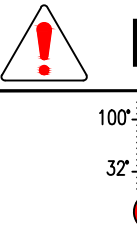

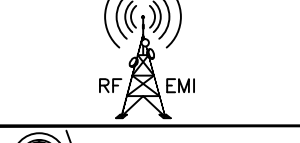
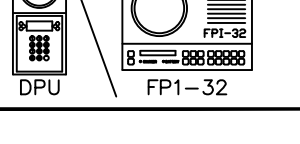
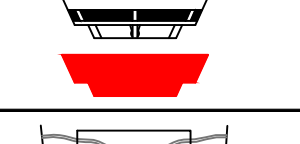
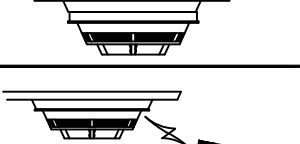









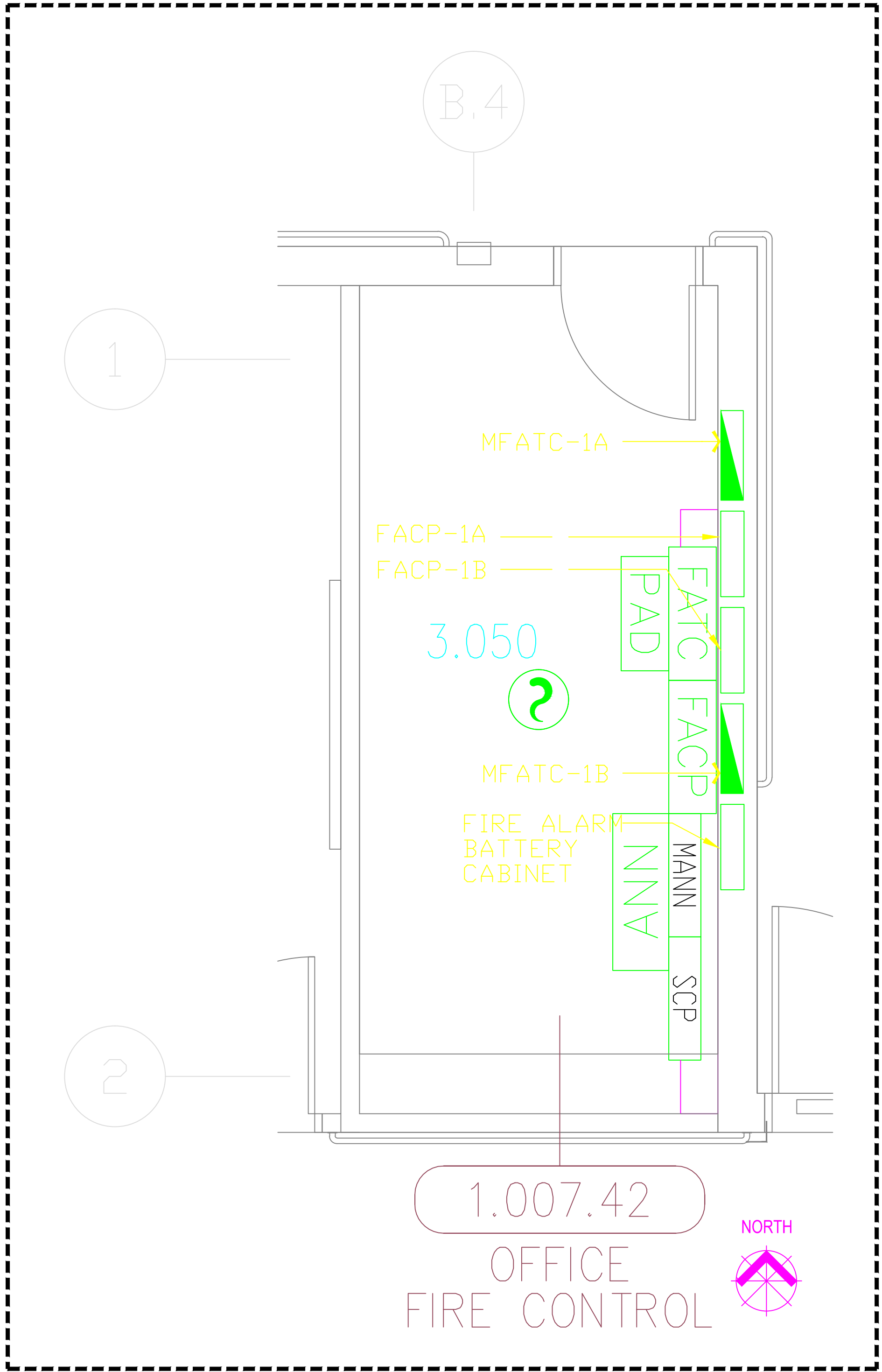
GENERAL NOTES
1.) SIEMENS EQUIPMENT IS BOTH UNDERWRITERS LABORATORIES (UL) AND CALIFORNIA STATE FIRE MARSHAL (CSFM) LISTED FOR POWER LIMITED INSTALLATION.
2.) CONTROL CIRCUITS ARE NON POWER LIMITED. MINIMUM RECOMMENDED WIRE SIZE TO BE DETERMINED BY CIRCUIT LOAD.
3.) WIRING SHALL NOT BE LOOPED UNDER DEVICE TERMINALS. WIRE MUST BE CUT FOR IN AND OUT RUNS PRIOR TO INSTALLING UNDER DEVICE TERMINALS.
4.) ELECTRICAL CONTRACTOR SHALL BE REQUIRED TO USE COLOR CODE, WIRE NUMBERS OR AS SPECIFIED IN THE PROJECT SPECIFICATIONS ON ALL WIRING. SUCH IDENTIFICATIONS SHALL BE MADE CONTINUOUS THROUGHOUT ALL FIRE ALARM CIRCUITS, CONNECTIONS, TERMINATIONS AND AT JUNCTION BOXES.
5.) WHERE SHIELDED CABLE IS USED, THE SHIELD SHALL BE CONTINUOUS AND GROUNDED ONLY AT THE RESPECTIVE CONTROL PANEL.
6.) T-TAPPING OR PARALLEL BRANCHING OF ADDRESSABLE (SLC) INITIATION DEVICE CIRCUITS IS PERMITTED ON CLASS B CIRCUITS ONLY.
7.) POINT AND COMMON ANNUNCIATION AND T-TAPPING PROHIBITED.
8.) ALL WIRING, INITIATING DEVICES AND ANNUNCIATOR PANELS SHALL BE SUPERVISED TO THE PRINCIPAL POINT OF ANNUNCIATION. (FIRE ALARM CONTROL PANEL(S) TO SUPERVISE ANNUNCIATOR PANEL(S), SUB-PANEL(S), ALL CIRCUITS AND INITIATING DEVICES).
9.) REFER TO RESPECTIVE CATALOG CUT SHEETS FOR ELECTRICAL MOUNTING HARDWARE.
10.) FIRE ALARM SIGNAL SHALL MEET ANSI S3.41, AUDIBLE EMERGENCY EVACUATION SIGNAL (TEMPORAL PATTERN). FIRE ALARM AUDIBILITY SHALL BE NO LESS THAN 15db ABOVE AMBIENT SOUND THROUGHOUT THE AREA OF ALARM. AUDIBILITY SHALL BE DETERMINED BY THE FIELD FIRE MARSHAL.
11.) ALL STROBE APPLIANCES SHALL BE SYNCHRONIZED IN ACCORDANCE WITH NATIONAL FIRE ALARM CODE (NFPA 72). REFERENCE APPLICABLE EDITIONS UNDER "APPLICABLE CODES & REGULATIONS".
12.) WALL-MOUNTED STROBE APPLIANCES SHALL BE MOUNTED SO THAT THE ENTIRE LENS SHALL BE NOT LESS THAN 80" AND NO GREATER THAN 96" ABOVE FINISHED FLOOR.
13.) STROBES IN SLEEPING AREAS SHALL BE LOCATED WITHIN 16 FEET OF PILLOW AND HAVE MINIMUM INTENSITY OF 110cd. FOR STROBES LOCATED LESS THAN 24 INCHES FROM CEILING, MINIMUM INTENSITY SHALL BE 117cd.
14.) INSTALLATION OF DETECTORS SHALL BE PLACED AT THE HIGHEST POINT OF THE CEILING WHERE APPLICABLE TO CURRENT CODE.
15.) THE USE OF OTHER THAN SIEMENS DETECTORS AND BASES WITH SIEMENS CONTROL EQUIPMENT WILL BE CONSIDERED A MISAPPLICATION OF SIEMENS EQUIPMENT AND SUCH, VOIDS ALL WARRANTIES EITHER EXPRESSED OR IMPLIED WITH REGARDS TO LOSS, DAMAGE, LIABILITIES AND/OR SERVICE PROBLEMS.
16.) DUCT SMOKE DETECTORS SHALL BE TESTED FOR DUCT VELOCITY AND PRESSURE DIFFERENTIAL IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.
17.) DIFFERENTIAL PRESSURE SWITCHES SHALL BE SUPPLIED AND INSTALLED BY A LICENSED MECHANICAL CONTRACTOR.
18.) UNLESS NOTED OTHERWISE ALL WIRING AND INSTALLATION METHODS SHALL CONFORM TO CALIFORNIA ELECTRICAL CODE (CEC), ARTICLE 760. SEE APPLICABLE EDITION UNDER "APPLICABLE CODES & REGULATIONS".
19.) ALL RACEWAY RUNS INDICATED WITHIN THIS DRAWING PACKAGE ARE SHOWN DIAGRAMMATICALLY AND ARE FOR CIRCUITING PURPOSES ONLY. ALL RUNS SHOWN SHOULD NOT SERVE IN ANY WAY AS AN ACTUAL ROUTING GUIDE FOR INSTALLATION OF RACEWAYS. EXACT INSTALL LOCATION SHALL BE FIELD DETERMINED.
20.) EFFORTS MUST BE PLACED ON MINIMIZING UNNECESSARY WIRE RUNS WITHIN DEVICE BACKBOXES. DO NOT INSTALL WIRE WITHIN A BACKBOX THAT DOES NOT SERVE ITS CORRESPONDING DEVICE AND WHICH MAY INHIBIT ITS PROPER INSTALLATION. GOOD WIRING/INSTALLATION PRACTICES MUST BE ADHERED TO AT ALL TIMES.
21.) ADDITIONAL JUNCTION BOXES NOT SHOWN WITHIN THESE PLANS MAY BE REQUIRED TO ACCOMMODATE PROPER RACEWAY INSTALLATIONS & SIZING. IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE NECESSARY AMOUNT OF JUNCTION BOXES/EXTENSION RINGS REQUIRED. ALL INSTALLATION MATERIAL SUCH AS CONDUIT FITTING, BOXES, AND HANGERS, ETC. NOT SUPPLIED BY SIEMENS.
22.) ALL WIRE CONDUCTORS SHALL BE POWER LIMITED COPPER WIRING. SUCH WIRE SHALL BE INSTALLED WITHIN A METALLIC RACEWAY WHICH SHALL BE SIZED PER CHAPTER 9 OF THE CALIFORNIA ELECTRICAL CODE. (APPLICABLE EDITION) THE REQUIRED METALLIC RACEWAY SIZE TO BE INSTALLED SHALL BE 3/4" MINIMUM.
23.) AS FIELD CONDITIONS DICTATE ACTUAL RACEWAY INSTALLATIONS, DEVICE BACK BOXES AND JUNCTION BOXES SHALL BE SIZED PER FIELD INSTALLING CONDITIONS. DEVICE BACK BOX SIZES INDICATED WITHIN THIS DRAWING PACKAGE ARE MINIMUM REQUIREMENTS ONLY. AN INCREASE IN BACK BOX DEPTH, ADDITION OF EXTENSION BOX/FITTING, ETC. MAY BE REQUIRED IN ORDER TO PROPERLY ACCOMMODATE FOR WIRE QUANTITIES INSTALLED WITHIN THE RACEWAY.
24.) THE INSTALLATION OF DEVICE BACKBOXES & WIRE SHALL BE SIZED AND INSTALLED PER CEC. IN ADDITION SUCH BOXES & WIRE SHALL BE INSTALLED IN A MANNER AS TO ALLOW FOR THE EASE OF DEVICE INSTALLATION. THE INSTALLATION OF DEVICES WHICH REQUIRE EXCESSIVE FORCE, THE PINCHING OF WIRES, RESULT IN GROUND FAULTS, ETC. IN ORDER TO PROPERLY SEAT THE DEVICE TO ITS FINISHED SURFACE SHALL BE CONSIDERED UNACCEPTABLE AND A NON-SIEMENS INSTALLATION STANDARD.
25.) DO NOT APPLY POWER TO CONTROL PANEL(S) UNTIL A SIEMENS SERVICE TECHNICIAN HAS CHECKED THE SYSTEM INSTALLATION UPON A SATISFACTORY COMPLETION OF HIS INSPECTION. POWER WILL BE APPLIED TO THE CONTROL PANEL(S). SIEMENS ASSUMES NO LIABILITY FOR ANY DAMAGE TO THE EQUIPMENT SUPPLIED IF POWER IS APPLIED TO THE CONTROL PANEL(S) PRIOR TO INSPECTION OF THE INSTALLATION BY SIEMENS TECHNICIAN.
26.) SUBMITTED DRAWING PACKAGE MUST BE APPROVED BY ENGINEER OR HIS AUTHORIZED REPRESENTATIVE AND ONE COPY OF THE APPROVED DRAWING AND SUBMITTAL MUST BE RETURNED TO SIEMENS BEFORE ANY EQUIPMENT IS SHIPPED OR INSTALLED. CUSTOM ANNUNCIATORS WILL NOT BE FABRICATED UNTIL WRITTEN APPROVAL OF LAYOUT AND/OR ARTWORK IS RECEIVED.
27.) A STAMPED SET OF APPROVED FIRE ALARM PLANS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION. ANY DEVIATION FROM APPROVED PLANS, INCLUDING THE SUBSTITUTION OF DEVICES SHALL BE APPROVED BY THE OSHPD FIRE MARSHAL.
28.) ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF THE INSPECTOR OF RECORD.
29.) CERTIFICATE OF COMPLIANCE SHALL BE PREPARED BY THE INSTALLER AND GIVEN TO THE OSHPD FIRE MARSHAL UPON COMPLETION OF THE INSTALLATION. IN ADDITION A SATISFACTORY TEST OF THE FIRE ALARM SYSTEM/TENANT IMPROVEMENT AREA(S) IN CONTRACT SHALL BE MADE IN THE PRESENCE OF THE OSHPD FIRE MARSHAL. FOR INSPECTION AND/OR TESTING, THE OSHPD FIRE MARSHAL SHALL BE NOTIFIED FOR APPOINTMENT SCHEDULING.
30.) ALL CONTRACTORS AND SUB-CONTRACTORS ASSOCIATED WITH THE INSTALLATION OF THE FIRE ALARM SYSTEM SHALL HAVE THOROUGH KNOWLEDGE AND A COMPLETE UNDERSTANDING OF ALL APPLICABLE CODES / REQUIREMENTS PRIOR TO ANY INSTALLATION.
31.) IT IS THE INTENT THAT THE GENERAL NOTES INDICATED ABOVE BE APPLICABLE ONLY TO THE CONTRACTED WORK INDICATED WITHIN THIS DRAWING PACKAGE. SUCH GENERAL NOTES SHALL NOT BE APPLICABLE TO ANY EXISTING CONDITIONS WITHIN THE FACILITY. I.E. EXISTING CONDITIONS FOUND TO BE PRESENT PRIOR TO THIS CONTRACT, WORK PREVIOUSLY PERFORMED BY OTHER FIRE ALARM CONTRACTORS, SEPARATE WORK UNRELATED TO THIS CONTRACT, SYSTEMS PREVIOUSLY APPROVED UNDER PAST CODES / REGULATIONS, ETC.

