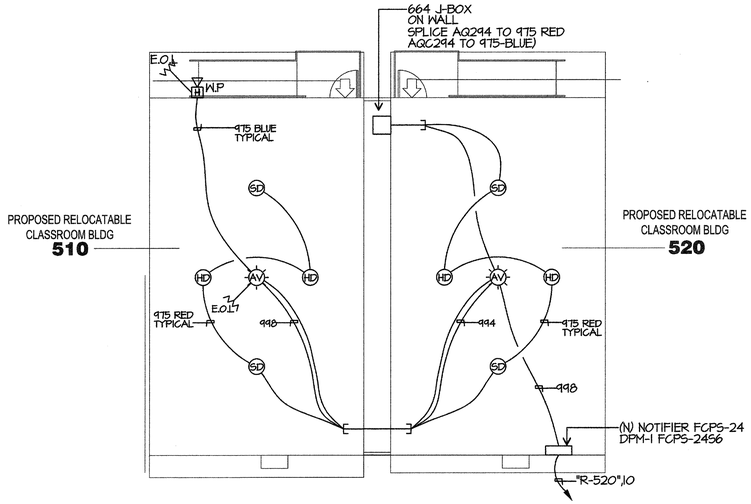
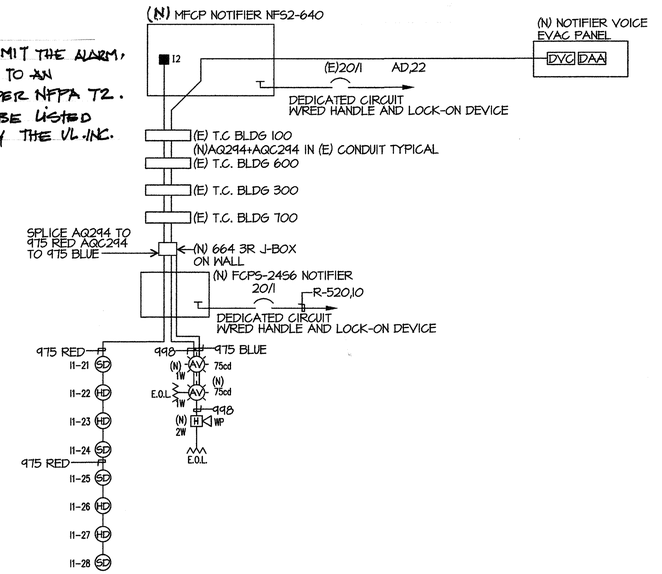


FIRE ALARM TYPICAL PORTABLE PLAN (B)

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

2013 CBC SECTION 907.6.5.3
FIRE ALARM SYSTEMS SHALL TRANSMIT THE ALARM, SUPERVISORY AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION PER NFPA 72. THE SUPERVISING STATION SHALL BE LISTED AS EITHER UUFX OR UUJS BY THE UL INC.



FIRE ALARM RISER DIAGRAM (A)

SCALE: NONE

FA SYMBOL LIST MATRIX

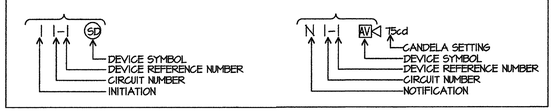
SYMBOL	DEVICE	MFR & CAT N.	REMARKS	CSFM LISTING
SD	SMOKE DETECTOR	NOTIFIER FSP-851	PROVIDE BASE B210 LP ON 4"SQ. DEEP BOX	7272-0028:0206
AV	SPEAKER/STROBE	NOTIFIER SPSR	PROVIDE 4"SQ. DEEP BOX	7320-1653:201
H WP	EXTERIOR HORN	NOTIFIER SPRK	PROVIDE MMBB >46"	7320-1653:201
	STROBE	NOTIFIER SR	PROVIDE 4" SQ. DEEP BOX	7125-1653:186
HD	HEAT DETECTOR (IN ATTIC SPACE)	NOTIFIER FST-851	PROVIDE BASE B210 LP ON 4"SQ. DEEP BOX	7270-0028:0196
	(N)MAIN FIRE ALARM PANEL	NOTIFIER NFS2-640	PROVIDE (2) DEDICATED PHONE LINES	7165-0028:0243
DPM	NAC POWER	NOTIFIER FCPS-2456		7315-0028:0225
DVC	DIGITAL VOICE COMMAND	NOTIFIER DVC-EM	SURFACE MOUNT	7165-0028:0224
DAA	DIGITAL AUDIO AMP	NOTIFIER DAA-5025	PART OF DVC	7165-0028:0224
	END OF LINE RESISTOR			
	AQ294 CABLE	WEST PENN		7161-0859:0101
	AQC294 CABLE	WEST PENN		7161-0859:0101

FIRE ALARM SEQUENCE OF OPERATION

RESPONSE \ INITIATION	AREA SMOKE DETECTOR	AREA THERMAL DETECTOR	AC POWER FAILURE
ANNUNCIATE AT FIRE CONTROL ROOM ALARM AND TROUBLE	YES	YES	YES (TROUBLE)
ANNUNCIATE AT 24 HOUR ATTEND LOCATION ALARM AND TROUBLE	YES	YES	YES (TROUBLE)
ACTIVATE AUDIO VISUAL THROUGHOUT FLOOR OF ALARM	YES	YES	YES
CENTRAL STATION MONITORING	YES	YES	YES

