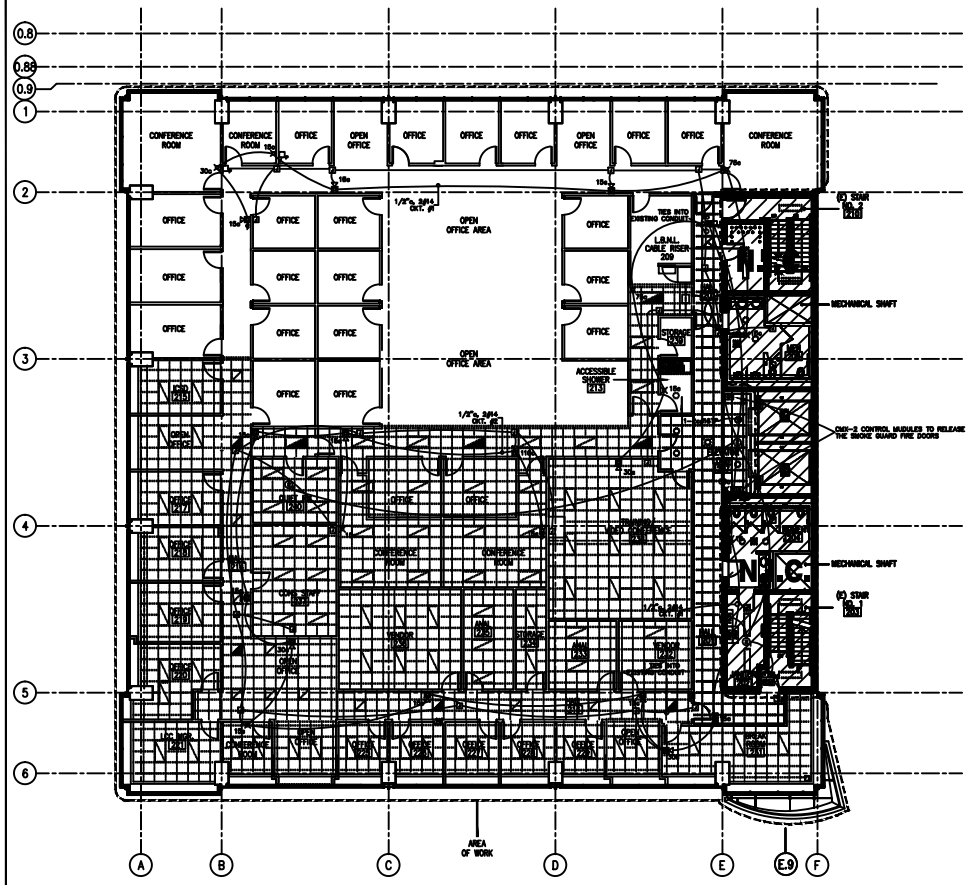

1 SECOND FLOOR PLAN
SCALE 1/8" = 1'-0"

LEGEND:

- FIRE ALARM CONTROL PANEL
- DIGITAL TRANSMITTER
- REMOTE SIGNAL CONTROL PANEL
- DUAL SYNC. MODULE
- IONIZATION SMOKE SENSOR,
- THERMAL DETECTOR
- DUCT DETECTOR
- LIQUID CRYSTAL DISPLAY ANNUNCIATOR
- ADDRESSABLE CONTROL MODULE
- ADDRESSABLE MONITOR MODULE
- MANUAL PULL STATION
- ALARM STROBE, ϕ = CANDELA RATING
- ALARM HORN/STROBE, ϕ = CANDELA RATING
- ELECTROMAGNETIC DOOR HOLDER, 120 VAC
- TAMPER SWITCH (BY OTHERS)
- WATERFLOW SWITCH (BY OTHERS)
- SPRINKLER RISER (EXISTING)
- JUNCTION BOX (BY OTHERS)

NOTES:

1. ALL DEVICES ARE EXISTING EXCEPT THOSE NOTED "N" FOR NEW AND "R" FOR RELOCATED.
2. WHE AREA CONSTRUCTION SHALL NOT BE LOCATED WITHIN 3 FEET OF HVAC SUPPLY AIR DIFFUSERS.

VOLTAGE DROP CALCULATIONS (WORST CASE)
NRP1 PANEL: STROBE CIRCUIT # 1

(1) EX. DIM MODULE @ .035 AMPS EACH = .035 AMPS
(2) EX. STROBES 15a @ .031 AMPS EACH = .062
(3) EX. STROBES 30a @ .061 AMPS EACH = .061
(1) EX. STROBES 75a @ .133 AMPS EACH = .133
(1) EX. HORN/STROBES 15a @ .067 AMPS EACH = .067
(2) NEW STROBES 15a @ .031 AMPS EACH = .062
(2) NEW STROBES 30a @ .061 AMPS EACH = .061
(2) NEW STROBES 75a @ .133 AMPS EACH = .133
(2) NEW HORN/STROBES 15a @ .067 AMPS EACH= .176
1.035 AMPS (TOTAL)

VOLTAGE DROP = CURRENT X RESISTANCE
#14 GAUGE WIRE = 0.308 OHMS PER 100 FEET OF WIRE

5 FEET OF WIRE TO DIM
1.035 AMPS X .0463 OHMS = .010 V DROP

35 FEET OF WIRE FROM DIM TO BRANCH 1
1.035 AMPS X .0616 OHMS = .063 V DROP

35 FEET OF WIRE FROM BRANCH 1 TO BRANCH 2
.965 AMPS X .0616 OHMS = .060 V DROP

40 FEET OF WIRE FROM BRANCH 2 TO BRANCH 3
.865 AMPS X .0704 OHMS = .061 V DROP

30 FEET OF WIRE FROM BRANCH 3 TO BRANCH 4
.765 AMPS X .0528 OHMS = .040 V DROP

40 FEET OF WIRE FROM BRANCH 4 TO BRANCH 5
.767 AMPS X .0704 OHMS = .054 V DROP

40 FEET OF WIRE FROM BRANCH 5 TO BRANCH 6
.654 AMPS X .0704 OHMS = .047 V DROP

40 FEET OF WIRE FROM BRANCH 6 TO BRANCH 7
.577 AMPS X .0704 OHMS = .040 V DROP

40 FEET OF WIRE FROM BRANCH 7 TO BRANCH 8
.538 AMPS X .0880 OHMS = .047 V DROP

40 FEET OF WIRE FROM BRANCH 8 TO BRANCH 9
.443 AMPS X .0704 OHMS = .031 V DROP

30 FEET OF WIRE FROM BRANCH 9 TO BRANCH 10
.379 AMPS X .0528 OHMS = .020 V DROP

30 FEET OF WIRE FROM BRANCH 10 TO BRANCH 11
.319 AMPS X .0528 OHMS = .017 V DROP

30 FEET OF WIRE FROM BRANCH 11 TO BRANCH 12
.269 AMPS X .0528 OHMS = .011 V DROP

30 FEET OF WIRE FROM BRANCH 12 TO BRANCH 13
.207 AMPS X .0528 OHMS = .009 V DROP

0.591 V DROP (TOTAL)

$\frac{0.591\ V}{24\ V} \times 100 = 4.015$ VOLTAGE DROP

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2650 MIRA MAR AVENUE
LONG BEACH, CA. 90815
P 562 494 3557
F 562 495 6444

TYPE OF WORK
FIRE ALARM - TENANT IMPROVEMENT

CLIENT
DOCCO ELECTRIC
1400 MERMIDA DRIVE
SANTA CLARA, CA 95050-3042

NO.	DATE	DESCRIPTION	BY
1	10/11/2000	FOR SUBMITTAL	CH
2	12-1-00	AS-BUILT	AA

AS BUILT BY
ELECTRICAL DATE BY
MECHANICAL DATE BY
CHECK-OUT TECHNICIAN DATE BY

PROJECT NAME
LAWRENCE BERKLEY NATIONAL LABORATORY,
415 20TH STREET
OAKLAND, CA 94612

SHEET DESCRIPTION 2ND FLOOR PLAN

PROFESSIONAL STAMP
CHRISTOPHER A. HUNTER
C-10 ELECTRICAL CONTRACTOR
EXP. 04/30/2002
STATE OF CALIFORNIA

PROJECT NUMBER AL-00001
FILE NAME AL-00001CLEAN
APPROVED BY BY
DRAWN BY HUB
SHEET BY CH
SCALE 1/8"=1'-0"
DRAWING NUMBER
6380
SHEET NUMBER
FP 3.0
FILE: 00012450
4N943E068
PROJ. NO. FH0113