DRAWING INDEX			
NO.#	SHEET #	DESCRIPTION	CAD FILE
68	EF3JJ	FIRE ALARM FLOORPLAN - LEVEL 3 - AREA J	FA-303J
69	EF3KK	FIRE ALARM FLOORPLAN - LEVEL 3 - AREA K	FA-303K
70	EF3LL	FIRE ALARM FLOORPLAN - LEVEL 3 - AREA L	FA-303L
71	EF3MM	FIRE ALARM FLOORPLAN - LEVEL 3 - AREA M	FA-303M
72	EF3AA	FIRE ALARM FLOORPLAN - LEVEL 4 - AREA A	FA-401A
73	EF3AD	FIRE ALARM FLOORPLAN - LEVEL 4 - AREA D	FA-402D
74	EF3AE	FIRE ALARM FLOORPLAN - LEVEL 4 - AREA E	FA-403E
75	EF3AF	FIRE ALARM FLOORPLAN - LEVEL 4 - AREA F	FA-404F
76	EF3AG	FIRE ALARM FLOORPLAN - LEVEL 4 - AREA G	FA-405G
77	EF3AH	FIRE ALARM FLOORPLAN - LEVEL 4 - AREA H	FA-406H
78	EF3AJ	FIRE ALARM FLOORPLAN - LEVEL 4 - AREA J	FA-407J
79	EF3AK	FIRE ALARM FLOORPLAN - LEVEL 4 - AREA K	FA-408K
80	EF3AL	FIRE ALARM FLOORPLAN - LEVEL 4 - AREA L	FA-409L
81	EF3AM	FIRE ALARM FLOORPLAN - LEVEL 4 - AREA M	FA-410M
82	EF3SA	FIRE ALARM FLOORPLAN - LEVEL 5 - AREA A	FA-501A
83	EF3SD	FIRE ALARM FLOORPLAN - LEVEL 5 - AREA D	FA-502D
84	EF3SE	FIRE ALARM FLOORPLAN - LEVEL 5 - AREA E	FA-503E
85	EF3SF	FIRE ALARM FLOORPLAN - LEVEL 5 - AREA F	FA-504F
86	EF3SG	FIRE ALARM FLOORPLAN - LEVEL 5 - AREA G	FA-505G
87	EF3SH	FIRE ALARM FLOORPLAN - LEVEL 5 - AREA H	FA-506H
88	EF3SJ	FIRE ALARM FLOORPLAN - LEVEL 5 - AREA J	FA-507J
89	EF3SL	FIRE ALARM FLOORPLAN - LEVEL 5 - AREA L	FA-508L
90	EF3SM	FIRE ALARM FLOORPLAN - LEVEL 5 - AREA M	FA-509M
90A	EF3SP	FIRE ALARM FLOORPLAN - LEVEL 5 - AREA P	FA-509P
91	EF36A	FIRE ALARM FLOORPLAN - LEVEL 6 - AREA A	FA-601A
92	EF36F	FIRE ALARM FLOORPLAN - LEVEL 6 - AREA F	FA-602F
93	EF36G	FIRE ALARM FLOORPLAN - LEVEL 6 - AREA G	FA-603G
94	EF36H	FIRE ALARM FLOORPLAN - LEVEL 6 - AREA H	FA-604H
95	EF36M	FIRE ALARM FLOORPLAN - LEVEL 6 - AREA M	FA-605M
96	EF37A	FIRE ALARM FLOORPLAN - LEVEL 7 - AREA A	FA-701A
97	EF37F	FIRE ALARM FLOORPLAN - LEVEL 7 - AREA F	FA-702F
98	EF37G	FIRE ALARM FLOORPLAN - LEVEL 7 - AREA G	FA-703G
99	EF37H	FIRE ALARM FLOORPLAN - LEVEL 7 - AREA H	FA-704H
100	EF37M	FIRE ALARM FLOORPLAN - LEVEL 7 - AREA M	FA-705M
101	EF38A	FIRE ALARM FLOORPLAN - PENTHOUSE 1 - AREA A	FA-801A
102	EF38F	FIRE ALARM FLOORPLAN - PENTHOUSE 1 - AREA F	FA-802F
103	EF38G	FIRE ALARM FLOORPLAN - PENTHOUSE 1 - AREA G	FA-803G
104	EF38H	FIRE ALARM FLOORPLAN - PENTHOUSE 1 - AREA H	FA-804H
105	EF38M	FIRE ALARM FLOORPLAN - PENTHOUSE 1 - AREA M	FA-805M
106	EF39A	FIRE ALARM FLOORPLAN - PENTHOUSE 2 - AREA A	FA-901A
107	EF39D	FIRE ALARM FLOORPLAN - PENTHOUSE 2 - AREA D	FA-902D
108	EF310H	FIRE ALARM FLOORPLAN - PENTHOUSE 3 - AREA H	FA-1001H
DEVICE INSTALLATION/OPERATING GUIDELINES			
 THE UL LISTED OPERATING TEMPERATURE RANGE FOR ALL ADDRESSABLE DEVICES: (FP-11'S, TRI'S, FPT-11'S, ETC.) IS FROM 32°F (0°C) TO 100°F (38°C). IF A DEVICE IS SHOWN IN AN AREA WHICH MAY EXPERIENCE EXTREME COLD OR HEAT, CONTACT YOUR SIEMENS REPRESENTATIVE.			
 FIRE ALARM EQUIPMENT SHALL NOT BE ALLOWED TO GET WET OR SHALL NOT BE ALLOWED TO BE EXPOSED TO THE ELEMENTS EXCEEDING NORMAL OPERATING CONDITIONS. ONLY LISTED WEATHERPROOF NOTIFICATION APPLIANCES (HORN/STROBES, STROBES, ETC.) MAY BE PLACED AT AN EXTERIOR LOCATION.			
 THE INSTALLATION OF A FIRE ALARM SYSTEM AND ANY FIRE ALARM EQUIPMENT MUST NOT BE INSTALLED NEXT TO OR WITHIN CLOSE PROXIMITY OF ANY RADIO FREQUENCY EQUIPMENT (EMI, RF, MF, HIGH OUTPUT, LOW OUTPUT, ETC.). SUCH INSTALLING CONDITIONS MAY CAUSE UNDESIRABLE EFFECTS TO THE SYSTEM SUCH AS INTERMITTENT FAULTS, IMPROPER SYSTEM OPERATIONS, FALSE ALARMS, ETC.			
 DO NOT INSTALL ANY ADDRESSABLE DEVICES UNTIL THEY HAVE BEEN PROPERLY PROGRAMMED. CONTACT SIEMENS - FLS DIVISION AT (714) 761-2200 IN ORDER TO SCHEDULE ANY REQUIRED REPROGRAMMING.			
 DO NOT REMOVE DUST COVERS FROM SMOKE DETECTORS UNTIL ALL CONSTRUCTION HAS BEEN COMPLETED. DUST COVERS WHICH HAVE BEEN REMOVED FROM A DETECTOR PRIOR TO THE FINAL CLEAN-UP OF ALL TRADES SHALL BE CLEANED OR REPLACED, IN ACCORDANCE WITH IN NFPA 72, 2-3.6.1.3. SIEMENS WILL NOT BE RESPONSIBLE FOR FAULTS FOUND TO BE RELATED TO DUST OR DIRT CONTAMINATION.			
 ALL INITIATING DEVICES (SMOKES, MANUAL PULLS, ETC.) AND NOTIFICATION APPLIANCES (HORNS, STROBES, ETC.) MUST BE INSTALLED WITH BACKBOXES. THE EQUIPMENT SHOULD NEVER BE SUPPORTED WITH THE CIRCUIT WIRES.			
 THE USE OF MAGNETS FOR THE PURPOSE OF TESTING DEVICES FOR INITIATION OF AN ALARM IS STRICTLY PROHIBITED. SUCH TESTING METHODS CAN CAUSE SEVER UNDESIRABLE EFFECTS.			
 THE PAINTING OR MODIFYING OF FIRE ALARM EQUIPMENT IS STRICTLY PROHIBITED AND SHOULD NOT BE PERFORMED UNDER ANY CIRCUMSTANCES. (SMOKE DETECTORS, AUDIO / VISUAL APPLIANCES, MANUAL PULL STATIONS, ETC.)			
HVAC SYSTEM INTERLOCK			
WHEN THE USE OF DUCT SMOKE DETECTORS (SAMPLING TUBE TYPE) / IN-DUCT SMOKE DETECTORS (DETECTOR HEAD PLACED WITHIN DIRECT AIR-STEAM) ARE PRESENT, ANY ASSOCIATED FAN UNITS AND COMBINATION SMOKE FIRE DAMPERS SHALL SHUT DOWN IN THE EVENT THAT THERE IS NO AIR MOVEMENT WITHIN THE DUCT. THIS IS CRUCIAL AS AIR MOVEMENT IS CRITICAL FOR PROPER OPERATION OF DUCT DETECTORS / IN-DUCT SMOKE DETECTORS. IF FAN UNITS AND CSFD'S ARE NOT SHUTDOWN BASED ON A NO AIR MOVEMENT CONDITION, THE DETECTION FOR THE PRESENCE OF SMOKE WITHIN THE DUCTWORK WILL NOT BE POSSIBLE AND SHALL BE LEFT UNPROTECTED.			
PRIOR TO ANY FAN STARTUP (AIR MOVEMENT) ALL ASSOCIATED CSFD'S SHOULD FULLY OPEN. THIS INTERLOCKING SEQUENCE SHOULD PREVENT DAMAGE TO THE DUCT WORK CAUSED BY EXTREME VOLUMES OF POSITIVE / NEGATIVE AIR PRESSURE. HVAC SYSTEMS WHICH CONTAIN COMMON DUCT WORK, ASSOCIATED FANS (SUPPLY / RETURN / EXHAUST / ETC.), ASSOCIATED CSFD'S, ETC. WHICH OPERATE AS A SYSTEM SHOULD BE INTERLOCKED AS A WHOLE AND SHOULD SHUTDOWN.			
ANY INTERLOCKING EQUIPMENT (DIFFERENTIAL PRESSURE SWITCH / WIRING / ETC.) SHALL BE SUPPLIED AND INSTALLED BY OTHERS.			

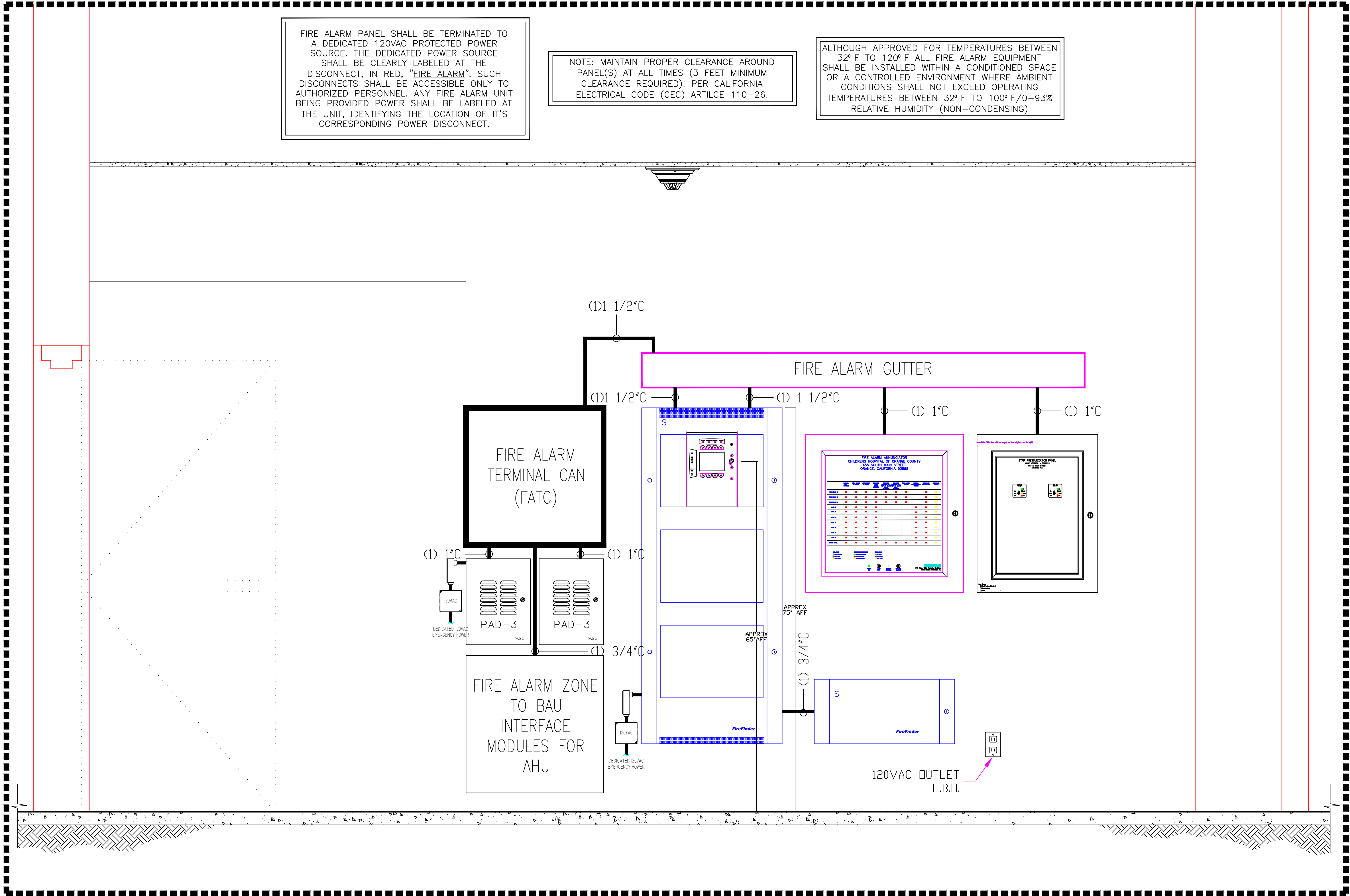
DRAWING INDEX			
NO.#	SHEET #	DESCRIPTION	CAD FILE
1	EF001	GENERAL NOTES / PROJECT SPECIFICATIONS	FA001
2	EF002	DEVICE & SYMBOL LEGEND / SEQUENCE OF OPERATION	FA002
3	EF003	FIRE ALARM CONTROL ROOM LAYOUT / DETAILS	FA003
4	EF004	FACILITY LAYOUT / OVERVIEW	FA004
5	EF005	FIRE ALARM CONTROL PANEL LAYOUT / BATTERY CALCULATIONS	FA005
6	EF006	FIRE ALARM MATRIX ANNUNCIATOR	FA006
7	EF007	FIREFIGHTER'S GRAPHIC STAIR PRESSURIZATION PANEL	FA007
8	EF008	FIRE ALARM SYSTEM RISER DIAGRAM	FA008
9	EF009	FIRE ALARM SYSTEM RISER DIAGRAM	FA009
10	EF010	FIRE ALARM SYSTEM RISER DIAGRAM	FA010
11	EF011	FIRE ALARM SYSTEM FATC RISER DIAGRAM	FA011
12	EF012	TYPICAL DEVICE / WIRING DETAILS	FA012
13	EF013	TYPICAL DEVICE / WIRING DETAILS	FA013
14	EF014	TYPICAL DEVICE / WIRING DETAILS	FA014
14A	EF014A	ASD DETAILS	FA014A
14B	EF014B	ASD DETAILS	FA014B
14C	EF014C	ASD CALCULATIONS	FA014C
15	EF015	BATTERY & VOLTAGE DROP CALCULATIONS	FA015
16	EF016	BATTERY & VOLTAGE DROP CALCULATIONS	FA016
17	EF017	BATTERY & VOLTAGE DROP CALCULATIONS	FA017
17A	EF017A	DETAILS & VOLTAGE DROP CALCULATIONS	FA017A
18	EF100	FIRE ALARM FLOORPLAN - LOWER LEVEL - COMPOSITE	FA-000
19	EF110	FIRE ALARM FLOORPLAN - LEVEL 1 - COMPOSITE	FA-100
20	EF120	FIRE ALARM FLOORPLAN - LEVEL 2 - COMPOSITE	FA-200
21	EF130	FIRE ALARM FLOORPLAN - LEVEL 3 - COMPOSITE	FA-300
22	EF140	FIRE ALARM FLOORPLAN - LEVEL 4 - COMPOSITE	FA-400
23	EF150	FIRE ALARM FLOORPLAN - LEVEL 5 - COMPOSITE	FA-500
24	EF160	FIRE ALARM FLOORPLAN - LEVEL 6 - COMPOSITE	FA-600
25	EF170	FIRE ALARM FLOORPLAN - LEVEL 7 - COMPOSITE	FA-700
26	EF180	FIRE ALARM FLOORPLAN - PENTHOUSE 1 - COMPOSITE	FA-800
27	EF190	FIRE ALARM FLOORPLAN - PENTHOUSE 2 - COMPOSITE	FA-900
28	EF200	FIRE ALARM FLOORPLAN - PENTHOUSE 3 - COMPOSITE	FA-1000
29	EF30A	FIRE ALARM FLOORPLAN - LOWER LEVEL - AREA A	FA-001A
30	EF30B	FIRE ALARM FLOORPLAN - LOWER LEVEL - AREA B	FA-002B
31	EF30C	FIRE ALARM FLOORPLAN - LOWER LEVEL - AREA C	FA-003C
32	EF30D	FIRE ALARM FLOORPLAN - LOWER LEVEL - AREA D	FA-004D
33	EF30E	FIRE ALARM FLOORPLAN - LOWER LEVEL - AREA E	FA-005E
34	EF30F	FIRE ALARM FLOORPLAN - LOWER LEVEL - AREA F	FA-006F
35	EF30G	FIRE ALARM FLOORPLAN - LOWER LEVEL - AREA G	FA-007G
36	EF30H	FIRE ALARM FLOORPLAN - LOWER LEVEL - AREA H	FA-008H
37	EF30J	FIRE ALARM FLOORPLAN - LOWER LEVEL - AREA J	FA-009J
38	EF30K	FIRE ALARM FLOORPLAN - LOWER LEVEL - AREA K	FA-010K
39	EF30L	FIRE ALARM FLOORPLAN - LOWER LEVEL - AREA L	FA-011L
40	EF30M	FIRE ALARM FLOORPLAN - LOWER LEVEL - AREA M	FA-012M
40A	EF30N	FIRE ALARM FLOORPLAN - LOWER LEVEL - AREA N	FA-012N
40B	EF30O	FIRE ALARM FLOORPLAN - LOWER LEVEL - AREA O	FA-012O
41	EF31A	FIRE ALARM FLOORPLAN - LEVEL 1 - AREA A	FA-101A
42	EF31D	FIRE ALARM FLOORPLAN - LEVEL 1 - AREA D	FA-102D
43	EF31E	FIRE ALARM FLOORPLAN - LEVEL 1 - AREA E	FA-103E
44	EF31F	FIRE ALARM FLOORPLAN - LEVEL 1 - AREA F	FA-104F
45	EF31G	FIRE ALARM FLOORPLAN - LEVEL 1 - AREA G	FA-105G
46	EF31H	FIRE ALARM FLOORPLAN - LEVEL 1 - AREA H	FA-106H
47	EF31J	FIRE ALARM FLOORPLAN - LEVEL 1 - AREA J	FA-107J
48	EF31K	FIRE ALARM FLOORPLAN - LEVEL 1 - AREA K	FA-108K
49	EF31L	FIRE ALARM FLOORPLAN - LEVEL 1 - AREA L	FA-109L
50	EF31N	FIRE ALARM FLOORPLAN - LEVEL 1 - AREA N	FA-110N
51	EF31P	FIRE ALARM FLOORPLAN - LEVEL 1 - AREA P	FA-111P
52	EF31U	FIRE ALARM FLOORPLAN - LEVEL 1 - AREA U	FA-112U
52A	EF32A	FIRE ALARM FLOORPLAN - LEVEL 2 - AREA A	FA-201A
53	EF32D	FIRE ALARM FLOORPLAN - LEVEL 2 - AREA D	FA-201D
54	EF32E	FIRE ALARM FLOORPLAN - LEVEL 2 - AREA E	FA-202E
55	EF32F	FIRE ALARM FLOORPLAN - LEVEL 2 - AREA F	FA-203F
56	EF32G	FIRE ALARM FLOORPLAN - LEVEL 2 - AREA G	FA-204G
57	EF32H	FIRE ALARM FLOORPLAN - LEVEL 2 - AREA H	FA-205H
58	EF32J	FIRE ALARM FLOORPLAN - LEVEL 2 - AREA J	FA-206J
59	EF32K	FIRE ALARM FLOORPLAN - LEVEL 2 - AREA K	FA-207K
60	EF32L	FIRE ALARM FLOORPLAN - LEVEL 2 - AREA L	FA-208L
61	EF32P	FIRE ALARM FLOORPLAN - LEVEL 2 - AREA P	FA-209P
62	EF33A	FIRE ALARM FLOORPLAN - LEVEL 3 - AREA A	FA-301A
63	EF33D	FIRE ALARM FLOORPLAN - LEVEL 3 - AREA D	FA-302D
64	EF33E	FIRE ALARM FLOORPLAN - LEVEL 3 - AREA E	FA-303E
65	EF33F	FIRE ALARM FLOORPLAN - LEVEL 3 - AREA F	FA-304F
66	EF33G	FIRE ALARM FLOORPLAN - LEVEL 3 - AREA G	FA-303G
67	EF33H	FIRE ALARM FLOORPLAN - LEVEL 3 - AREA H	FA-303H