DEVICE NUMBERING LEGEND

DEVICE ADDRESS:



VOLTAGE DROP CALCULATIONS

CIRCUIT	2x	LENGTH x	AMPS x	RESISTANCE x	= VOLTS	VOLTAGE DROP
N5	2	100	0.354	0.00205	0.145	0.60 %

FIRE ALARM BATTERY CALCULATION DPM-2

HOCHIKI FN-642-ULADA

EQUIPMENT DESCRIPTION		QUANTITY EXISTING	QUANTITY NEW	SUPERVISORY CURRENT (AMPERES) EACH	SUPERVISORY CURRENT (AMPERES) SUB-TOTAL	ALARM CURRENT (AMPERES) EACH	ALARM CURRENT (AMPERES) SUB-TOTAL
DISTRIBUTED POWER MODULE		0	1	0.09	0.09	0.175	0.175
FCM-1		0	1	0.0003	0.0003	0.0003	0.0003
		0	0		0	0	0
HORNS		0	1	0	0	0.062	0.062
AUDIBLE/VISUALS	15 cd	0		0	0	0.168	0
AUDIBLE/VISUALS	15/75 cd	0		0	0		0
AUDIBLE/VISUALS	30 cd	0		0	0		0
AUDIBLE/VISUALS	75 cd	0	0	0	0	0	0
AUDIBLE/VISUALS	110 cd	0	0	0	0	0	0
	15cd	0	0	0	0	0	0
VISUALS	30 cd	0	0	0	0	0	0
VISUALS	75 cd		2		0	0.121	0.242
VISUALS	110 cd	0	0	0	0	0	0
SUB TOTAL AMPERES				0.0903	AMPS	0.4793	AMPS
				x 24	HOURS	x 0.084	HOURS
SUB TOTAL AMPERE-HOURS				2.1672	A.H.	0.040261	A.H.
TOTAL REQUIRED AMPERE-HOURS FOR DISTRIBUTED POWER MODULE						2.207461	A.H.
BATTERY NON-LINEAR DISCHARGE CHARACTERISTIC FACTOR						x 1.2	
TOTAL MINIMUM AMPERE HOURS REQUIRED						2.648953	A.H.
PROVIDED BATTERY CAPACITY						7.00	A.H.

(N) FIRE ALARM BATTERY CALCULATION NFS-640

EQUIPMENT DESCRIPTION		QUANTITY EXISTING	QUANTITY NEW	SUPERVISORY CURRENT (AMPERES) EACH	SUPERVISORY CURRENT (AMPERES) SUB-TOTAL	ALARM CURRENT (AMPERES) EACH	ALARM CURRENT (AMPERES) SUB-TOTAL
FIRE ALARM PANEL		1	0	0.1	0.1	0.1	0.1
DIGITAL ALARM COMMUNICATOR		1	0	0.02	0.02	0.02	0.02
SUPERVISED OUTPUT MODULE				0.00022	0	0.0003	0
				0	0.0121	0	0.176
SMOKE DETECTOR		5	4	0.00039	0.00936	0.00039	0.00936
HEAT DETECTOR		3	4	0.00035	0.0077	0.00035	0.0077
HORNS		8	0		0	0.062	0.124
AUDIBLE/VISUALS	75 cd	18	0		0	0.121	1.21
AUDIBLE/VISUALS	15 cd	21			0	0.052	1.092
SUB TOTAL AMPERES				0.14916	AMPS	2.73906	AMPS
				x 24	HOURS	x 0.084	HOURS
SUB TOTAL AMPERE-HOURS				3.57984	A.H.	0.230081	A.H.
TOTAL REQUIRED AMPERE-HOURS FOR DISTRIBUTED POWER MODULE						3.809921	A.H.
BATTERY NON-LINEAR DISCHARGE CHARACTERISTIC FACTOR						x 1.2	
TOTAL MINIMUM AMPERE HOURS REQUIRED						4.571905	A.H.
BATTERY AH SUPPLIED (NEW)						27.00	A.H.

PRIME CONSULTANT

IBI ARCHITECTURE PLANNING
San Luis Obispo
4119 Broad Street, Suite 210
San Luis Obispo, CA 93401
805.546.0433 fax:805.546.0504

SEAL

LICENSED ARCHITECT RICHARD MAHONEY No. C18079 REN. 10/17 STATE OF CALIFORNIA

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REVISIONS

NO.	DATE	APPRD.	DESCRIPTION

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REGISTERED PROFESSIONAL ENGINEER JAMES M. LOW No. E13083 Exp. 06/30/2017 ELECTRICAL STATE OF CALIFORNIA

AGENCY INFORMATION:

AGENCY TRACKING NO. 63321-154
FILE NO. 15-6

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
03-117035
AC — FLS 4 SS 84
DATE 10/28/2016

BAKERSFIELD CITY SCHOOL DISTRICT

CHIPMAN JR. HIGH SCHOOL (2) RELOCATABLES

2905 EISSLER STREET
BAKERSFIELD, CA 93306

OPSC or OSHPD PROJ. NO:
PROJECT NO: 14146.000
DRAWN BY: AC
[redacted] KT
ISSUE DATE: 04/27/2016

SHEET TITLE

FIRE ALARM RISER CALCULATIONS

SHEET NUMBER

E-0.2

PLOT DATE: 7/10/2013 7:43:02 AM J:\13128_BC_Nichols\5.0 Drawings\5Sarch\current\ATWsite-2013-06-11.rvt