SEQUENCE OF OPERATION MATRIX

	MANUAL PULL STATION	SMOKE DETECTOR	THERMAL DETECTOR	SPRINKLER WATERFLOW SWITCH	SPRINKLER TAMPER VALVE	UDACT PHONE LINES	ALL CIRCUITS	PRIMARY POWER FAILURE	SECONDARY POWER FAILURE
ANNUNCIATE AT FIRE CONTROL ROOM	YES	YES	YES	YES	YES	YES	YES	YES	YES
ANNUNCIATE AT 24-HOUR ATTENDED REMOTE LOCATION A = ALARM T = TROUBLE S = SUPERVISORY	YES / A	YES / A	YES / S	YES / A	YES / S	YES / S	YES / S	YES / T	YES / T
ACTIVATE ALARM STROBES & HORN/STROBES	YES	YES	NO	YES	NO	NO	NO	NO	NO
ANNUNCIATE AT GRAPHIC PANEL	YES	YES	YES	YES	YES	NO	NO	NO	NO

WIRE DETAILS:

#14 AWG = TYPE THHN SIGNAL WIRE .109 O.D. 7 STRANDS (COPPER)

#16 AWG = TYPE TFN SIGNAL WIRE .083 O.D. 7 STRANDS (COPPER)

#18 AWG = TYPE TFN SIGNAL WIRE .078 O.D. 7 STRANDS (COPPER)

2c#18shp = SIGNAL CABLE SHIELDED, TWISTED PAIR .1875 O.D. 7 STRANDS (COPPER)

CABLE TO BE USED ON SYSTEM SHALL BE BSCC POWER LIMITED FIRE PROTECTION SIGNAL CABLE STATE FIRE MARSHAL #7161-1261:100

INSTALLATION DEPT. NOTES

COLOR CODING FOR CONTROL WIRING	JUNCTION BOX LOCATIONS AND / OR ELEVATIONS	DEVICE JUNCTION BOX TYPES DO NOT GANG DEVICES
FIRST ALARM SIGNALS #16 RED (+) BLACK (-) CIRCUIT 'A' DETECTION GRAY JACKET 18/2 SHIELD CLEAR (+COMMON ON BASE) BLACK (-SPLITS ON BASE) MANUAL RELEASE STATIONS BLUE JACKET 18/2 SHIELD NON-POLARIZED DEVICE	MANUAL RELEASE STATIONS 4' O/C ABOVE FIN. FLOOR FIRE ALARM CONTROL PANELS; ADJACENT EXTENDER PANELS AND GRAPHIC ANNUNCIATORS 5 1/2' TO TOP OF BACKBOX	CEILING SMOKE DET. 4/S BOX W/ 3/0 PLAST. RING OR 4/0 BOX ALL ALLEN BRADLEY DEV.-2 GANG, MANUAL RELEASE STATIONS- 1 GANG

GENERAL NOTES

1 - A DEDICATED 120 VAC CIRCUIT, MIN. 15 AMPS TO BE PROVIDED AT FIRE CONTROL PANEL WITH LOCKOUT TO BE INSTALLED ON CIRCUIT BREAKER. (BY OTHERS)

2 - ALL WIRING, INITIATING DEVICES AND ANNUNCIATOR PANEL SHALL BE SUPERVISED TO THE PRINCIPAL POINT OF ANNUNCIATION (FIRE ALARM PANEL TO SUPERVISE THE ANNUNCIATOR PANEL, ALL CIRCUITS AND INITIATING DEVICES).

3 - WIRING SHALL NOT BE LOOPED THROUGH DEVICES - WIRE MUST BE CUT FOR IN AND OUT.

4 - POINT AND COMMON ANNUNCIATION AND T-TAPPING ARE PROHIBITED.

5 - ALL DEVICES IN THE ALARM SYSTEM SHALL BE COMPATIBLE AND INSTALLED TO MANUFACTURERS SPECIFICATIONS

6 - AUDIBILITY OF ALARM AND VOICE COMMUNICATION SHALL BE NOT LESS THAN 15 db ABOVE AMBIENT SOUND THROUGHOUT AREA OF ALARM

7 - A ONE PERSON PRIVATE OFFICE LESS THAN 400 SQUARE FEET GROSS AREA SHALL NOT BE CONSIDERED AS AN AREA FOR COMMON USE.