PROJECT INFORMATION	
-PROJECT NAME:	- CHILDREN'S HOSPITAL OF ORANGE COUNTY FIRE ALARM SYSTEM INSTALLATION
-PROJECT NUMBER:	- 440P-056306
-LOCATION ADDRESS:	- 444 SOUTH MAIN STREET ORANGE, CALIFORNIA 92868-3874
-FLOORS W/SPRINKLERS:	- ALL
-FLOORS W/O SPRINKLERS:	- NONE
-YEAR OF CONSTRUCTION:	- 2009
-OCCUPANCY:	- B / I-2.1
-NO.# OF STORIES:	- LOWER, LEVEL 1-7, PENTHOUSE 1-3 (11 LEVELS)
<div><div></div><div>STATE CONTRACTORS' / LICENSING / LISTING INFORMATION : SIEMENS BUILDING TECHNOLOGIES, INC. LICENSE NO:# 758796 - EXPIRES: 02/28/11 - CLASS: B/C10/C16/C20/HIC UL LISTED: CERTIFICATE OF COMPLIANCE NO:# S5112-16 UULS CERTIFICATE OF SIGNAL AND FIRE ALARM EQUIPMENT AND SERVICE NO:# S7130-4 UUEX</div></div> <div>SOME INFORMATION CONTAINED WITHIN THIS DRAWING PACKAGE MAY BE INCLUDED FOR REFERENCE/CLARIFICATION PURPOSES ONLY. SUCH INFORMATION SHALL NOT BE CONSTITUTED AS BEING PART OF THE CONTRACT.</div>	
CONTRACT DOCUMENTS	
THE INFORMATION & CONTENT INDICATED WITHIN THIS PROPOSED DRAWING PACKAGE IS BASED ON A DESIGN BUILD - CODE COMPLIANT & SPECIFICATIONS CONTRACT & BASED ON CONTRACT ELECTRICAL FIRE ALARM DRAWING DOCUMENTS - 02/16/09 - DELTA 1, OSHPD BACKCHECK INC#7	
SCOPE OF WORK	
THIS PROJECT IS BEING SUBMITTED AS A COMPLETE CODE COMPLIANT (XLS) MANUAL & AUTOMATIC FIRE ALARM SYSTEM WITH SPRINKLER MONITORING AND FACILITY NOTIFICATION. INSTALL NEW MAIN FIRE ALARM CONTROL PANEL, FIRE ALARM ANNUNCIATOR, NOTIFICATION APPLIANCES, MANUAL AND AUTOMATIC INITIATING DEVICES AND MONITORING / CONTROL INTERFACE DEVICES AS INDICATED WITHIN THIS SUBMITTAL PACKAGE. INTERFACE NEW FIRE ALARM SYSTEM SERVING THE NEW TOWER WITH THE EXISTING FIRE ALARM SYSTEM SERVING THE EXISTING HOSPITAL. PROVIDE ACTIVE FIRE ALARM ZONE OUTPUT POINTS AND STAIR PRESSURIZATION PANEL OUTPUT POINTS TO STAIR PRESSURIZATION SYSTEM (F.B.O.) FOR STAIR PRESSURIZATION SEQUENCE ACTIVATION. INSTALL COMMUNICATION INTERCOM SYSTEM WITHIN THE STAIRWELLS THROUGHOUT. ADDITIONAL AREAS INDICATED WITHIN THIS PACKAGE SHALL BE UNDER SEPARATE SUBMITTAL / APPROVAL. AREA(S) NOT INCLUDED WITHIN THE PROPOSED SCOPE OF WORK SHALL BE INDICATED AS (N.I.C.) NOT IN CONTRACT. UPON COMPLETION A COMPLETE PRETEST SHALL BE PERFORMED TO VERIFY FUNCTIONALITY. IF THE FUNCTIONALITY IS COMPLETE THEN THE PROPER DOCUMENTATION SHALL BE SUBMITTED TO THE AUTHORITY HAVING JURISDICTION PRIOR TO SCHEDULING A FINAL INSPECTION.	
APPLICABLE CODES & REGULATIONS	
CALIFORNIA BUILDING CODE - TITLE 24 CALIFORNIA CODE OF REGULATIONS, CCR I CALIFORNIA ADMINISTRATIVE CODE (CAC) - CCR, TITLE 24, PART 1: 2007 EDITION I CALIFORNIA BUILDING CODE (CBC) - CCR, TITLE 24, PART 2: 2007 EDITION I CALIFORNIA ELECTRICAL CODE (CEC) - CCR, TITLE 24, PART 3: 2007 EDITION I CALIFORNIA MECHANICAL CODE (CMC) - CCR, TITLE 24, PART 4: 2007 EDITION I CALIFORNIA PLUMBING CODE (CPC) - CCR, TITLE 24, PART 5: 2007 EDITION I CALIFORNIA FIRE CODE (CFC) - CCR, TITLE 24, PART 9: 2007 EDITION NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) I NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) - NATIONAL FIRE ALARM CODE NFPA 72: 2002 EDITION WITH CALIFORNIA AMENDMENTS	
TYPICAL CALLOUT SYMBOLS	
(E) EXISTING TO REMAIN	× DEMO / REMOVE
(N) NEW TO BE INSTALLED	F.B.O. FURNISHED BY OTHERS
(R) EXISTING TO BE RELOCATED	(ER) EXISTING TO BE REPLACED
(WP) WEATHERPROOF	(RR) EXISTING TO BE REMOVED & REPLACED WITH NEW
NOTE: ANY DEVICE NOT INDICATED WITH A CALLOUT SYMBOL SHALL BE CONSIDERED NEW.	
SYSTEM CIRCUIT DESIGNATIONS	
INITIATING DEVICE CIRCUIT (IDC):	CLASS - (N/A) / STYLE - (N/A)
SIGNALING LINE CIRCUIT (SLC):	CLASS - (B) / STYLE - (4)
NOTIFICATION APPLIANCE CIRCUITS (NAC):	CLASS - (B) / STYLE - (Y)
NOTE: REFERENCE NATIONAL FIRE ALARM CODE-NFPA FOR ADDITIONAL INFORMATION.	
CALCULATION FORMULA	
WIRE SIZE AVG / OHMS RESISTANCE CONVERSION CHART WIRE INFORMATION IS BASED ON 2007 CEC TITLE 24, PART 3 - CHAPTER 9, TABLE 8 (70-635)	
CONDUCTOR TYPE	SOLID CONDUCTOR
WIRE SIZE (AWG)	12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100
RESISTANCE PER 1000' (OHMS)	2.01 3.19 5.08 8.08 12.05 18.01 27.01 40.01 59.01 87.01 126.01 188.01 282.01 419.01 629.01 944.01 1416.01 2124.01 3216.01 4824.01 7236.01 10854.01 16281.01 24421.01 36631.01 54946.01 82419.01 123629.01 185444.01 278166.01 417249.01 625874.01 938811.01 1408217.01 2112326.01 3168489.01 4752734.01 7024101.01 10536151.01 15804226.01 23706339.01 35559514.01 53339271.01 80008906.01 119528359.01 178542539.01 267811814.01 401717734.01 602576601.01 903864901.01 135579

PLAN VIEW



ELEVATION VIEW
(EAST WALL)



FIRE ALARM CONTROL ROOM
(1.007.42)

SIEMENS

CALIFORNIA STATE CONTRACTORS
LICENSE NO.: #758796 - B/ C10/ C16/ C20

Siemens Building Technologies, Inc.
FIS FIRE/LIFE SAFETY DIVISION

10775 Business Center Drive
Cypress, California 90630 USA
Phone: (714) 761-2200
Fax: (714) 220-4958

This drawing and the information and design application herein contained is the property of SIEMENS BUILDING TECHNOLOGIES, Inc. and is loaned upon the express condition that the same be returned to SIEMENS BUILDING TECHNOLOGIES, Inc. upon request; all information herein contained shall be treated as secret and confidential; no reproduction of this drawing or part thereof shall be made without the written consent of SIEMENS BUILDING TECHNOLOGIES, Incorporated.



BUILDING ELECTRONIC CONTROLS, INC.
2246 Lindsay Way
Glendora, CA 91740
PHONE: (909) 305-1600
FAX #: (909) 305-1604

LICENSE NO.: 729805
CLASSIFICATION (S): C-7 C10
EXPIRATION DATE: 11/30/2012
RICHARD TAYLOR



NOTES:

MCCARTHY APPROVAL

A. Reviewed and noted for Architectural Review ☐

B. Review and Approval ☐

C. Rejected ☐

This review is for general conformance with Plans and Specifications only. Any deviations from same not clearly noted by the Engineer have not been reviewed. Review that not constitute a complete check of detailed dimensions or count is hereby the review the Engineer of contractual responsibility for any error or deviation from contract requirements.

McCarthy

By: _____ Date: _____
SHIP DRAWING REFERENCE NO. _____

☐ MXL ☐ VOICE ☐ XL3 ☐ SYSTEM3
☒ XLS ☐ FS-250 ☐ EST3 ☐ OTHER

OSHPD NO. #: IL-072072-30

Rev No.	Date	Remarks	Initial
07/20/12	DESIGN REVISION		
11/21/11	DESIGN REVISION		
07/21/11	DESIGN REVISION		
05/02/11	FULLERTON FIRE DEPARTMENT CORRECTIONS		
11/30/10	DESIGN REVISION		
07/30/10	DESIGN REVISION		
11/05/09	BACKGROUND REVISIONS		

Drawn: H.JEANG
Checked: -
Approved: -
Date: 07.30.09
Scale: N.T.S.

FIRE ALARM CONTROL ROOM
LAYOUT / DETAILS

Job Number: 440P-056306

Project: CHILDRENS HOSPITAL OF
ORANGE COUNTY - TOWER II
455 SOUTH MAIN STREET
ORANGE, CALIFORNIA 92868-3874

Drawing Number: EFO.03

REFLECTIVE CEILING PLAN EQUIPMENT LEGEND
FOR REFERENCE PURPOSES ONLY
SEE MECHANICAL DRAWINGS FOR DETAILED INFORMATION

ELECTRICAL

RECESSED CEILING LIGHT



RECESSED CAN LIGHT



PENDENT LIGHT



EXIT SIGN



HVAC

HVAC DIFFUSER - SUPPLY



HVAC DIFFUSER - RETURN

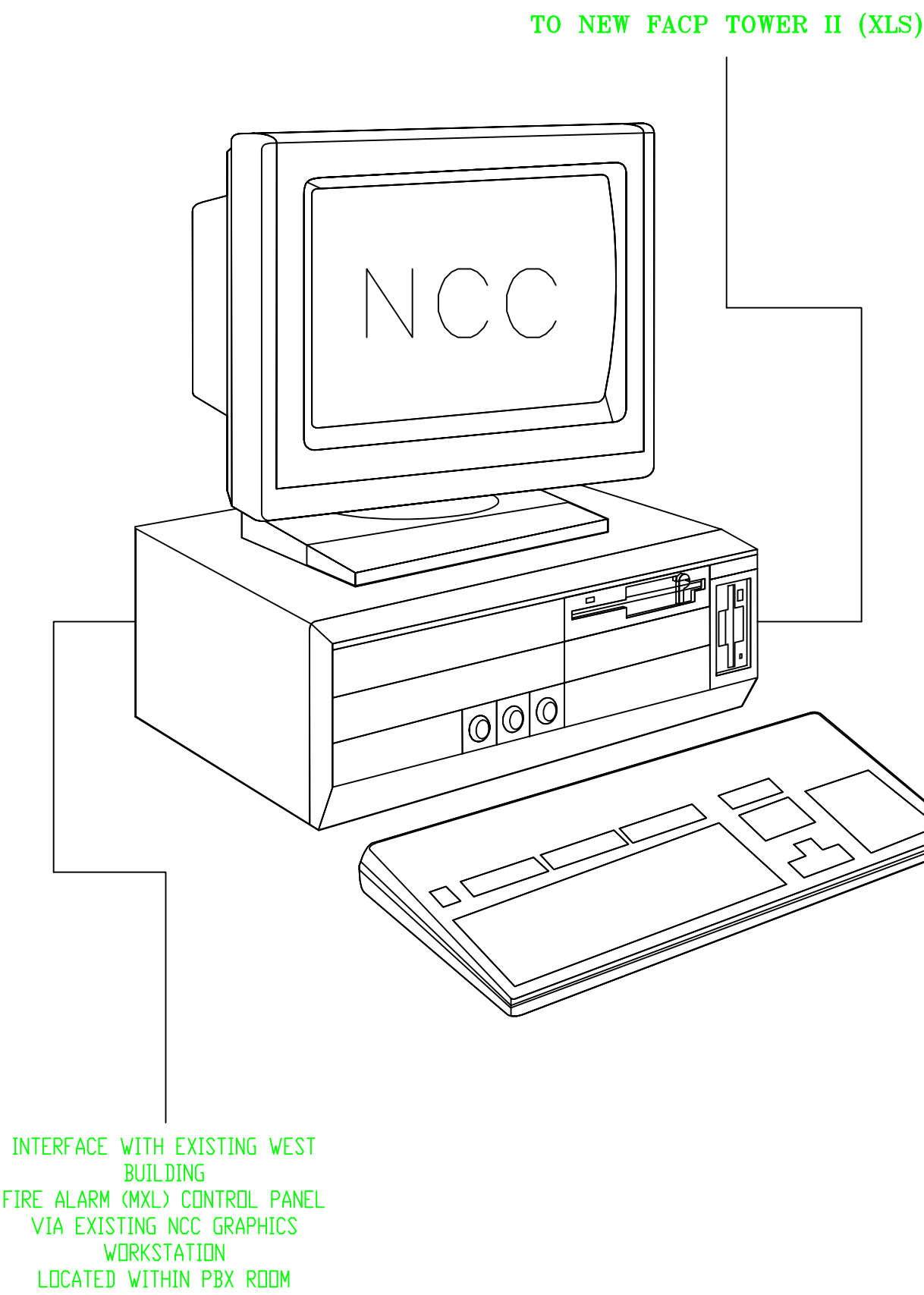


HVAC DIFFUSER - EXHAUST



MISC

CEILING ACCESS HATCH



NCC FIRE ALARM GRAPHICS WORK STATION -
LOWER LEVEL @BUILDING SYSTEM CONTROLS B.104

SIEMENS

CALIFORNIA STATE CONTRACTORS
LICENSE NO.: #758796 - B/ C10/ C16/ C20

Siemens Building Technologies, Inc.
FIS FIRE/LIFE SAFETY DIVISION
10775 Business Center Drive
Cypress, California 90630 USA
Phone: (714) 761-2200
Fax: (714) 220-4956

