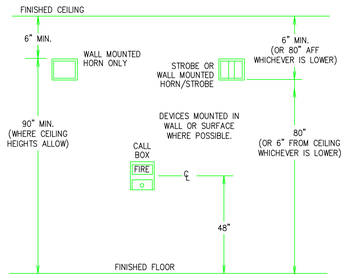
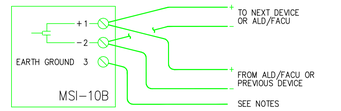
TYPICAL DEVICE/APPLIANCE DETAIL – DETAIL 1



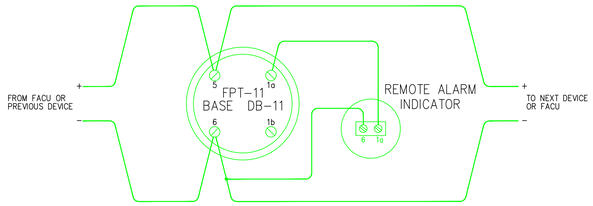
TYPICAL FIRE CALL BOX WIRING DETAIL – DETAIL 4



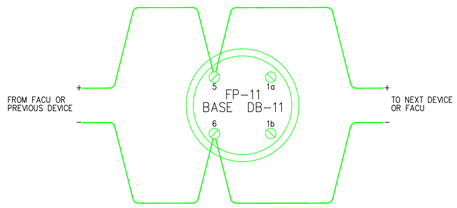
NOTES: WHEN USING SHIELDED CABLE (WITH OR WITHOUT CONDUIT)
CONNECT THE CABLE SHIELD THROUGH THE ELECTRICAL BOX WITH NO CONNECTION TO THE DEVICE TERMINAL BLOCK OR GROUND. DO NOT GROUND THE SHIELD ANYWHERE ELSE BUT AT THE SPECIFIED LOCATION ON THE CONTROL PANEL.

WHEN USING CONDUIT WITHOUT SHIELDED CABLE
GROUND THE CONDUIT ADEQUATELY AND CONTINUALLY. THEN CONNECT TERMINAL 3 (EARTH GROUND) OF THE MSI TO THE ELECTRICAL BOX IN WHICH IT IS MOUNTED. ON THE CONTROL PANEL.

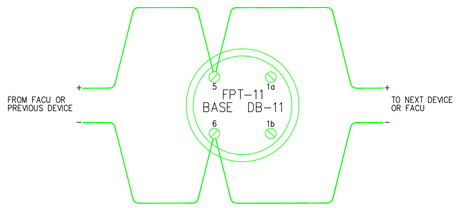
TYPICAL DETECTOR W/REMOTE ALARM INDICATOR WIRING DETAIL – DETAIL 8



TYPICAL SMOKE DETECTOR WIRING DETAIL – DETAIL 2



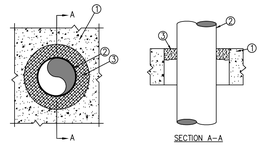
TYPICAL HEAT DETECTOR WIRING DETAIL – DETAIL 5



TYPICAL FLOOR/CEILING PENETRATION DETAIL – DETAIL 9

SYSTEM NO. CAJ1027

F RATING – 3 HOUR
T RATING – 0 HOUR



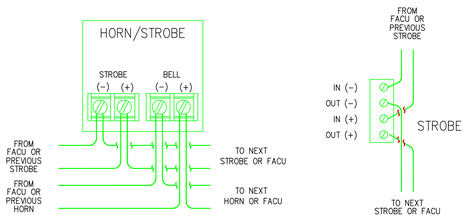
1) FLOOR OR WALL ASSEMBLY – MIN 4–1/2 IN. THICK LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS. MAX THROUGH OPENING SIZE IS 12.4 SQ IN. SEE CONCRETE BLOCKS (CAZT) CATEGORY IN FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.