8 - CONDUIT FILL IS IN ACCORDANCE WITH TABLE 1 (PERCENT OF CROSS SECTION OF CONDUIT AND TUBING FOR CONDUCTORS) AND TABLE 4 (DIMENSION AND PERCENT OF AREA OF CONDUIT AND OF TUBING) OF NFPA 70, CHAPTER 9.

9 - CALPROTECTION SHALL PROVIDE DOCUMENTATION OF THE REQUIRED NFPA 72 CERTIFICATION PAPER UPON FINAL INSTALLATION. DOCUMENTATION SHALL BE SUBMITTED AT TIME OF FINAL INSPECTION TO THE CITY OF OAKLAND FIRE DEPARTMENT.

10 - CENTRAL MONITORING COMPANY:
CALPROTECTION
6735-B SIERRA CT.
DUBLIN, CALIFORNIA 94568-2611
U.L. FILE-VOL. NO.: S3360-2

11 - THE AREA SMOKE DETECTORS SHALL NOT BE LOCATED WITHIN 3 FEET OF HVAC SUPPLY AIR DIFFUSERS.

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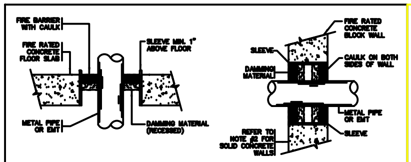

CONCRETE FLOOR SECTION VIEW

CONCRETE WALL SECTION VIEW

NOTES:

1. THE MAXIMUM ANNULAR SPACE TO BE FILLED IS 2" THE MINIMUM ANNULAR SPACE IS 3/4" THE MAXIMUM PIPE SIZE IS A NOMINAL 4" DIAMETER.
2. FOR SOLID CONCRETE WALLS, THE CAULK MAY BE CENTERED IN THE WALL WITH DAMMING MATERIAL ON BOTH SIDES OF THE CAULK.
3. PENETRATIONS SHALL BE CAULKED ON BOTH SIDES. SELF LEVELING CAULK SHALL BE USED ON ALL HORIZONTAL SURFACES.
4. THE DEPTH OF THE CAULK SHALL BE IN ACCORDANCE WITH THE FOLLOWING TABLE:

CAULK DEPTH (MIN.)	INSULATION
1"	1" THICK
2"	2" THICK

5. INSTALLATION MUST CONFORM WITH PRODUCT MANUFACTURERS PERFORMANCE RATINGS PER ASTM E-814 (UL 1479) FIRE TEST AND UL RESPECTIVE CLASSIFICATION FOR FIRE STOPPING.

PENETRATION FIRESTOP FOR INSULATED METAL PIPE THROUGH A CONCRETE FLOOR OR WALL

PLAN VIEW

NOTES:

1. THE SPACE BETWEEN THE PENETRATING ITEM AND WALL BOARD MUST ACCOMODATE AT LEAST ONE WRAP OF 1/4" FIRE BARRIER WRAP/STRIP.
2. IF THE ANNULAR SPACE IS LESS THAN 1/2", ONE WRAP OF WRAP/STRIP IS REQUIRED.IF THE ANNULAR SPACE IS 1/2" OR GREATER, FILL WITH ADDITIONAL WRAPS OF WRAP/STRIP UNTIL THE SPACE IS LESS THAN 1/4".WRAP/STRIP MAY BE FRICTION FIT INTO OPENING SECURED WITH FOIL TAPE OR 18 GAUGE STEEL TIE WIRE.
3. SLIDE THE WALL STRIPS INTO THE OPENING, LEAVING A MAXIMUM OF 3/4" EXPOSED WRAP BEYOND THE WALL SURFACE.
4. SEAL THE WRAP/STRIP EDGES AND SEAMS WITH 1/4" MINIMUM BEAD OF FIRE BARRIER CAULK.
5. INSTALL FIRESTOP ON BOTH SIDES OF THE WALL.
6. INSTALLATION MUST CONFORMWITH PRODUCT MANUFACTURES PERFORMANCE RATINGS PER ASTM E-814 (UL 1479) FIRE TEST AND UL RESPECTIVE CLASSIFICATION FOR FIRE STOPPING.