This drawing and the information and design application herein contained is the property of SIEMENS BUILDING TECHNOLOGIES, Inc. and is loaned upon the express condition that the same be returned to SIEMENS BUILDING TECHNOLOGIES, Inc. upon request; all information herein contained shall be treated as secret and confidential; no reproduction of this drawing or part thereof shall be made without the written consent of SIEMENS BUILDING TECHNOLOGIES, Incorporated.



BUILDING ELECTRONIC CONTROLS, INC.
2246 Lindsay Way
Glendora, CA 91740
PHONE: (909) 305-1600
FAX #: (909) 305-1604

LICENSE NO.: 729905
CLASSIFICATION (S): C-7 C10
EXPIRATION DATE: 11/30/2012
RICHARD TAYLOR



NOTES:

MCCARTHY APPROVAL

A. Noted or noted for Architectural Review

B. Issue and Resolved

C. Rejected

This review is for general conformance with Plans and Specifications only. Any deviations from same not clearly noted by the Engineer have not been reviewed. Reviewer shall not constitute a complete check of detailed dimensions or detail to ensure the accuracy and compliance of construction requirements for any error or deviation from contract requirements.

McCarthy

By: _____ Date: _____

SKIP DRAWING REFERENCE NO.

- ☐ MXL☒ XLS☐ VOICE☐ FS-250☐ XL3☐ EST3☐ SYSTEM3☐ OTHER

OSHPD NO. #: IL-072072-30

07/20/12	DESIGN-REVISION	-
11/21/11	DESIGN-REVISION	-
07/21/11	DESIGN-REVISION	-
05/02/11	FULLERTON FIRE DEPARTMENT CORRECTIONS	-
11/30/10	DISPATCH-REVISION	LF
07/30/10	DISPATCH-REVISION	LF
11/05/09	BACKGROUND-REVISIONS	PM

Rev No.	Date	Remarks	Initial
Drawn:	H.JEANG		
Checked:	-		
Approved:	-		
Date:	07.30.09		
Scale:	N.T.S.		

FIRE ALARM MATRIX
ANNUNCIATOR

Job Number: 440P-056306

Project: CHILDRENS HOSPITAL OF
ORANGE COUNTY - TOWER II
455 SOUTH MAIN STREET
ORANGE, CALIFORNIA 92868-3874

Drawing Number: EF0.06

FIRE ALARM ANNUNCIATOR
CHILDRENS HOSPITAL OF ORANGE COUNTY
455 SOUTH MAIN STREET
ORANGE, CALIFORNIA 92868

	MANUAL PULL STATION	AREA SMOKE DETECTOR	AREA HEAT DETECTOR	ELEVATOR LOBBY SMOKE DETECTOR	DUCT SMOKE DETECTOR	BEAM DETECTOR	ELEVATOR MACHINE RM/ TOP OF SHAFT SMOKE DETECTOR	ELEVATOR MACHINE RM/ TOP OF SHAFT HEAT DETECTOR	PRE-ACTION SYSTEM	SPECIAL EXTINGUISHING SYSTEM	SPRINKLER WATERFLOW	SPRINKLER TAMPER
PENTHOUSE 3	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)		(R)	(Y)
PENTHOUSE 2	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)		(R)	(Y)
PENTHOUSE 1	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)		(R)	(Y)
LEVEL 7	(R)	(R)	(R)	(R)	(R)	(R)				(R)	(R)	(Y)
LEVEL 6	(R)	(R)	(R)	(R)	(R)	(R)				(R)	(R)	(Y)
LEVEL 5	(R)	(R)	(R)	(R)	(R)	(R)				(R)	(R)	(Y)
LEVEL 4	(R)	(R)	(R)	(R)	(R)	(R)				(R)	(R)	(Y)
LEVEL 3	(R)	(R)	(R)	(R)	(R)	(R)				(R)	(R)	(Y)
LEVEL 2	(R)	(R)	(R)	(R)	(R)	(R)				(R)	(R)	(Y)
LEVEL 1	(R)	(R)	(R)	(R)	(R)	(R)				(R)	(R)	(Y)
LOWER LEVEL	(R)	(R)	(R)	(R)		(R)	(R)	(R)	(R)	(R)	(R)	(Y)

FIRE PUMP

- (G)

PUMP NORMAL
- (R)

PUMP RUN
- (Y)

PUMP FAULT

EMERGENCY GENERATOR

- (G)

GENERATOR NORMAL
- (R)

GENERATOR RUN
- (Y)

GENERATOR FAULT

FUEL TANK

- (G)

HI-LEVEL
- (R)

LOW-LEVEL
- (Y)

FUEL LEAK

- (G)

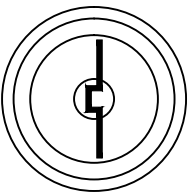
POWER ON
- (●)

LAMP TEST
- (Y)

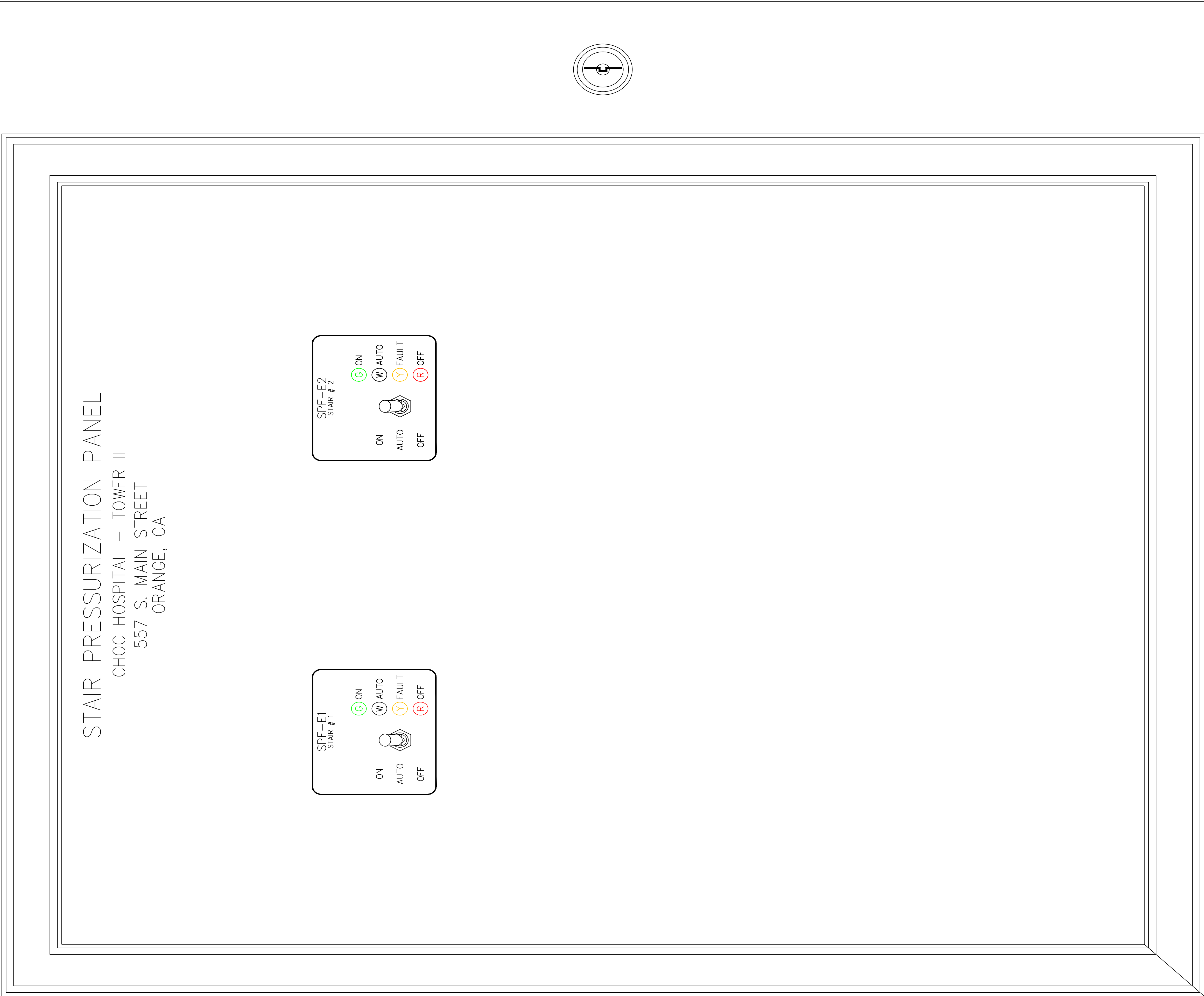
SYSTEM TROUBLE
- (●)

TROUBLE SILENCE

SIEMENS
FIS Fire/ Life Safety Division
Siemens Building Technologies, Inc.



Note: This door will be hinged on the left/lock on the right.



Door Finish:
(X) Black Texture. (Standard)
() Stainless Steel.
() Other

SIEMENS

CALIFORNIA STATE CONTRACTORS
LICENSE NO.: #758796 - B/ C10/ C16/ C20

Siemens Building Technologies, Inc.
FIS FIRE/LIFE SAFETY DIVISION

10775 Business Center Drive
Cypress, California 90630 USA
Phone: (714) 761-2200
Fax: (714) 220-4956

This drawing and the information and design application herein contained is the property of SIEMENS BUILDING TECHNOLOGIES, Inc. and is loaned upon the express condition that the same be returned to SIEMENS BUILDING TECHNOLOGIES, Inc. upon request; all information herein contained shall be treated as secret and confidential; no reproduction of this drawing or part thereof shall be made without the written consent of SIEMENS BUILDING TECHNOLOGIES, Incorporated.



BUILDING ELECTRONIC CONTROLS, INC.
2246 Lindsay Way
Glendora, CA 91740
PHONE: (909) 305-1600
FAX #: (909) 305-1604

LICENSE NO.: 729905
CLASSIFICATION (S): C-7 C10
EXPIRATION DATE: 11/30/2012
RICHARD TAYLOR



NOTES:

MCCARTHY APPROVAL

A. Reviewed or noted for Architectural Review

☐

B. Inspect and Assent

☐

C. Rejected

☐

This review is for general conformance with Plans and Specifications only. Any deviations from same not clearly noted by the Engineer have not been reviewed. Review shall not constitute a complete check of detailed dimensions or detail to assure the reviewer the presence of correct construction for any error or deviation from contract requirements.

McCarthy

By: _____ Date: _____

SKIP DRAWING REFERENCE NO.

- ☐ MXL☐ VOICE☐ XL3☐ SYSTEM3
- ☒ XLS☐ FS-250☐ EST3☐ OTHER

OSHPD NO. #: IL-072072-30

07/20/12	DESIGN REVISION	-
11/21/11	DESIGN REVISION	-
07/21/11	DESIGN REVISION	-
05/02/11	FULLERTON FIRE DEPARTMENT CORRECTIONS	-
11/30/10	DISPATCHER'S CORRECTIONS	LF
07/30/10	DISPATCHER'S CORRECTIONS	LF
11/05/09	BACKGROUND REVISIONS	PM

Rev No.	Date	Remarks	Initial
Drawn:	H. JEANG		
Checked:	-		
Approved:	-		
Date:	07.30.09		
Scale:	N.T.S.		

FIREFIGHTER'S GRAPHIC
STAIR PRESSURIZATION PANEL

Job Number: 440P-056306

Project: CHILDRENS HOSPITAL OF
ORANGE COUNTY - TOWER II
455 SOUTH MAIN STREET
ORANGE, CALIFORNIA 92868-3874

Drawing Number: EF0.07



NOTE: SEE SHEET FAA-0.11 FOR
ADDITIONAL FATC/RISER INFO.

SIEMENS

CALIFORNIA STATE CONTRACTORS
LICENSE NO.: #758796 - B/ C10/ C16/ C20

Siemens Building Technologies, Inc.
FIS FIRE/LIFE SAFETY DIVISION

10775 Business Center Drive
Cypress, California 90630 USA
Phone: (714) 761-2200
Fax: (714) 220-4956

This drawing and the information and design application herein contained is the property of SIEMENS BUILDING TECHNOLOGIES, Inc. and is loaned upon the express condition that the same be returned to SIEMENS BUILDING TECHNOLOGIES, Inc. upon request; all information herein contained shall be treated as secret and confidential; no reproduction of this drawing or part thereof shall be made without the written consent of SIEMENS BUILDING TECHNOLOGIES, Incorporated.



BUILDING ELECTRONIC CONTROLS, INC.
2246 Lindsay Way
Glendora, CA 91740
PHONE: (909) 305-1600
FAX #: (909) 305-1604

LICENSE NO.: 729905
CLASSIFICATION (S): C-7 C10
EXPIRATION DATE: 11/30/2012
RICHARD TAYLOR



NOTES:

MCCARTHY APPROVAL

- A. Approved as noted for Architectural Review ☐
B. Review and Approval ☐
C. Rejected ☐

This review is for general conformance with Plans and Specifications only. Any deviations from same not clearly noted by the Engineer have not been reviewed. Reviewer shall not constitute a complete check of detailed dimensions or detail to ensure the review and approval of contract requirements for any error or deviation from contract requirements.

McCarthy

By: _____ Date: _____
SKIP DRAWING REFERENCE NO.

