

REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	5/19/2014

RESERVED FOR CITY STAMP

CUNNINGHAM

Security Systems

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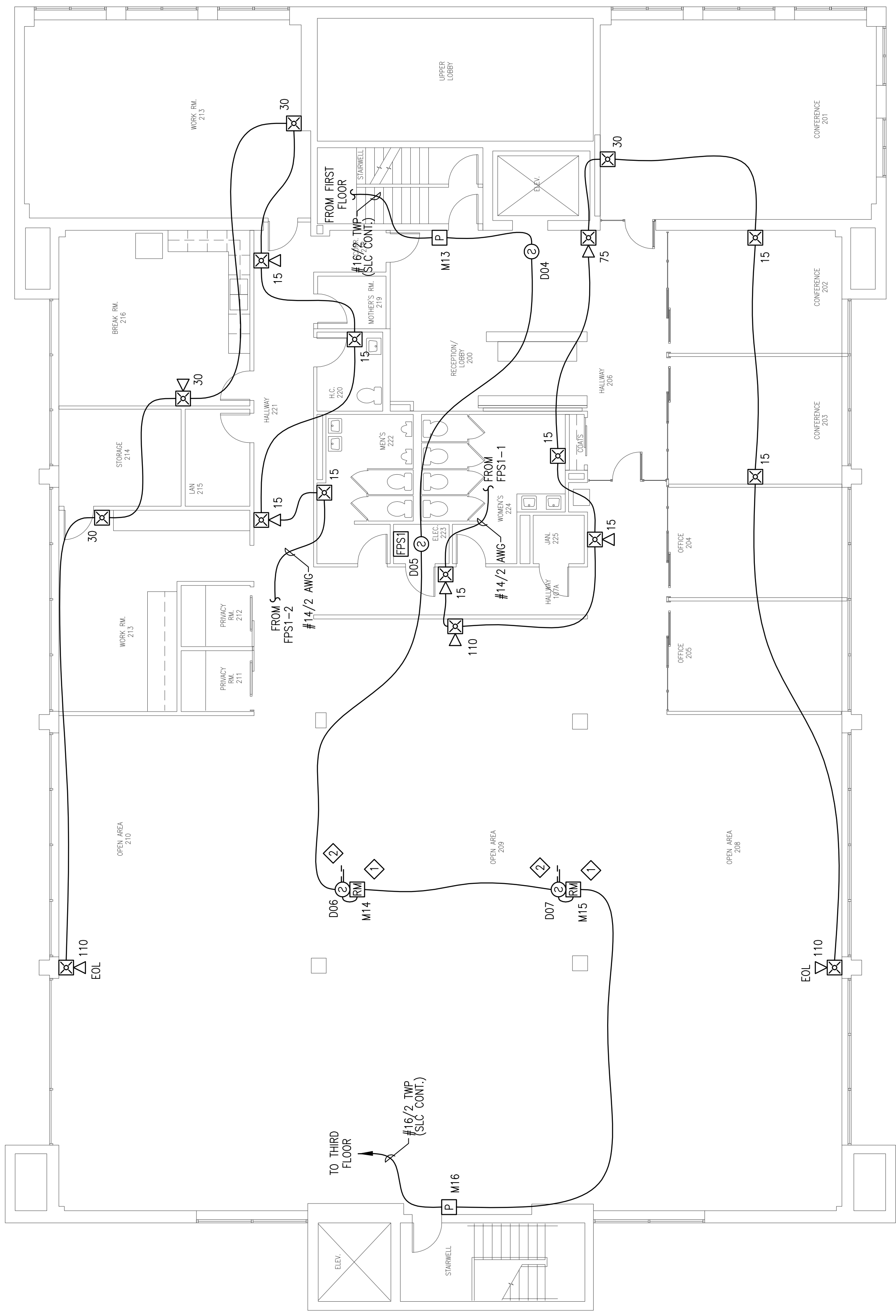
27 PEARL STREET