PENETRATION FIRESTOP FOR INSULATED METAL PIPE THROUGH GYPSUM WALL BOARD

CHANGE ORDER #8:

FURNISH AND INSTALL FOUR(4) NOTIFIER CMX-2 CONTROL MUDULE TO RELEASE THE SMOKE GUARD FIRE DOORS IN FRONT OF ELEVATOR DOORS IN THE BASEMENT AND SECOND FLOOR.

CHANGE ORDER #4:

FURNISH AND INSTALL FOUR(4) NOTIFIER DHX-501 DUCT DETECTOR AND CMX-2 CONTROL MODULE FOR AHU-1.

SCOPE OF WORK

FURNISH AND INSTALL A BUILDING FIRE ALARM SYSTEM.

TESTING TYPE: FUNCTIONAL TEST.

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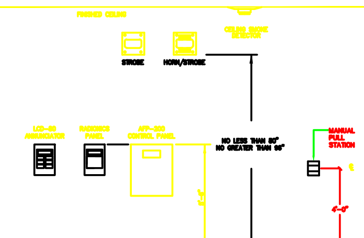
VICINITY MAP N.T.S.



EQUIPMENT ELEVATION DETAIL

ITEM #	LEG. SYM.	NEW QTY.	L.H. QTY.	EX. QTY	CO# QTY	CO# QTY	CO# QTY	MANUFACT. PART NO.	C.S.S.I. PART NO.	ITEM DESCRIPTION	CSFM LISTING #
		0	0	0	4	0	0	ST-5	TUB27-5	NOTIFIER ST-5 SAMPLING TUBE, 4'-8'	7300-0028:148
		0	0	0	4	0	0	SDX-551	SMO27-SDX	NOTIFIER SDX-551 INELLIGENT PHOTOLECTRIC SMOKE DETECTOR	7272-0028:148
		0	0	0	4	0	0	DHX-501	DUC27-DHX501	NOTIFIER DHX-501 INTELLIGENT DUCT DETECTOR HOUSING	3240-0028:158
		0	0	0	0	1	0	B501BH		NOTIFIER SMOKE DETECTOR SOUNDER BASE	7300-0028:173
		0	0	4	0	0	0	BX-501	BAS27-BX501	STANDARD US BASE	7300-0028:173
		0	0	4	0	0	0	FDX-551R	THM27-FDXR	NOTIFIER FDX-551 SERIES INTELLIGENT THERMAL DETECTOR	7270-0028:167
		0	0	4	0	0	0	1504-AQ	MAG05-24F	EST ELECTROMAGNETIC DOOR HOLDER. 24 VAC/DC. FLUSH WALL MOUNT	3550-1388:100
		0	0	2	0	0	0	MMX-1	MOD27-MMX1	MONITOR MODULE	7165-0028:164
		0	0	4	1	0	4	PAM-1	REL42-PAM1	AIR PRODUCTS & CONTROLS PAM-1 RELAY. SPDT W/ LED	7300-1004:101
		0	0	8	5	0	0	AS-24110W-FR	AVC31-110	WHEELOCK AS SERIES STROBE. 110 CANDELA. WALL MOUNT. RED	7125-0785:131
		0	0	3	2	0	0	AS-2475W-FR	AVC31-75	WHEELOCK AS SERIES STROBE. 75 CANDELA. WALL MOUNT. RED	7125-0785:131
		0	0	2	0	0	0	AS-2430W-FR	AVC31-30	WHEELOCK AS SERIES STROBE. 30 CANDELA. WALL MOUNT. RED	7125-0785:131
		0	0	15	-1	0	0	AS-2415W-FR	AVC31-15	WHEELOCK AS SERIES STROBE, 15 CANDELA, WALL MOUNT, RED	7125-0785:131
		0	0	3	0	0	0	RSS-24110W-FR	STR31-110	WHEELOCK RSS SERIES STROBE, 24VDC, 110 CANDELA, WALL MOUNT, RED	7125-0785:141
		0	0	3	1	0	0	RSS-2475W-FR	STR31-75	WHEELOCK RSS SERIES STROBE, 24VDC, 75 CANDELA, WALL MOUNT, RED	7125-0785:141
		0	0	1	0	0	0	RSS-2430W-FR	STR31-30	WHEELOCK RSS SERIES STROBE, 24VDC, 30 CANDELA, WALL MOUNT, RED	7125-0785:141
		0	0	16	0	0	0	RSS-2415W-FR	STR31-15	WHEELOCK RSS SERIES STROBE, 24VDC, 15 CANDELA, WALL MOUNT, RED	7125-0785:141
		0	0	5	0	0	0	DSM-12/24-R	MOD31-DSM	WHEELOCK DUAL SYNC MODULE	7300-0785:132
		0	0	6	0	0	0	PS-1270	BAT10-1270	POWERSONIC BATTERIES, 12V, 7AH	------
		0	0	3	0	0	0	FCPS-24		NOTIFIER FCPS-24 REMOTE CHARGER POWER SUPPLY	7315-0028:178
		0	0	4	1	0	4	CMX-2	MOD27-CMX2	NOTIFIER CONTROL MODULE	7300-0028:166
		0	0	14	0	2	0	MMX-101	MOD27-MMX101	NOTIFIER MONITOR MODULE	7165-0028:164
		0	0	1	0	0	0	NBG-10WP		NOTIFIER NBG-10 SERIES MANUAL PULL STATION W/ WEATHERPROOF BACKBOX	7150-0028:139
		0	1	15	-1	0	0	B710LP	BAS27-710	NOTIFIER STANDARD SMOKE DETECTOR LOW-PROFILE BASE	7300-0028:173
		0	1	15	0	0	0	CPX-751	SMO27-CPX751	NOTIFIER INTELLIGENT IONIZATION DETECTOR	7271-0028:171
		0	5	12	-5	0	0	BGX-101L	PUL27-101L	NOTIFIER ADDRESSABLE MANUAL PULL STATION	7150-0028:003
		0	0	1	0	0	0	UBS-1		METAL ENCLOSURE FOR UDACT	7300-0028:174
		0	0	1	0	0	0	UDACT	MOD27-UDACT	NOTIFIER UNIVERSAL DIGITAL ALARM COMMUNICATOR TRANSMITTER	7300-0028:174
		0	0	1	0	0	0	ABS-1T	BBX27-ABS1	NOTIFIER ANNUNCIATOR DEEP SURFACE BACKBOX	------
		0	0	1	0	0	0	LCD-80	ANN27-LCD80	NOTIFIER LIQUID CRYSTAL DISPLAY ANNUNCIATOR	7120-0028:155
		0	0	2	0	0	0	PS-12120	BAT10-12120	POWERSONIC BATTERIES. 12V. 12.0 AH	------
		0	0	1	0	0	0	SBB-4XR	BBX27-4XR	NOTIFIER AFP-200 BACKBOX. RED	------
		0	0	1	0	0	0	BEAFP-200R	PAN27-AFP200	NOTIFIER AFP-200 ANALOG FIRE PANEL. RED	7165-0028:164