- ☐ MXL ☐ VOICE ☐ XL3 ☐ SYSTEM3
☒ XLS ☐ FS-250 ☐ EST3 ☐ OTHER

OSHPD NO. #: IL-072072-30

Rev No.	Date	Remarks	Initial
1	07/20/12	DESIGN REVISION	-
2	11/21/11	DESIGN REVISION	-
3	07/21/11	DESIGN REVISION	-
4	05/02/11	FULLERTON FIRE DEPARTMENT CORRECTIONS	-
5	11/30/10	DISPATCH	LF
6	07/30/10	DISPATCH	FM
7	11/05/09	BACKGROUND REVISIONS	FM

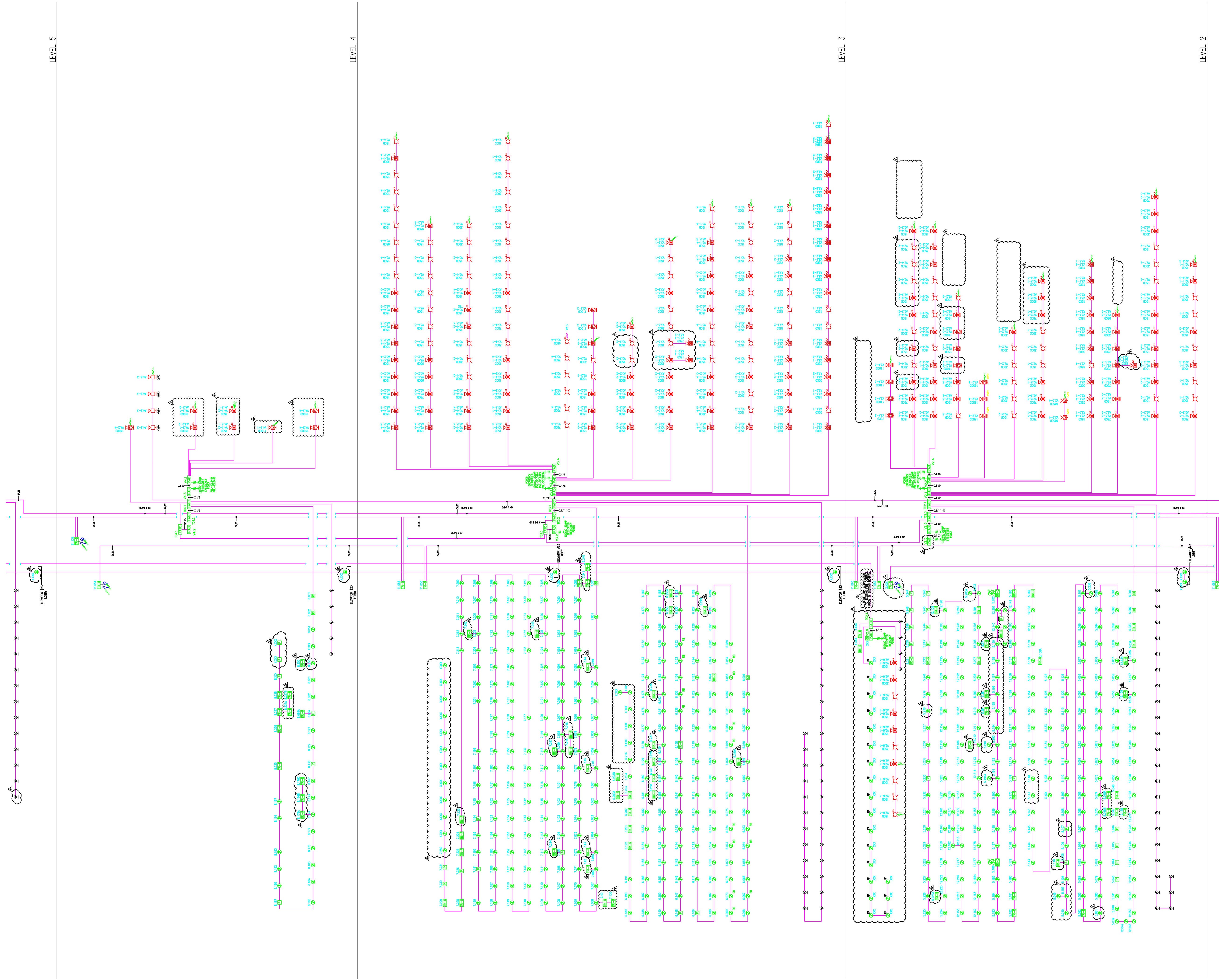
Rev No.	Date	Remarks	Initial
Drawn	H. JEANG		
Checked	-		
Approved	-		
Date	07.30.09		
Scale	N.T.S.		

**FIRE ALARM SYSTEM
RISER DIAGRAM**

Job Number: 440P-056306

Project: CHILDRENS HOSPITAL OF
ORANGE COUNTY - TOWER II
455 SOUTH MAIN STREET
ORANGE, CALIFORNIA 92868-3874

Drawing Number: EF0.08



NOTE: SEE SHEET FAA-0.11 FOR
ADDITIONAL FATC/RISER INFO.

SIEMENS

CALIFORNIA STATE CONTRACTORS
LICENSE NO.: #758796 - B/ C10/ C16/ C20

Siemens Building Technologies, Inc.
FIS FIRE/LIFE SAFETY DIVISION

10775 Business Center Drive
Cypress, California 90630 USA
Phone: (714) 761-2200
Fax: (714) 220-4956

This drawing and the information and design application herein contained is the property of SIEMENS BUILDING TECHNOLOGIES, Inc. and is loaned upon the express condition that the same be returned to SIEMENS BUILDING TECHNOLOGIES, Inc. upon request; all information herein contained shall be treated as secret and confidential; no reproduction of this drawing or part thereof shall be made without the written consent of SIEMENS BUILDING TECHNOLOGIES, Incorporated.



BUILDING ELECTRONIC CONTROLS, INC.
2246 Lindsay Way
Glendora, CA 91740
PHONE: (909) 305-1600
FAX #: (909) 305-1604

LICENSE NO.: 729905
CLASSIFICATION (S): C-7 C10
EXPIRATION DATE: 11/30/2012
RICHARD TAYLOR



NOTES:

MCCARTHY APPROVAL

A. Approved as noted for Architectural Review ☐
B. Approved as noted ☐
C. Rejected ☐

This review is for general conformance with Plans and Specifications only. Any deviations from same not clearly noted by the Engineer have not been reviewed. Review shall not constitute a complete check of detailed dimensions or exact compliance to review the reviewer of conformance requirements for any error or deviation from contract requirements.

McCarthy

By: _____ Date: _____
SKIP DRAWING REFERENCE NO.

☐ MXL ☐ VOICE ☐ XL3 ☐ SYSTEM3
☒ XLS ☐ FS-250 ☐ EST3 ☐ OTHER

OSHPD NO. #: IL-072072-30

Rev No.	Date	Remarks	Initial
1	07/20/12	DESIGN REVISION	
2	11/21/11	DESIGN REVISION	
3	07/21/11	DESIGN REVISION	
4	05/02/11	FULLERTON FIRE DEPARTMENT CORRECTIONS	
5	11/30/10	DISPATCH CENTER	LF
6	07/30/10	DISPATCH CENTER	LF
7	11/05/09	BACKGROUND REVISIONS	FM

Rev No.	Date	Remarks	Initial
Drawn	H. JEANG		
Checked	-		
Approved	-		
Date	07.30.09		
Scale	N.T.S.		

FIRE ALARM SYSTEM
RISER DIAGRAM

Job Number: 440P-056306

Project: CHILDRENS HOSPITAL OF
ORANGE COUNTY - TOWER II
455 SOUTH MAIN STREET
ORANGE, CALIFORNIA 92868-3874

Drawing Number: EF0.09

SIEMENS

CALIFORNIA STATE CONTRACTORS
LICENSE NO.: #758796 - B/ C10/ C16/ C20

Siemens Building Technologies, Inc.
FIS FIRE/LIFE SAFETY DIVISION

10775 Business Center Drive
Cypress, California 90630 USA
Phone: (714) 761-2200
Fax: (714) 220-4956

This drawing and the information and design application herein contained is the property of SIEMENS BUILDING TECHNOLOGIES, Inc. and is loaned upon the express condition that the same be returned to SIEMENS BUILDING TECHNOLOGIES, Inc. upon request; all information herein contained shall be treated as secret and confidential; no reproduction of this drawing or part thereof shall be made without the written consent of SIEMENS BUILDING TECHNOLOGIES, Incorporated.



BUILDING ELECTRONIC CONTROLS, INC.
2246 Lindsay Way
Glendora, CA 91740
PHONE: (909) 305-1600
FAX #: (909) 305-1604

LICENSE NO.: 729905
CLASSIFICATION (S): C-7 C10
EXPIRATION DATE: 11/30/2012
RICHARD TAYLOR



NOTES:

NOTE: SEE SHEET FAA-0.11 FOR
ADDITIONAL FATC/RISER INFO.

MCCARTHY APPROVAL

- A. Reviewed as noted for Architectural Review ☐
B. Review and Approval ☐
C. Rejected ☐

This review is for general conformance with Plans and Specifications only. Any deviations from same not clearly noted by the Engineer have not been reviewed. Review shall not constitute a complete check of detailed dimensions or detail to insure the accuracy and proper construction of the work. The reviewer shall assume no responsibility for any error or deviation from contract requirements.

McCarthy

By: _____ Date: _____
SKIP DRAWING REFERENCE NO.

- ☐ MXL ☐ VOICE ☐ XL3 ☐ SYSTEM3
☒ XLS ☐ FS-250 ☐ EST3 ☐ OTHER

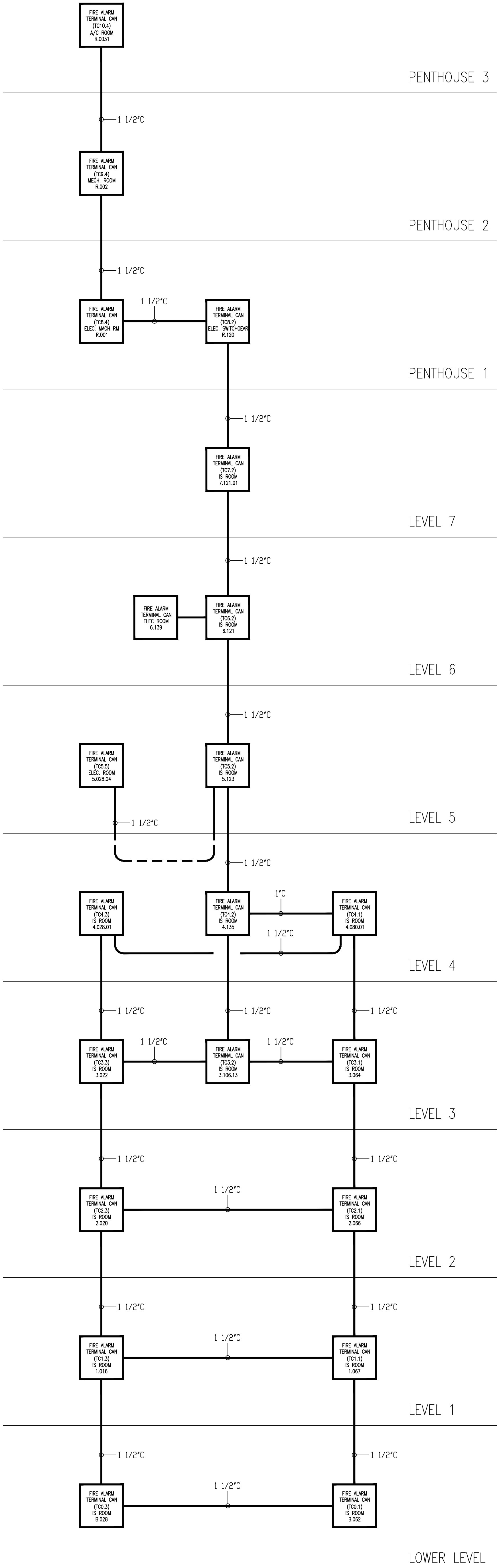
OSHPD NO. #: IL-072072-30

Rev No.	Date	Remarks	Initial
1	07/20/12	DESIGN REVISION	
2	11/21/11	DESIGN REVISION	
3	07/21/11	DESIGN REVISION	
4	05/02/11	FULLERTON FIRE DEPARTMENT CORRECTIONS	
5	11/30/10	DISPATCHER'S OFFICE CORRECTIONS	LF
6	07/30/10	DISPATCHER'S OFFICE CORRECTIONS	LF
7	11/05/09	BACKGROUND REVISIONS	FM

Rev No.	Date	Remarks	Initial
Drawn	H. JEANG		
Checked	-		
Approved	-		
Date	07.30.09		
Scale	N.T.S.		

FIRE ALARM SYSTEM
RISER DIAGRAM

Job Number:	440P-056306
Project:	CHILDRENS HOSPITAL OF ORANGE COUNTY - TOWER II 455 SOUTH MAIN STREET ORANGE, CALIFORNIA 92868-3874
Drawing Number:	EFO.10



SIEMENS

CALIFORNIA STATE CONTRACTORS
LICENSE NO.: #758796 - B/ C10/ C16/ C20

Siemens Building Technologies, Inc.
FIS FIRE/LIFE SAFETY DIVISION
10775 Business Center Drive
Cypress, California 90630 USA
Phone: (714) 761-2200
Fax: (714) 220-4956

This drawing and the information and design application herein contained is the property of SIEMENS BUILDING TECHNOLOGIES, Inc. and is loaned upon the express condition that the same be returned to SIEMENS BUILDING TECHNOLOGIES, Inc. upon request; all information herein contained shall be treated as secret and confidential; no reproduction of this drawing or part thereof shall be made without the written consent of SIEMENS BUILDING TECHNOLOGIES, Incorporated.



BUILDING ELECTRONIC CONTROLS, INC.
2246 Lindsay Way
Glendora, CA 91740
PHONE: (909) 305-1600
FAX #: (909) 305-1604



LICENSE NO.: 729805
CLASSIFICATION (S): C-7 C10
EXPIRATION DATE: 11/30/2012
RICHARD TAYLOR



NOTES:

MCCARTHY APPROVAL	
A. Reviewed as noted for Architectural Review	<input type="checkbox"/>
B. Review and Assent	<input type="checkbox"/>
C. Rejected	<input type="checkbox"/>
This review is for general conformance with Plans and Specifications only. Any deviations from same not clearly noted by the Engineer have not been reviewed. Review shall not constitute a complete check of detailed dimensions or detail to insure the accuracy of the design or construction requirements for any error or deviation from contract requirements.	
McCarthy	
By: _____	Date: _____
SKIP DRAWING REFERENCE NO.	

☐ MXL ☐ VOICE ☐ XL3 ☐ SYSTEM3
☒ XLS ☐ FS-250 ☐ EST3 ☐ OTHER

OSHPD NO. #: IL-072072-30

Rev No.	Date	Remarks	Initial
1	07/20/12	DESIGN REVISION	
2	11/21/11	DESIGN REVISION	
3	07/21/11	DESIGN REVISION	
4	05/02/11	FULLERTON FIRE DEPARTMENT CORRECTIONS	
5	11/30/10	DISPATCH CENTER	LF
6	07/30/10	DISPATCH CENTER	LF
7	11/05/09	BACKGROUND REVISIONS	FM

Rev No.	Date	Remarks	Initial
1	07/20/12	DESIGN REVISION	
2	11/21/11	DESIGN REVISION	
3	07/21/11	DESIGN REVISION	
4	05/02/11	FULLERTON FIRE DEPARTMENT CORRECTIONS	
5	11/30/10	DISPATCH CENTER	LF
6	07/30/10	DISPATCH CENTER	LF
7	11/05/09	BACKGROUND REVISIONS	FM

Drawn: H. JEANG
Checked: -
Approved: -
Date: 07.30.09
Scale: N.T.S.

FIRE ALARM SYSTEM
FATC RISER DIAGRAM

Job Number: 440P-056306

Project: CHILDRENS HOSPITAL OF ORANGE COUNTY - TOWER II
455 SOUTH MAIN STREET
ORANGE, CALIFORNIA 92868-3874

Drawing Number: EF.011

Diagram illustrating the installation of an EN-PAD cabinet with batteries against a wall. The cabinet is mounted to a wall stud using lag bolts or metal screws. A power strut is used to secure the cabinet to the wall stud. The diagram also shows the finished ceiling line and finished floor.

Labels in the diagram:

- FINISHED CEILING LINE
- WALL STUD
- GYPSUM WALL BOARD
- LAG BOLT/METAL SCREW OR STRUCTURAL TYPE FASTENER ANCHORED INTO WALL STUD
- POWER STRUT (2 OR 3 STUD SPAN WHERE APPLICABLE)
- EN-PAD CABINET WITH BATTERIES
- POWER STRUT CONNECTING BOLT
- FINISHED FLOOR

NOTES:

- 1.) CONDUIT NOT STUB INTO THE BOTTOM OR THE LOWER SIDES OF THE CABINET BY THE BATTERIES OTHERWISE THE BATTERIES WILL NOT FIT INSIDE THE OF ENCLOSURE.
- 2.) PAD PANELS MAY BE DOUBLE STACKED.
- 3.) TO BE INSTALLED IN ACCORDANCE WITH CALIFORNIA BUILDING CODE.

 TYPICAL
SCALE: NONE

Technical drawing showing the front and side elevations of a rack cabinet, detailing the installation of 4"x16GA tracks and #10 sheet metal screws. The drawing includes a note regarding conduit stubbing and a list of installation instructions.

NOTE: 1.) CONDUIT MUST NOT STUB INTO THE BOTTOM OR THE LOWER SIDES OF THE CABINET BY THE BATTERIES OTHERWISE THE BATTERIES WILL NOT FIT INSIDE THE 2" OF ENCLOSURE.