PORTLAND, MAINE 04101

SECOND FLOOR FIRE ALARM PLAN

DRAWN	JPB
CHECKED	WAYNE B. HANS
DATE	5/15/2014
REVISION	0
SCALE	1/8"=1'-0"

FA-4



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

NAAC Circuit Voltage Drop Calculation 5/15/2014

Project Name: 27 PEARL STREET - BURNS & MCDONNELL
Circuit Number: FPST-1

Nominal System Voltage	20.4 volts	Wire Gauge	14	Resistance Per 1000	6.14
Minimum Device Voltage	18 volts	Wire Gauge	14	Resistance Per 1000	6.14
Distance from source to 1st device	10				
Wire Gauge for balance of circuit					
Max Output Current	2.0 amps				
Total Circuit Current	1.050 amps				

Circuit is within limits					
Device	Current	Distance previous device	Voltage at Device	Drop from source	Percent Drop
Device 1	0.079	7	20.34	0.06	0%
Device 2	0.212	0.11	20.29	0.11	1%
Device 3	0.079	0.21	20.19	0.21	1%
Device 4	0.066	0.26	20.14	0.26	1%
Device 5	0.176	0.36	20.04	0.36	2%
Device 6	0.094	0.39	20.01	0.39	2%
Device 7	0.066	0.44	19.96	0.44	2%
Device 8	0.066	0.48	19.92	0.48	2%
Device 9	0.212	0.56	19.84	0.56	3%
Totals	1.050	197			

NAAC Circuit Voltage Drop Calculation 5/15/2014

Project Name: 27 PEARL STREET - BURNS & MCDONNELL
Circuit Number: FPST-2

Nominal System Voltage	20.4 volts	Wire Gauge	14	Resistance Per 1000	6.14
Minimum Device Voltage	18 volts	Wire Gauge	14	Resistance Per 1000	6.14
Distance from source to 1st device	13				
Wire Gauge for balance of circuit					
Max Output Current	2.0 amps				
Total Circuit Current	0.797 amps				

Circuit is within limits					
Device	Current	Distance previous device	Voltage at Device	Drop from source	Percent Drop
Device 1	0.066	20.33	20.33	0.07	0%
Device 2	0.079	0.12	20.28	0.12	1%
Device 3	0.066	0.24	20.16	0.24	1%
Device 4	0.079	0.31	20.09	0.31	2%
Device 5	0.094	0.37	20.03	0.37	2%
Device 6	0.107	0.48	19.92	0.48	2%
Device 7	0.094	0.51	19.89	0.51	3%
Device 8	0.212	0.58	19.82	0.58	3%
Totals	0.797	208			

SHEET NOTES:

- ◆ ADDRESSABLE RELAY MODULE(S) PROVIDED FOR FAN SHUT DOWN. TIE TO INDICATED UNIT FAN CONTROLLER. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXACT POWER SOURCE, USE MULTI-VOLTAGE CONTROL RELAY(S) IF REQUIRED. FIELD VERIFY EXACT QUANTITY AND LOCATION(S) WITH MECHANICAL DIVISION.
- ◆ DUCT SMOKE DETECTORS PROVIDED FOR THE RETURN AIR PATH AT ALL AIR HANDLING UNITS HAVING A CAPACITY GREATER THAN 2,000 CFM AND FOR THE SUPPLY AIR PATHS AT ALL AIR HANDLING UNITS HAVING A CAPACITY GREATER THAN 15,000 CFM. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXACT MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS. PROVIDE FOR SHUT DOWN OF ASSOCIATED UNIT FAN(S) IF REQUIRED. FIELD VERIFY EXACT POWER SOURCE, USE MULTI-VOLTAGE CONTROL RELAY(S) IF REQUIRED. FIELD VERIFY EXACT LOCATION(S) AND LOCATION(S) WITH MECHANICAL DIVISION. PROVIDE REMOTE ALARM/SUPERVISORY INDICATION IN A LOCATION ACCEPTABLE TO THE LOCAL AHA WHEN A DUCT SMOKE DETECTOR INDICATOR IS NOT VISIBLE TO RESPONDING PERSONNEL.