BILL OF MATERIALS

2505 MIRA MAR AVENUE
LONG BEACH, CA. 90815
F 562 494 3567
T 562 498 0444

TYPE OF SYSTEM
FIRE ALARM SYSTEM

CLIENT
SASCO ELECTRIC
1600 MEMOREX DRIVE
SANTA CLARA, CALIFORNIA 95050-2842

NO.	ISSUE DATE	DESCRIPTION	BY
1	4-24-2000	FOR REVIEW	RCA
2	4-25-2000	FOR SUBMITTAL	RCA
3	6-8-2000	REV. PER PLAN CHECK CORRECTIONS.	RCA
4	6-23-2000	CHANGE ORDER #4	RCA
5	6-23-2000	CHANGE ORDER #6	RCA
6	6-23-2000	CHANGE ORDER #8	RCA
7	6-23-2000	REV. PER PLAN CHECK CORRS. #2	RCA
8	10-10-00	AS BUILT	HH

AS BUILT BY
[illegible]

LAWRENCE BERKELEY
NATIONAL LABORATORY
COMPUTING CENTER
415 20th STREET
OAKLAND, CALIFORNIA 94612

FIRE ALARM SYSTEM UPGRADE

[illegible]	AL-00224
[illegible]	AL-0022401.DWG
[illegible]	BY
[illegible]	HMB
[illegible]	RCA
[illegible]	N/A

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