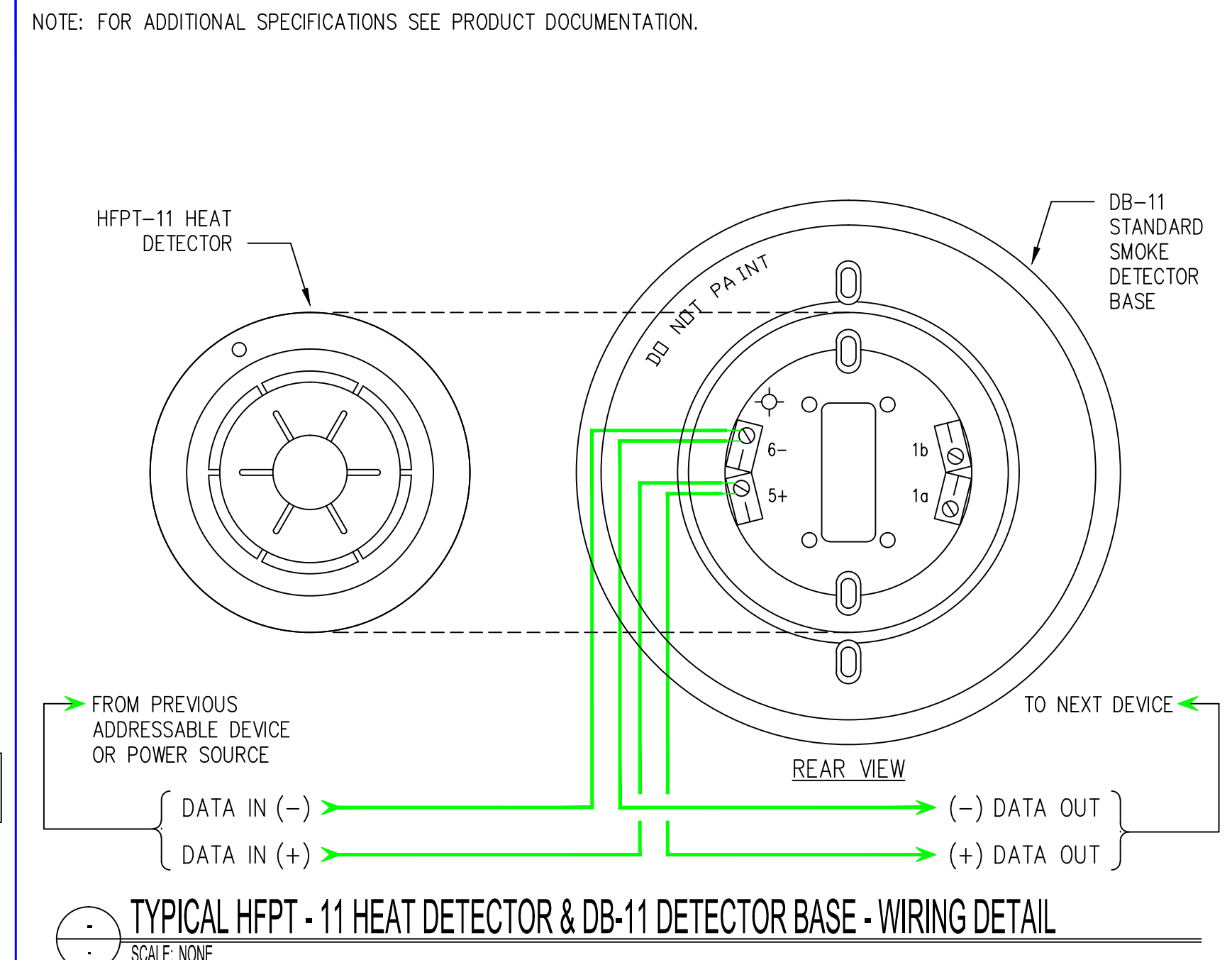
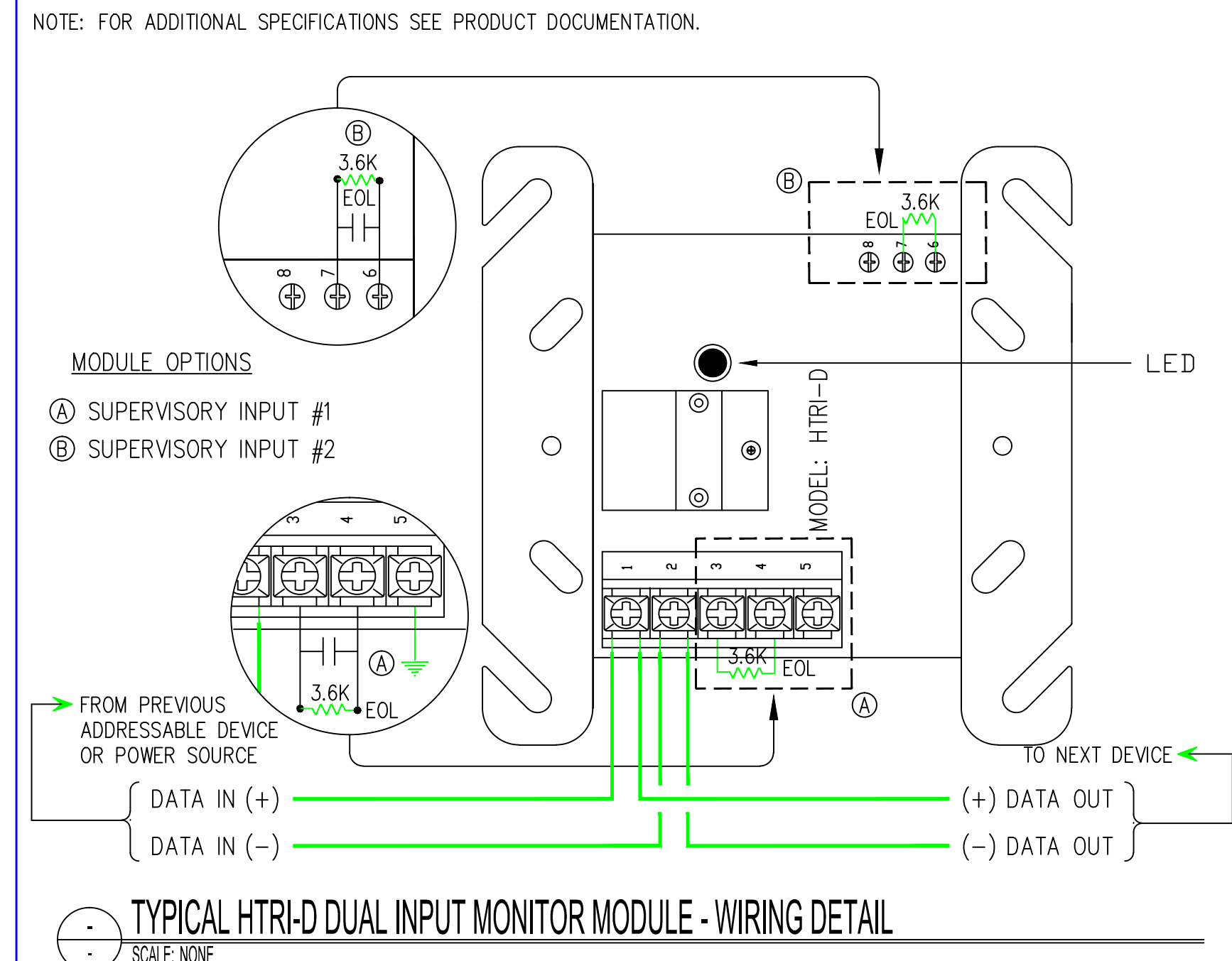
INSTALLATION INSTRUCTIONS:

- 1.) PAD PANELS MAY BE DOUBLE STACKED.
- 2.) TO BE INSTALLED IN ACCORDANCE WITH CALIFORNIA BUILDING CODE.
- 3.) PRE-DRILL STEEL STUDS/TRACKS FOR BACKBOX KNOCK OUTS WHERE NEEDED.

Labels and Dimensions:

- WALL STUD
- FINISHED CEILING LINE
- ELEVATION VIEW
- 10"
- #10 SHEET METAL SCREWS SECURED TO TRACK & STUDS
- #10 SHEET METAL SCREWS SECURED TO TRACK
- *BACKBOX MUST BE INSET ENOUGH TO ALLOW FOR ALL RACEWAY KNOCK-OUTS TO BE CONCEALED WITHIN WALL CAVITY (TYP.)
- RACEWAY LOCATIONS ARE SHOWN FOR REFERENCE PURPOSES ONLY.
- VOID SPACE
- #10 SHEET METAL SCREWS SECURED TO TRACK & STUD (TYP.)
- 10"
- 4"x16GA TRACK (BEND WEB AND SHEET METAL SCREW TO STUD (TYP.))
- EN-PAD CABINET WITH BATTERIES
- #10 SHEET METAL SCREWS SECURED TO TRACK (TYP.)
- 1.50" MAX
- 4"x16GA TRACK (BEND WEB AND SHEET METAL SCREW TO STUD (TYP.))
- #10 SHEET METAL SCREWS SECURED TO STUDS (TYP.)
- ALL METAL STUDS (BY OTHERS)
- SIDE VIEW
- VOID SPACE
- FINISHED WALL
- FINISHED FLOOR
- WALL STUD

 TYPICAL
SCALE: NOT



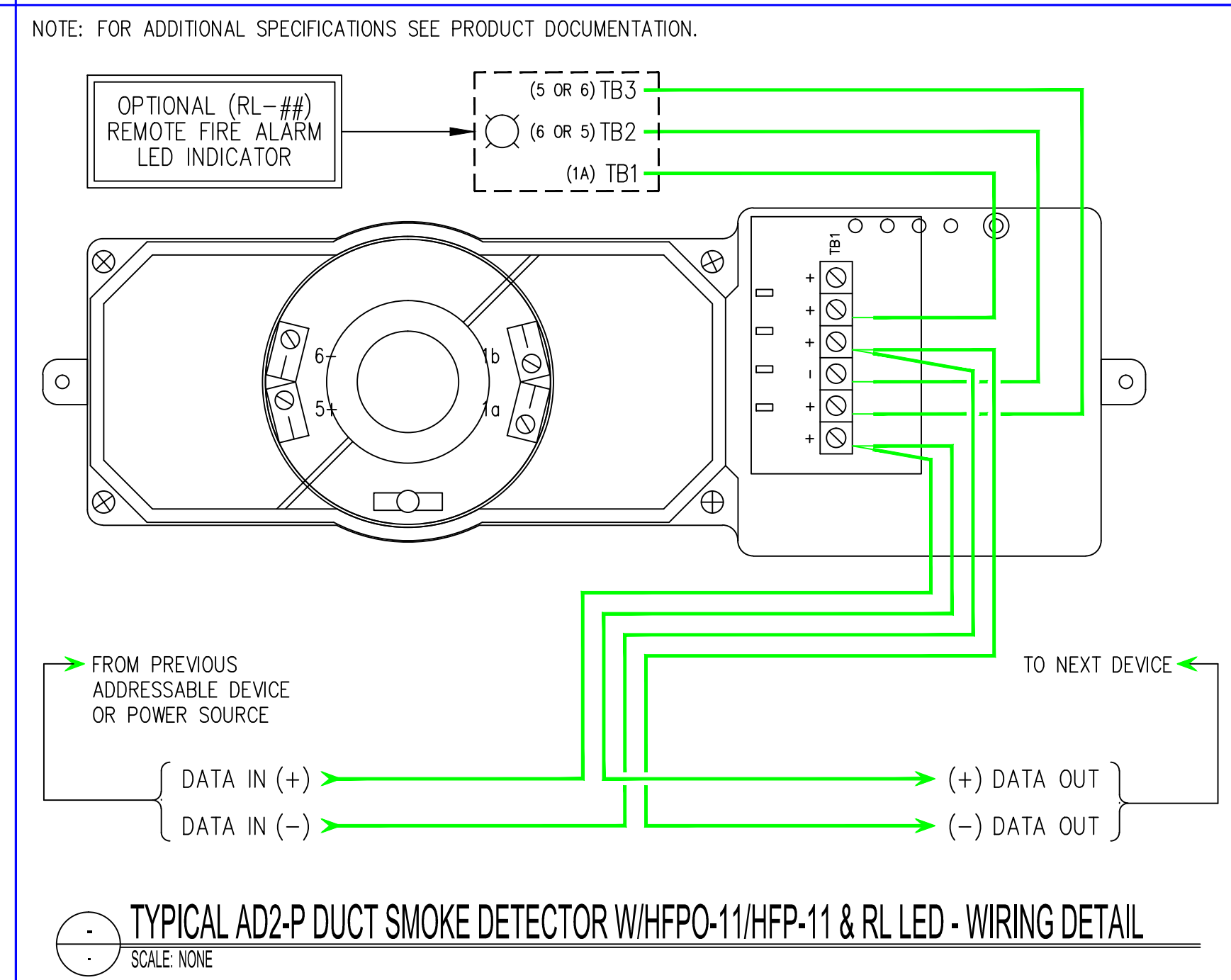
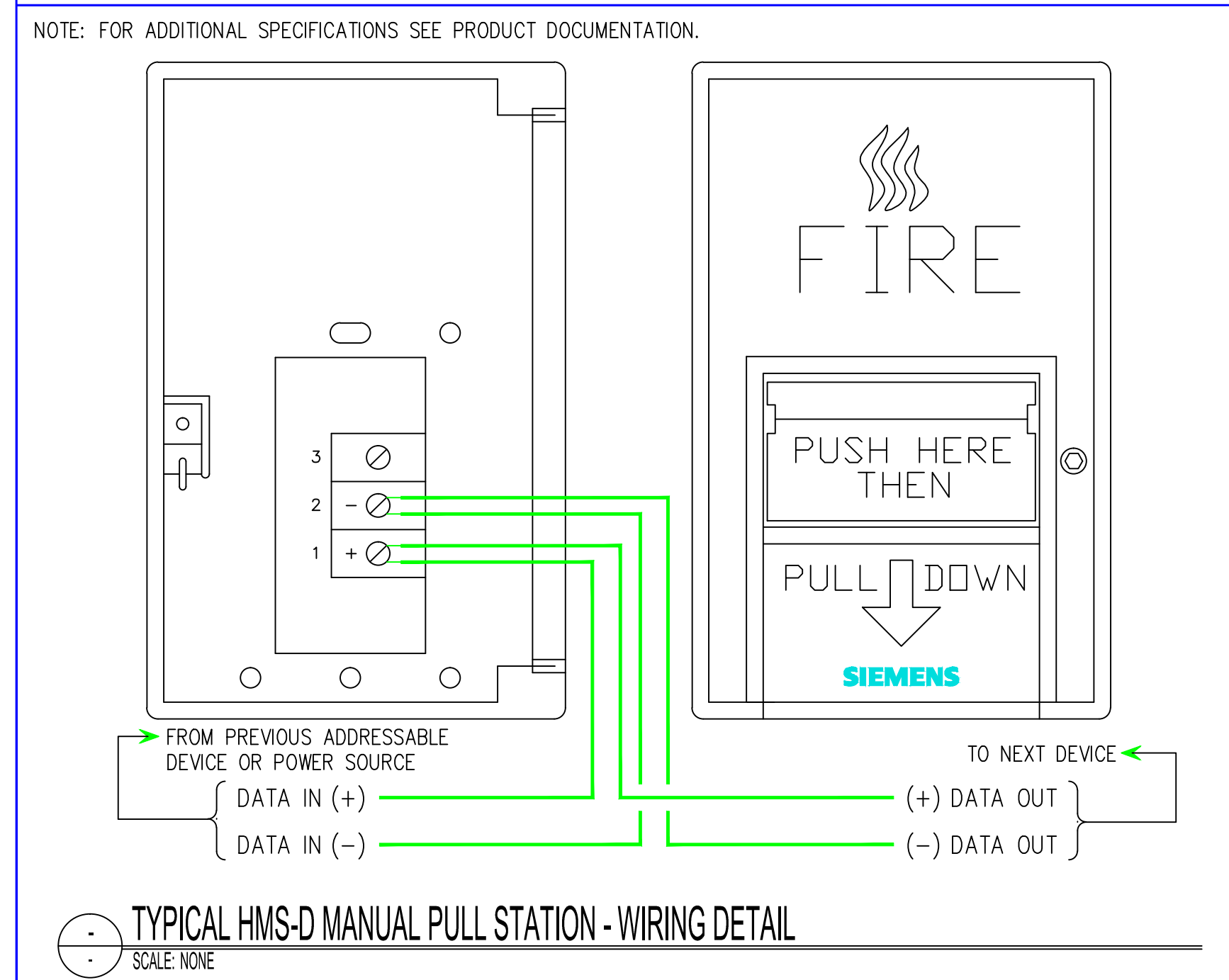

The diagram illustrates the installation of a wall cabinet. A vertical cabinet, labeled 'CAB-3 CABINET' and 'DIN 26.125" W x 62.500" H x 6.675" D', is mounted to a wall. The wall consists of a 'FINISHED CEILING LINE' at the top, a 'GYPSUM WALL BOARD', and 'WALL STUD' members. The cabinet is secured to the wall studs using 'LAG BOLT/METAL SCREW OR STRUCTURAL TYPE FASTENER ANCHORED INTO WALL STUD'. 'POWER STRUT (2 OR 3 STUD SPAN WHERE APPLICABLE)' are used to connect the cabinet to the wall studs, with 'POWER STRUT CONNECTING BOLT' securing the struts. The bottom of the cabinet is positioned above the 'FINISHED FLOOR'.

