SEQUENCE OF OPERATION MATRIX

	BASEMENT SMOKE DETECTOR
ANNUNCIATE AT FIRE CONTROL ROOM	YES
ANNUNCIATE AT 24-HOUR ATTENDED REMOTE LOCATION A = ALARM T = TROUBLE S = SUPERVISORY	YES / A
ACTIVATE ALARM STROBES & HORN/STROBES	YES
ANNUNCIATE AT GRAPHIC PANEL	NO

WIRE DETAILS:

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

#16 AWG = TYPE TFN SIGNAL WIRE .063 O.D. 7 STRANDS (COPPER)

#18 AWG = TYPE TFN SIGNAL WIRE .046 O.D. 7 STRANDS (COPPER)

2x#18awg = 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 #7161-1281:100

INSTALLATION DEPT. NOTES

COLOR CODING FOR CONTROL WIRING	JUNCTION BOX LOCATIONS AND / OR ELEVATIONS	DEVICE JUNCTION BOX TYPES DO NOT SHOW DEVICES
FIRST ALARM SIGNALS (#18 RED (+) BLACK (-) CIRCUIT "X" DETECTION (SHIP JACKET 18/2 SHIELD CLOR (+)CHARGE ON SHIELD BLACK (-)SPLITS ON SHIELD 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 6 1/2' TO TOP OF BACKBOX	CEILING SMOKE DET. 4/0 BOX 3/ 3/0 PLAST. RING OR 4/0 BOX ALL ALARM SNOOLEY BOX-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

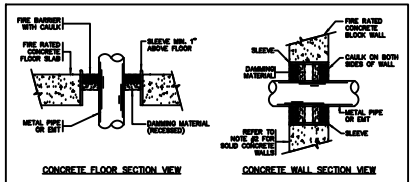
7 – A ONE PERSON PRIVATE OFFICE LESS THAN 400 SQUARE FEET GROSS AREA SHALL NOT BE CONSIDERED AS AN AREA FOR COMMON USE.

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 6735-9 SIERRA CT. DUBLIN, CALIFORNIA 94568-3911 U.L. FILE-NOL, NOLU 5339-3

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



CONCRETE FLOOR SECTION VIEW — CONCRETE WALL SECTION VIEW

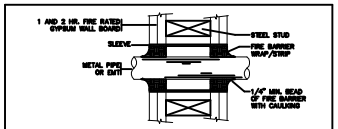
NOTES:

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 1/4" 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 16 GAUGE STEEL TIE WIRE.
3. SLICE 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

PROJECT DATA

AREA: 10,048 SQ. FT.

LOCATION OF WORK: BASEMENT

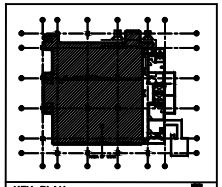
NUMBER OF STORIES: 4 FLOORS + BASEMENT & ROOF

SPRINKLERED: YES

SCOPE OF WORK:

1. FURNISH AND INSTALL TWENTY SIX (26) PHOTOELECTRIC SMOKE DETECTORS IN THE BASEMENT.

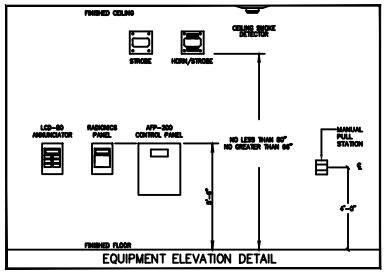
TESTING TYPE: FUNCTIONAL TEST.



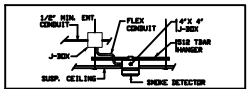
KEY PLAN N. T. S.

G:\DWG\2000\AL-00224\MAP.gif

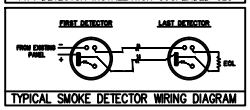
VICINITY MAP N. T. S.



EQUIPMENT ELEVATION DETAIL



TYP. DETECTOR INSTALLATION SUSPENDED CLG



TYPICAL SMOKE DETECTOR WIRING DIAGRAM

TRIM #	LEG. SYMB.	NEW QTY.	LIK. QTY.	EX. QTY	CO/PO QTY	CO/DEC QTY	MANUFACT. PART NO.	C.E.S.L. PART NO.	ITEM DESCRIPTION	CSFM LISTING #
0	—	0	0	26	0	0	70-00000-100	84000-100	FENWALNET COMMON MOUNTING BASE	7300-1076:167
0	UL	0	0	26	0	0	71-00000-100	84000-7183	FENWAL SIMPLEX PIE-7183 PHOTO SMOKE DETECTOR, CEILING, ADDRESSABLE	7272-1076:143

BILL OF MATERIALS

G:\Eng\AutoCAD\Support Files\GREY.W

2600 MINA WAY AVENUE
LONG BEACH, CA. 90815
P 562 494 3937
F 562 495 6444

TYPE OF WORK: FIRE ALARM SYSTEM MODIFICATION

CLIENT: NO LAWRENCE BERKELEY LAB, PO BOX 808, BERKELEY, CA 94701

NO.	WORK DATE	DESCRIPTION	BY
1	12-14-00	FOR SUBMITTAL	BPK
2	03-28-01	AS-BUILT	AA

AS BUILT BY: ELECTRICAL WORK DATE BY; MECHANICAL WORK DATE BY; CHECK-OUT TECHNICIAN WORK DATE BY

PROJECT NAME:

LAWRENCE BERKELEY NATIONAL LABORATORY BASEMENT
415 20TH STREET
OAKLAND, CA 94612

SHEET DESCRIPTION: TITLE SHEET

PROFESSIONAL STAMPS

Registered Professional Engineer (EXP. 06/30/2002)

PROJECT NUMBER: AL-00813
FILE NAME: AL-00813fi.dwg
DRAWN BY: BY
CHECKED BY: HHB
SHEET BY: BPK
SCALE: N/A
DRAWING NUMBER: 6484
SHEET NUMBER: FP 1.0

FILE: 00012451
4N943E069

PROJ. NO. FH0113