2) PIPE OR CONDUIT – NOM. 10 IN. DIA. (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE, NOM 6 IN. DIA. (OR SMALLER) RIGID STEEL CONDUIT, NOM 4 IN. DIA. (OR SMALLER) STEEL EMT OR NOM 3 IN. DIA. (OR SMALLER). TYPE L (OR HEAVIER) COPPER PIPE. MAX ONE PIPE OR CONDUIT PER THROUGH OPENING. MAX ANNULAR SPACE BETWEEN PIPE OR CONDUIT AND EDGE OF OPENING IS 3/4 IN. MIN ANNULAR SPACE BETWEEN PIPE OR CONDUIT AND EDGE OF OPENING IS 0 IN. (POINT CONTACT). PIPE OR CONDUIT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.

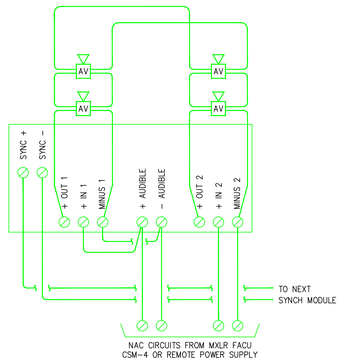
3) FILL VOID OR CAVITY MATERIALS – PUTTY–MOLDABLE PUTTY MATERIAL KNEEDED BY HAND AND APPLIED TO FILL ANNULAR SPACE TO A MIN DEPTH OF 1 IN FLUSH WITH TOP SURFACE OF FLOOR. IN WALL ASSEMBLIES, REQUIRED PUTTY THICKNESS TO BE INSTALLED SYMMETRICALLY ON BOTH SIDES OF WALL.

MINNESOTA MINING & MFG. CO.– MPS–2+.
BEARING THE UL CLASSIFICATION MARKING.

TYPICAL NOTIFICATION APPLIANCE WIRING DETAIL – DETAIL 3



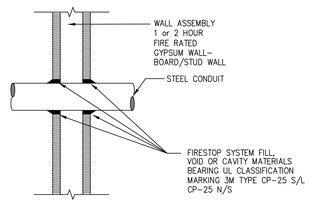
TYPICAL SYNCHRONIZATION MODULE WIRING DETAIL – DETAIL 6



TYPICAL WALL PENETRATION DETAIL – DETAIL 10

SYSTEM NO. WL1001

F RATING – 1 & 2 HOUR
T RATING – 0, 1, 1–1/2 & 2 HOUR



1) SEAL ALL PENETRATIONS IN ACCORDANCE WITH APPLICABLE CODES TO PRESERVE ORIGINAL FIRE HOUR RESISTANCE OF WALLS, FLOORS OR CEILINGS. USE UL DIRECTORY ASSEMBLY NOS. 49 & 328, AS APPLICABLE FOR ALL FIRE WALL PENETRATIONS.

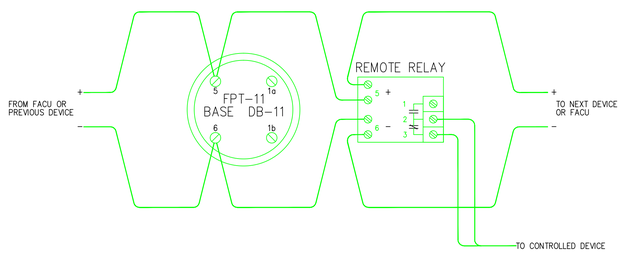
2) AT FIRE SEPARATION WALLS, WRAP CONDUIT WITH 3M CONDUIT WRAP FS–195 TO WITHIN 1/4" OF OPENING; FILL THE GAP AND COVER EDGE OF WRAP WITH 3M–CP25 CAULK AND/OR #303 PUTTY.