NOTE: 1.) CONDUIT MUST NOT STUB INTO THE BOTTOM OR THE LOWER SIDES OF THE CABINET BY THE BATTERIES OTHERWISE THE BATTERIES WILL NOT FIT INSIDE OF THE ENCLOSURE.

2.) TO BE INSTALLED IN ACCORDANCE WITH CALIFORNIA BUILDING CODE

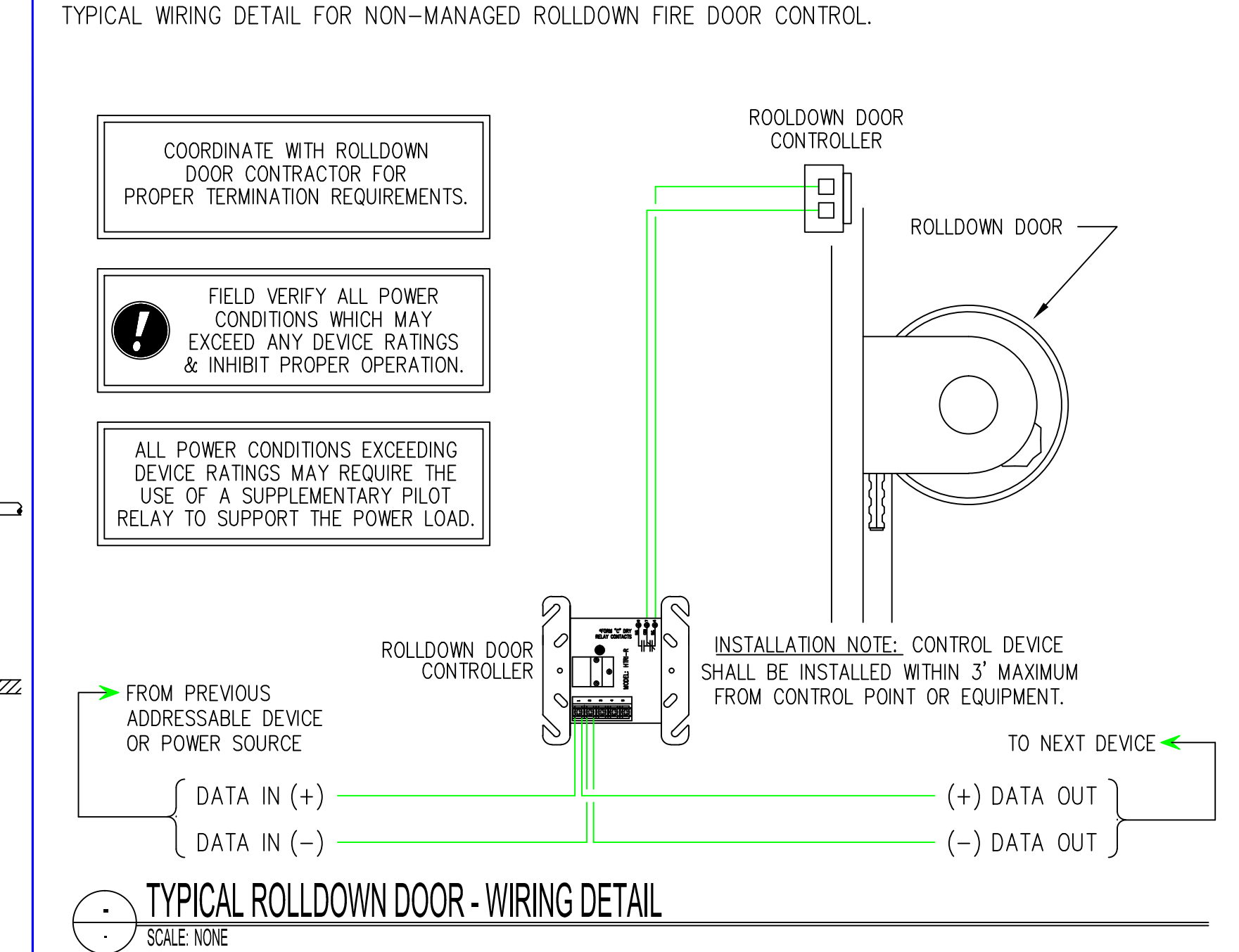
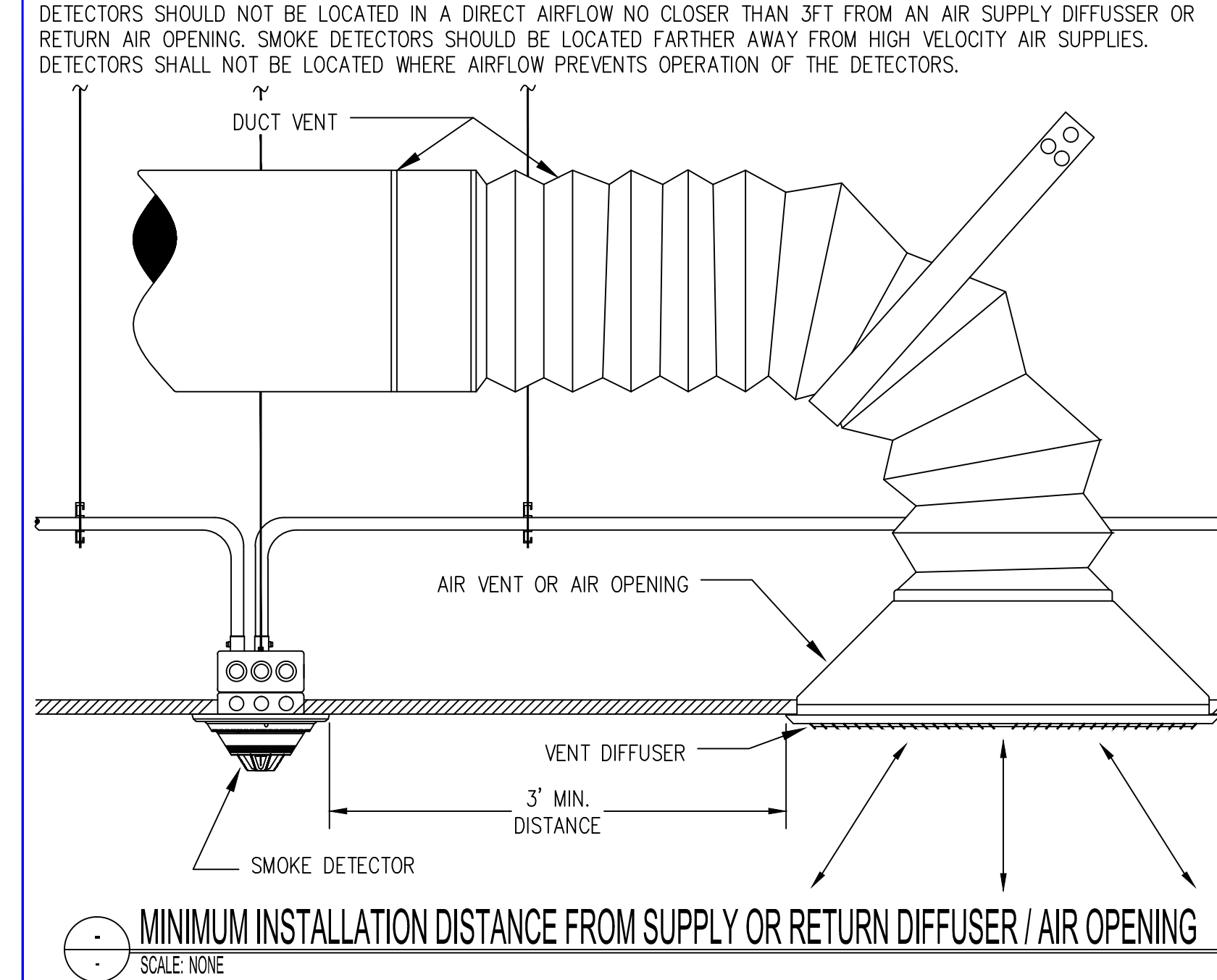
