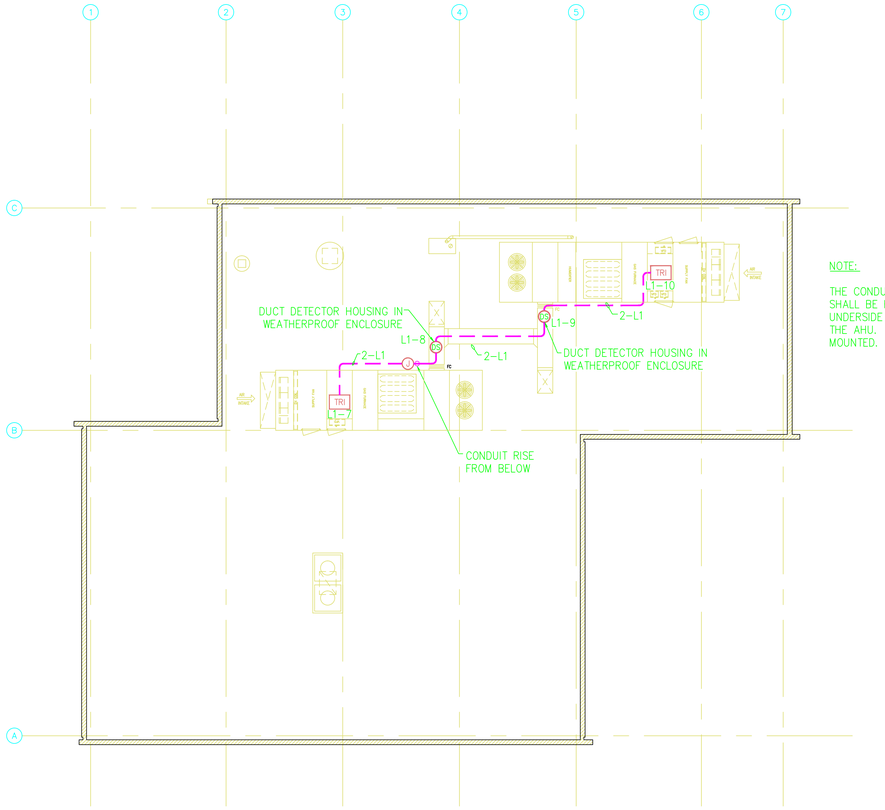

NOTE:

THE CONDUIT FOR THE FIRE ALARM SYSTEM SHALL BE ROUTED AND MOUNTED ON THE UNDERSIDE OF THE DUCT AND THROUGH THE AHU. NO CONDUIT SHALL BE ROOF MOUNTED.

1 FIRE ALARM ROOF PLAN
1/8"=1'-0"

TRUE NORTH / PROJECT NORTH

SLC LOOP ADDRESS LIST

LOOP 1 – ENTIRE BUILDING

ADDRESS \ DEVICE	SMOKE DETECTOR WITH STANDARD BASE	DUCT SMOKE DETECTOR	TRI-R	TRI-D VESDA	TRI-D WATERFLOW SWITCH	TRI-D VALVE SUPERVISION	MANUAL FIRE CALL BOX	COMMENTS
L1-01	●							
L1-02	●							
L1-03	●							
L1-04							●	
L1-05					●			
L1-06						●		
L1-07			●					RTU 002
L1-08		●						RTU 002
L1-09		●						RTU 001
L1-10			●					RTU 001
L1-11				●				VESDA COMMUNICATION
L1-12	●							
L1-13							●	
L1-14							●	
L1-15							●	
L1-16								
L1-17								
L1-18								
L1-19								
L1-20								
L1-21								
L1-22								
L1-23								
L1-24								
L1-25								
L1-26								
L1-27								
L1-28								
L1-29								
L1-30								
TOTAL	4	2	2	1	1	1	4	

NOTE: EACH ALD-21 HAS A 60 ADDRESS CAPACITY.