FIRE ALARM SYSTEM LEGEND

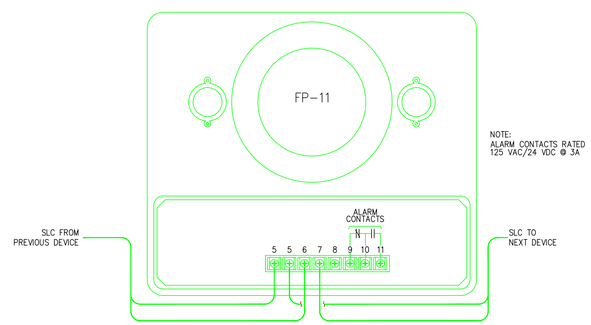
L1–01	SMOKE DETECTOR, ADDRESS AS NOTED
L1–02 DS	DUCT SMOKE DETECTOR, ADDRESS AS NOTED
L1–03	FIRE CALL BOX, ADDRESS AS NOTED
L1–04 RI	SMOKE DETECTOR WITH REMOTE INDICATOR, ADDRESS AS NOTED
L1–04 RB	SMOKE DETECTOR WITH RELAY BASE, ADDRESS AS NOTED
L1–04	SIDEWALL MOUNTED SMOKE DETECTOR, ADDRESS AS NOTED
FACU	FIRE ALARM SYSTEM CONTROL UNIT (MXL)
V–01 15 cd S	STROBE, APPLIANCE NUMBER & MINIMUM CANDELA RATING AS NOTED
A–01 110 cd AV	HORN/STROBE, APPLIANCE NUMBER AND MINIMUM CANDELA AS NOTED
A–01 H	HORN, APPLIANCE NUMBER AND MINIMUM CANDELA AS NOTED
RCC	REMOTE COMMAND CENTER (RCC–2)
L1–05 VS	FIRE SPRINKLER VALVE SUPERVISORY SWITCH, ADDRESS AS NOTED
L1–06 WF	FIRE SPRINKLER WATERFLOW SWITCH, ADDRESS AS NOTED
DH	DOOR HOLDER (INSTALLED UNDER SEPARATE SECTION)
TRI–R	INTELLIGENT INTERFACE MODULE
HSSD	HIGH SENSITIVITY SMOKE DETECTOR (HSSD)
	HSSD SAMPLE PIPING AND SAMPLE ORIFICE
RU	ROLL–UP DOOR RELEASE (INSTALLED UNDER SEPARATE SECTION)
FSD	FIRE SMOKE DAMPER (INSTALLED UNDER SEPARATE SECTION)
EOL	END–OF–LINE DEVICE
J	JUNCTION BOX
	FIRE ALARM CONDUIT (3/4–INCH UNLESS OTHERWISE NOTED)
	FIRE ALARM CIRCUIT IDENTIFICATION

L1/L2 – 1–PAIR; SLC/DC LOOP (L1 THROUGH L14)
A1 – 1 PAIR #14; AUDIBLE NAC CIRCUIT (A1 THROUGH A8)
V1/V2/V3 – 1 PAIR #14; VISUAL NAC CIRCUIT (V1 THROUGH V20)
RCC – 1 RS232 FOR REMOTE ANNUNCIATION
(TYPICAL UNO)– TYPICAL UNLESS NOTED OTHERWISE

TYPICAL DETECTOR W/RELAY BASE WIRING DETAIL – DETAIL 7



TYPICAL DUCT SMOKE DETECTOR WIRING DETAIL – DETAIL 11



Lawrence Berkeley National Laboratory

Molecular Foundry
Building 67

Issued for	Rev	Date
RECORD DRAWINGS		18 JAN 2007

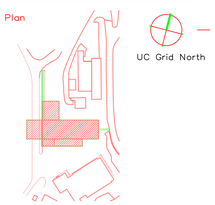
Seals and Signatures

RECORD DRAWINGS

SPECIAL NOTE:
THE INFORMATION SHOWN IN THIS DRAWING WAS DEVELOPED USING THE RECORD DRAWINGS PROVIDED BY SIEMENS BUILDING TECHNOLOGIES, INC. FOLLOWING THE COMPLETION OF THIS PROJECT (IDENTIFIED AS JOB NUMBER 107739, SHEETS 1 THROUGH 24) AND SHOULD BE REFERENCED FOR INFORMATION.

LBNL Project Title: MOLECULAR FOUNDRY
LBNL Building Number: 67

Key Plan



Drawing Title
FIRE ALARM SYSTEM DETAILS

Scale: MF1212

SG Project Number: FA0.2
LBNL Project Number: 2 OF 20

Drawing Number: 5N67E022
LBNL Drawing Number: IFB 841

Plot Sheet Filename: ADES\XBNUMBER\FILENAME
XREF Filename List: ADES\XBNUMBER\FILENAME
Named Plot Area Setup: PLOT AREA
Plot Layout: PSPACE SHEET @ 1:1
Plot Date:

LBNL Drawing Status:
LBNL Issue Status:
LBNL Revision:
LBNL Date: