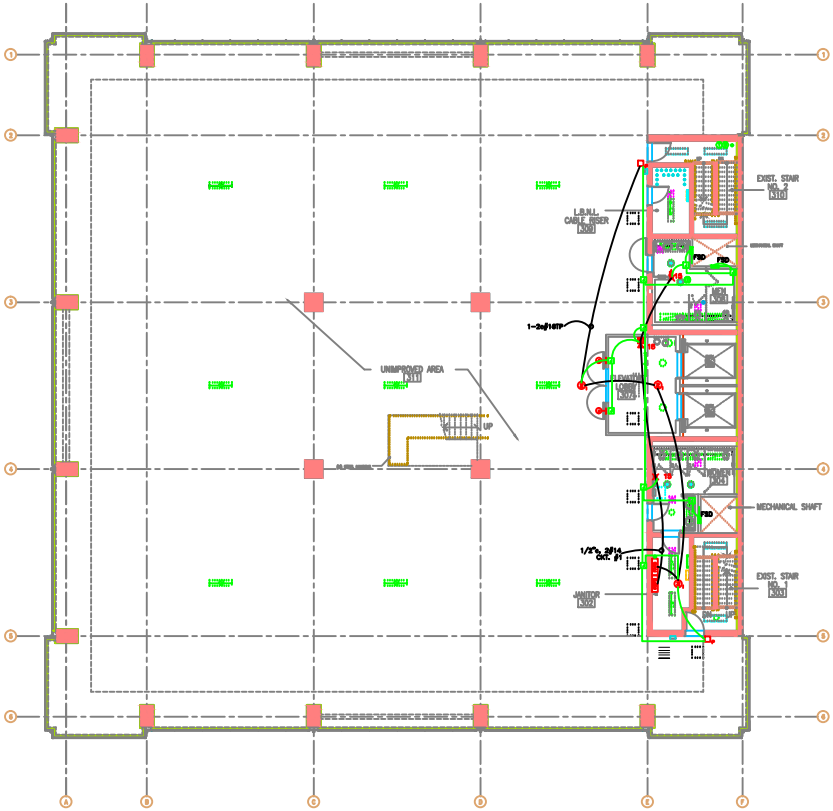

1 THIRD FLOOR PLAN
SCALE 1/8" = 1'-0"

NOTES:

1. ALL DEVICES ARE NEW.

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

LEGEND:

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

VOLTAGE DROP CALCULATIONS – (WORST CASE)

3RD FLOOR – RSP3 PANEL: CIRCUIT #1

1 BRANCH – 0.039 AMPS DRAW PER DEM SYNC MODULE
1 BRANCH – 0.067 AMPS DRAW PER 15 CANDELA HORN/STROBE
2 BRANCHES – 0.08 AMPS DRAW PER 15 CANDELA STROBES

VOLTAGE DROP = CURRENT X RESISTANCE
#14 GAUGE WIRE = 0.326 OHMS PER 100 FEET OF WIRE

5 FEET OF WIRE TO BRANCH 1
0.226 AMPS x .0163 OHMS = .004 VDC DROP

20 FEET OF WIRE FROM BRANCH 1 TO 2
0.187 AMPS x .0978 OHMS = .018 VDC DROP

50 FEET OF WIRE FROM BRANCH 2 TO 3
0.137 AMPS x .163 OHMS = .022 VDC DROP

30 FEET OF WIRE FROM BRANCH 3 TO 4
0.050 AMPS x .0978 OHMS = .005 VDC DROP

100 FEET OF WIRE FROM BRANCH 4 TO 5
.005 AMPS x .326 OHMS = .158 VDC DROP

0.040 VDC DROP (TOTAL)

$\frac{0.040 \text{ VDC}}{24 \text{ V}} \times 100 = 0.20\%$ VOLTAGE DROP

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TYPE OF WORK
FIRE ALARM SYSTEM

OWNER
SIEMEN ELECTRIC
1400 MEADOWS DRIVE
SANTA CLARA, CALIFORNIA 95050-2842

REV.	DATE	DESCRIPTION	BY
1	4-24-2020	FOR REVIEW	RCA
2	4-28-2020	FOR SUBMITTAL	RCA
3	6-2-2020	REV. PER PLAN CHECK CORRECTIONS	RCA
4	10-10-20	AS BUILT	HG

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

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

SHEET TITLE
THIRD FLOOR PLAN

PROFESSIONAL STAMP
EXP. 04/30/2020

PROJECT NUMBER: AL-00024
FILE NAME: AL-00024(06).DWG
DRAWN BY: HG
CHECKED BY: HMB
SCALE: 1/8" = 1'-0"

SHEET NUMBER
6111

SHEET NUMBER
FP 6.0

FILE: 00012428
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