date:	ISSUE DATE
Date:	01/17/08
Designer:	-
DR:	-
PE:	-

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ELECTRICAL ENGINEERING
LIGHTING DESIGN
CA REGISTRATION NO E13083
07256
156 W. ALAMAR AVE.
SUITE B
SANTA BARBARA CA 93105
(805) 569-9026
FAX (805) 569-2405
email - malone@jmpe.net
www.jmpe.net

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