FACU POWER SUPPLY & BATTERY FAP-001-86 (MXLR) – 6 AMP

SUPERVISORY CURRENT

DESCRIPTION	QUANTITY	MODULE CURRENT	EOL CURRENT	DEVICE CURRENT	TOTAL ROW CURRENT
PSR-1 REMOTE CONTROL PANEL	1	0.070	NA	NA	0.070
ALD-21 ANALOG LOOP DRIVER	1	0.105	NA	NA	0.105
ALD LOOP	1	NA	NA	0.066	0.066
CSM-4 CONTROLLABLE SIGNAL MODULE	2	0.100	NA	NA	0.020
NOTIFICATION APPLIANCE CIRCUITS	3	NA	0.012	NA	0.036
NET-7 NETWORK CARD	1	0.030	NA	NA	0.030
				TOTAL SUPERVISORY CURRENT	0.327

ALARM CURRENT

MXLR OCCUPANT NOTIFICATION APPLIANCE CIRCUITS	TOTAL CIRCUIT CURRENT LOAD
CIRCUIT A1	0.696 AMP
CIRCUIT V1	0.652 AMP
CIRCUIT V2	0.364 AMP
TOTAL ALARM CURRENT	1.712 AMP

SUMMARY

MINIMUM BATTERY CAPACITY = {TOTAL STANDBY CURRENT X STANDBY TIME} + {TOTAL ALARM CURRENT X ALARM TIME} X 1.25

MINIMUM BATTERY CAPACITY = {0.327 X 24 HR} + {1.712 X 0.083 HR} X 1.25

MINIMUM BATTERY CAPACITY = {7.848 AHR + 0.143 AHR} X 1.25 = 9.99 AHR

NOTIFICATION APPLIANCE CIRCUIT POWER REQUIREMENTS

DESCRIPTION	CURRENT PER APPLIANCE	NUMBER OF APPLIANCES CIRCUIT A1	CIRCUIT V1	CIRCUIT V2
WHEELOCK RSS STROBE 15 cd	0.060	0	0	2
WHEELOCK RSS STROBE 30 cd	0.092	0	0	0
WHEELOCK RSS STROBE 75 cd	0.165	0	0	0
WHEELOCK RSS STROBE 110 cd	0.220	0	0	0
WHEELOCK HS HORN/STROBE 15 cd (STROBE ONLY)	0.060	0	2	1
WHEELOCK HS HORN/STROBE 30 cd (STROBE ONLY)	0.092	0	1	2
WHEELOCK HS HORN/STROBE 75 cd (STROBE ONLY)	0.165	0	0	0
WHEELOCK HS HORN/STROBE 110 cd (STROBE ONLY)	0.220	0	2	0
WHEELOCK HS HORN/STROBE 110 cd (HORN ONLY)	0.087	8	0	0
TOTAL CIRCUIT CURRENT		0.696	0.652	0.364

VOLTAGE DROP CALCULATIONS

{(I) (D) (21.6)}/CM
WHERE: I = CIRCUIT POWER LOAD
D = CONDUCTOR ONE WAY DISTANCE
21.6 = CONSTANT
CM = CROSS SECTION AREA OF WIRE (4110 FOR AWG#14)

NAC A1
{(0.696 AMP) (200 FT) (21.64)}/4110 VOLTAGE DROP: 0.733 VOLTS

NAC V1
{(0.652 AMP) (200 FT) (21.64)}/4110 VOLTAGE DROP: 0.687 VOLTS

NAC V2
{(0.364 AMP) (200 FT) (21.64)}/4110 VOLTAGE DROP: 0.383 VOLTS

ALL CIRCUITS' AVAILABLE VOLTAGES ARE ABOVE THE MINIMUM LISTED VOLTAGE FOR THE APPLIANCES.

HYT Corporation
Fire Protection Engineers and Consultants
3498 Clayton Road - Suite 101, Concord, California 94519
Phone: (925) 681-2731 - FAX: (925) 681-2733

CONSULTING FIRM | CONSULTING FIRM | CONSULTING FIRM | CONSULTING FIRM

ARCHITECT
Flad & Associates
650 California St.
8th Floor
San Francisco, CA 94108
(415) 398-1600
Fax: (415) 398-1606

CONSULTING A/E FIRM | PROFESSIONAL SEAL

CONSTRUCTION
7.31.2006

ISSUE (PROGRESS, ESTIMATE, BID, CONSTRUCTION, CONFORMED, REVISION, AS-BUILT)	REVISION NUMBER	DRAWN BY	CHECKED BY	APPR'D BY	DATE	REMARKS
					7.31.2006	ISSUED FOR CONSTRUCTION

BUILDING 86
ANIMAL CARE FACILITY
FIRE ALARM PLAN & CALCULATIONS

UNIVERSITY OF CALIFORNIA
LAWRENCE BERKELEY NATIONAL LABORATORY
FACILITIES DIVISION

DRAWN BY	DWH
DATE	3.21.2006
CHECKED BY	BBT
APPROVED BY	
CAD FILE PATH	
SCALE	AS NOTED
DRAWING NO.	5N86E016
SHEET	FA-3.0
PROJECT NO.	FM5500
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