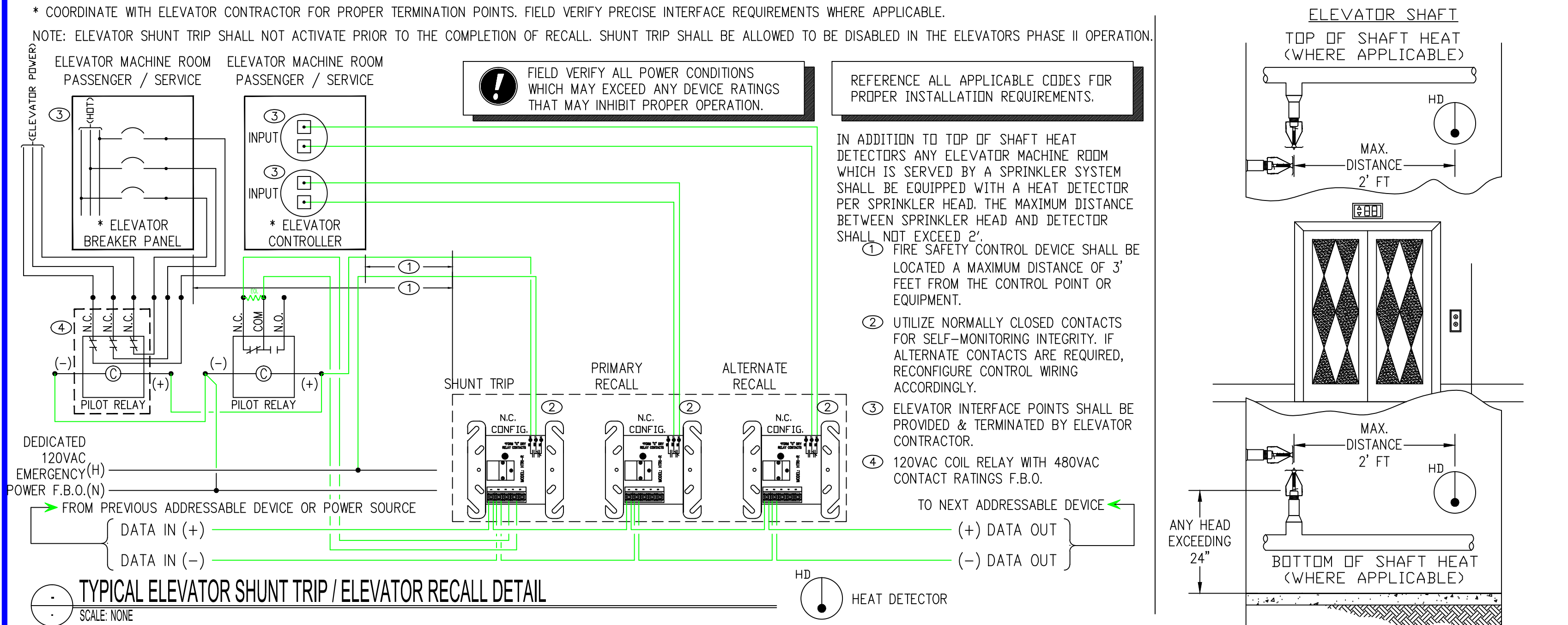
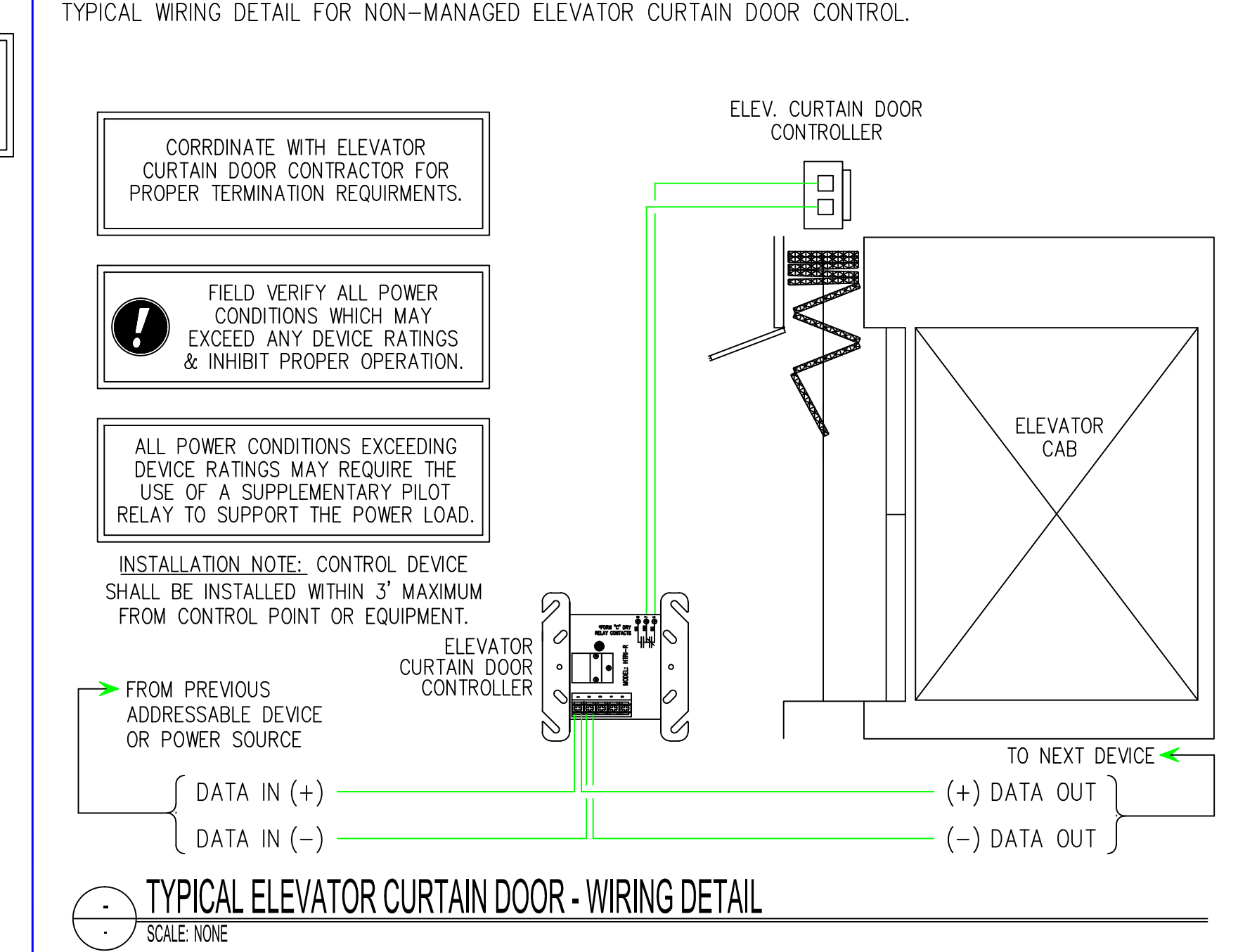
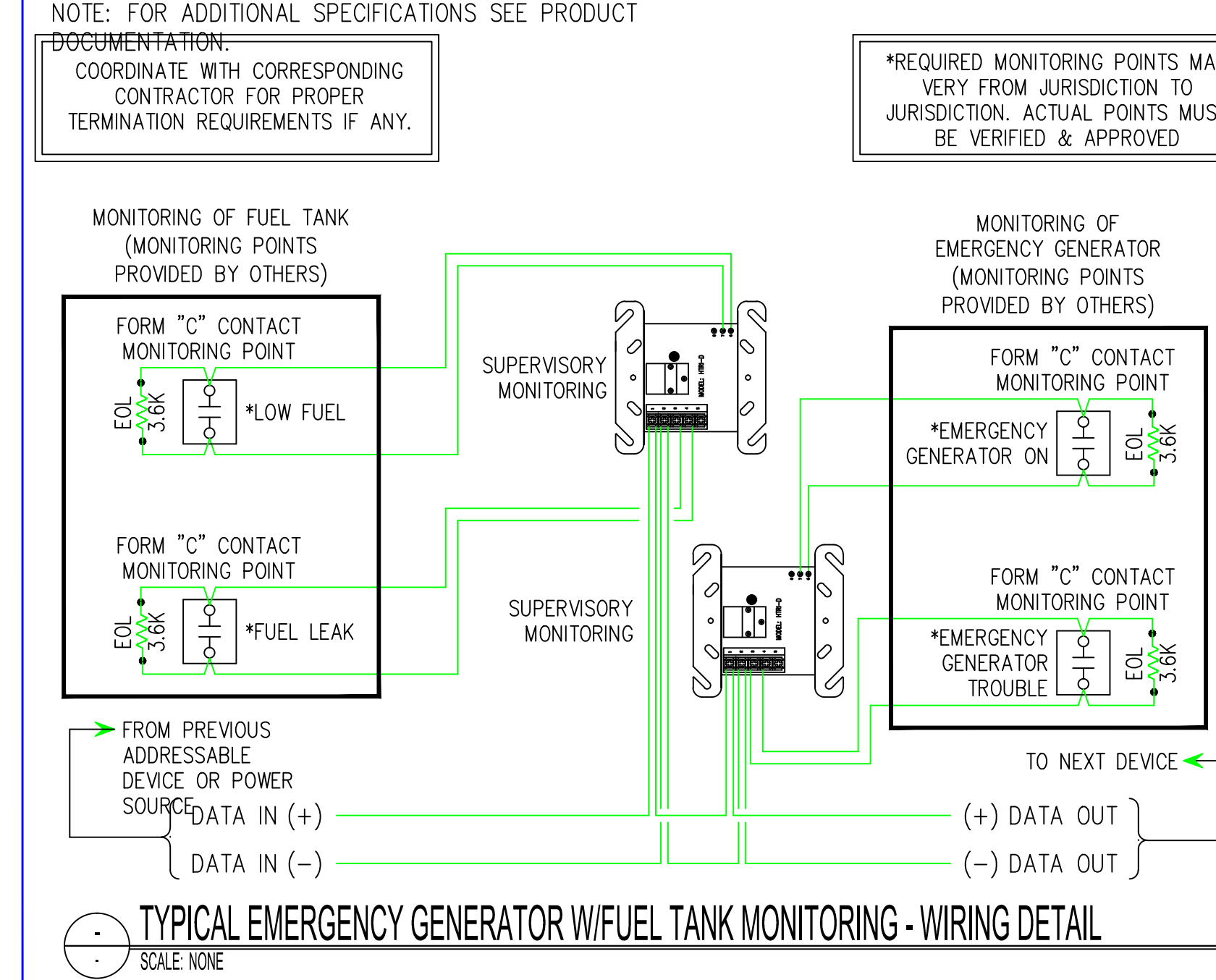
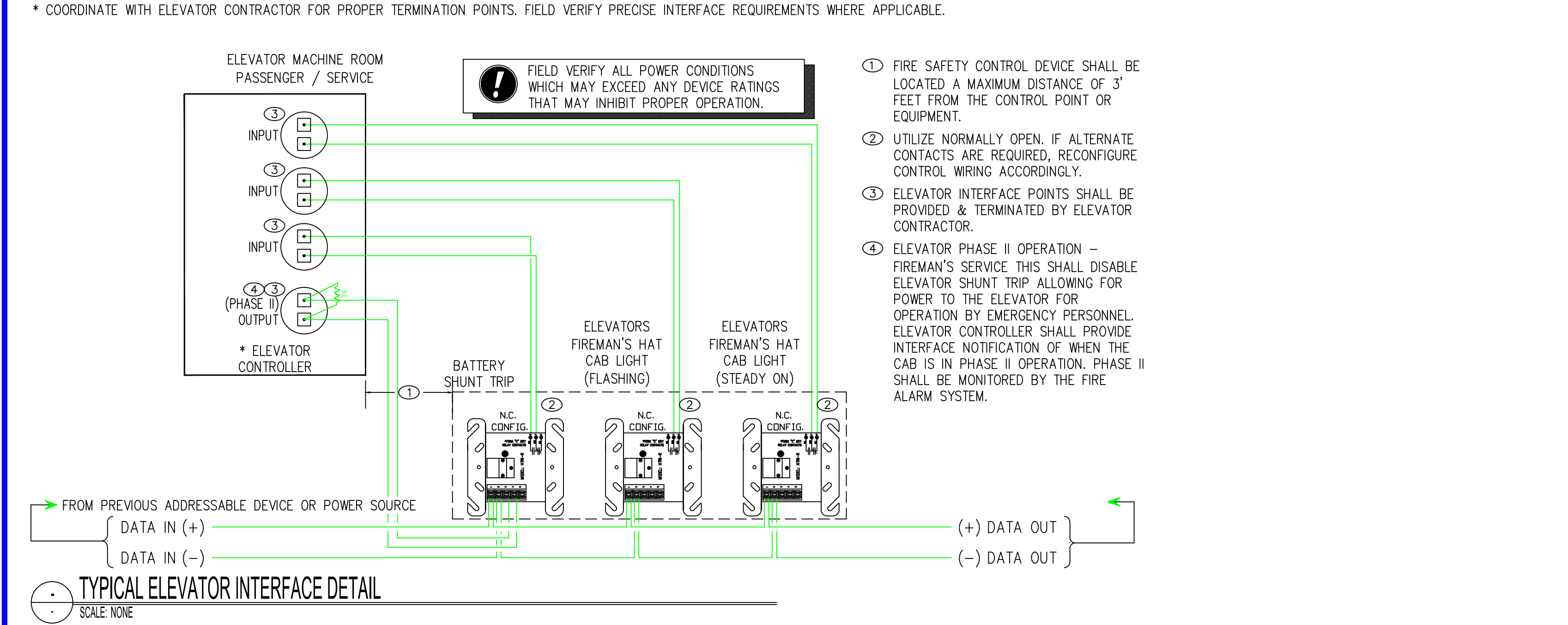
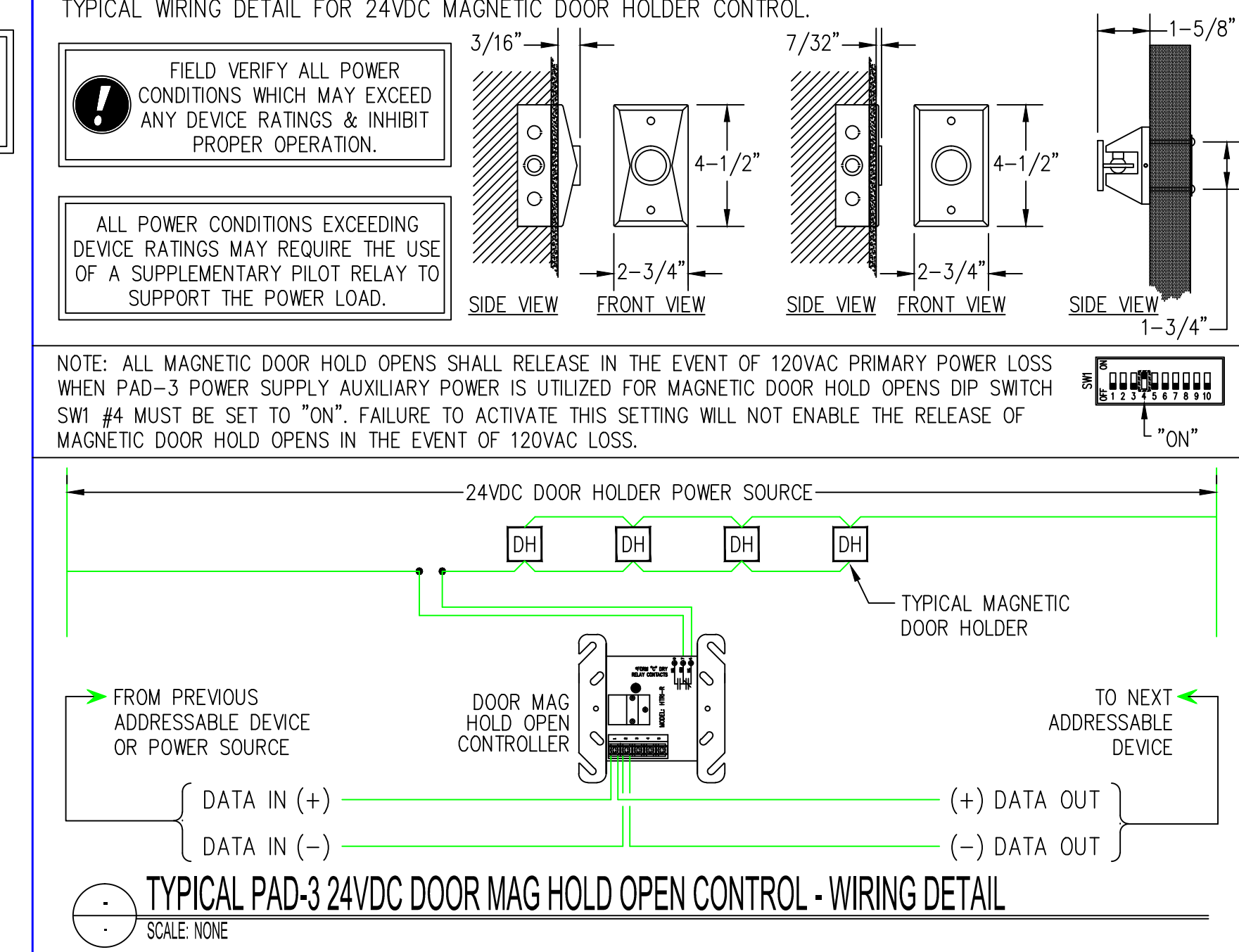
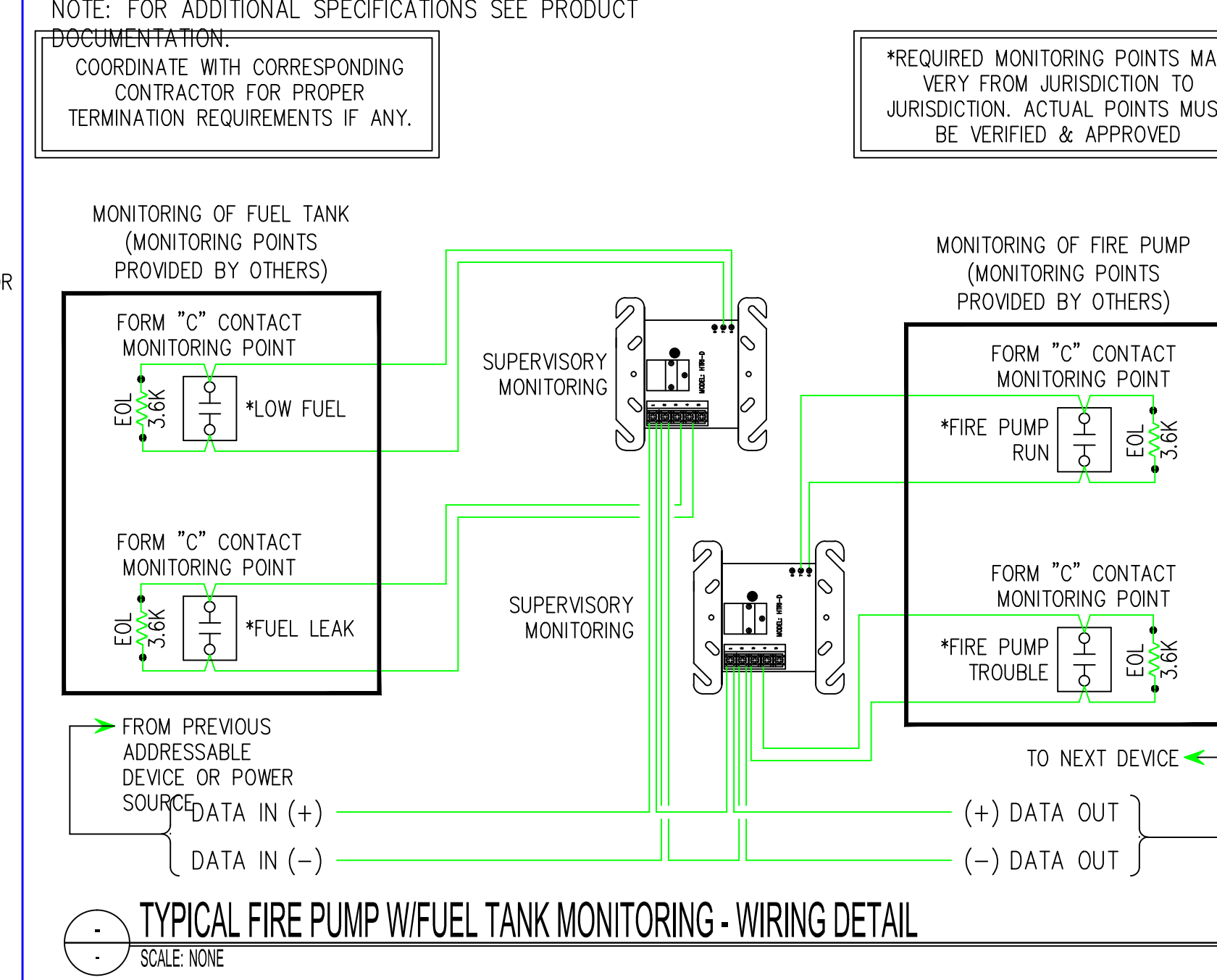
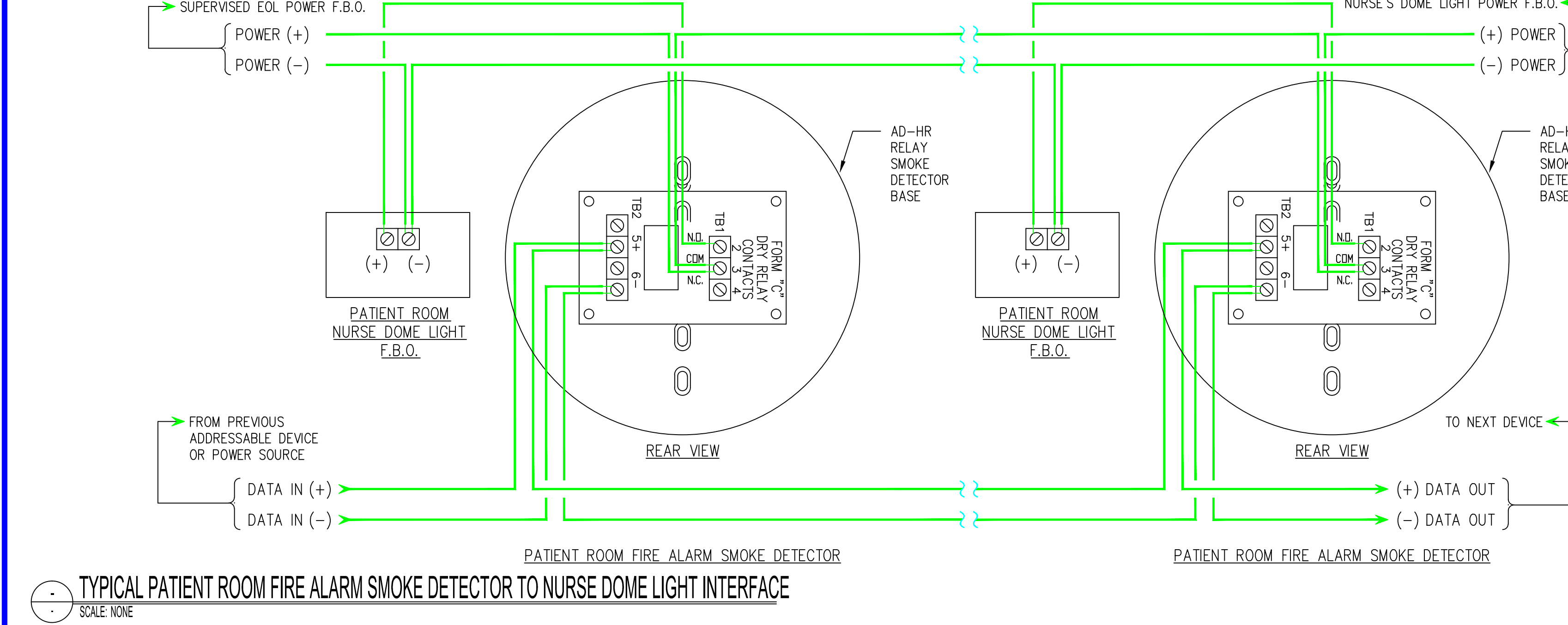
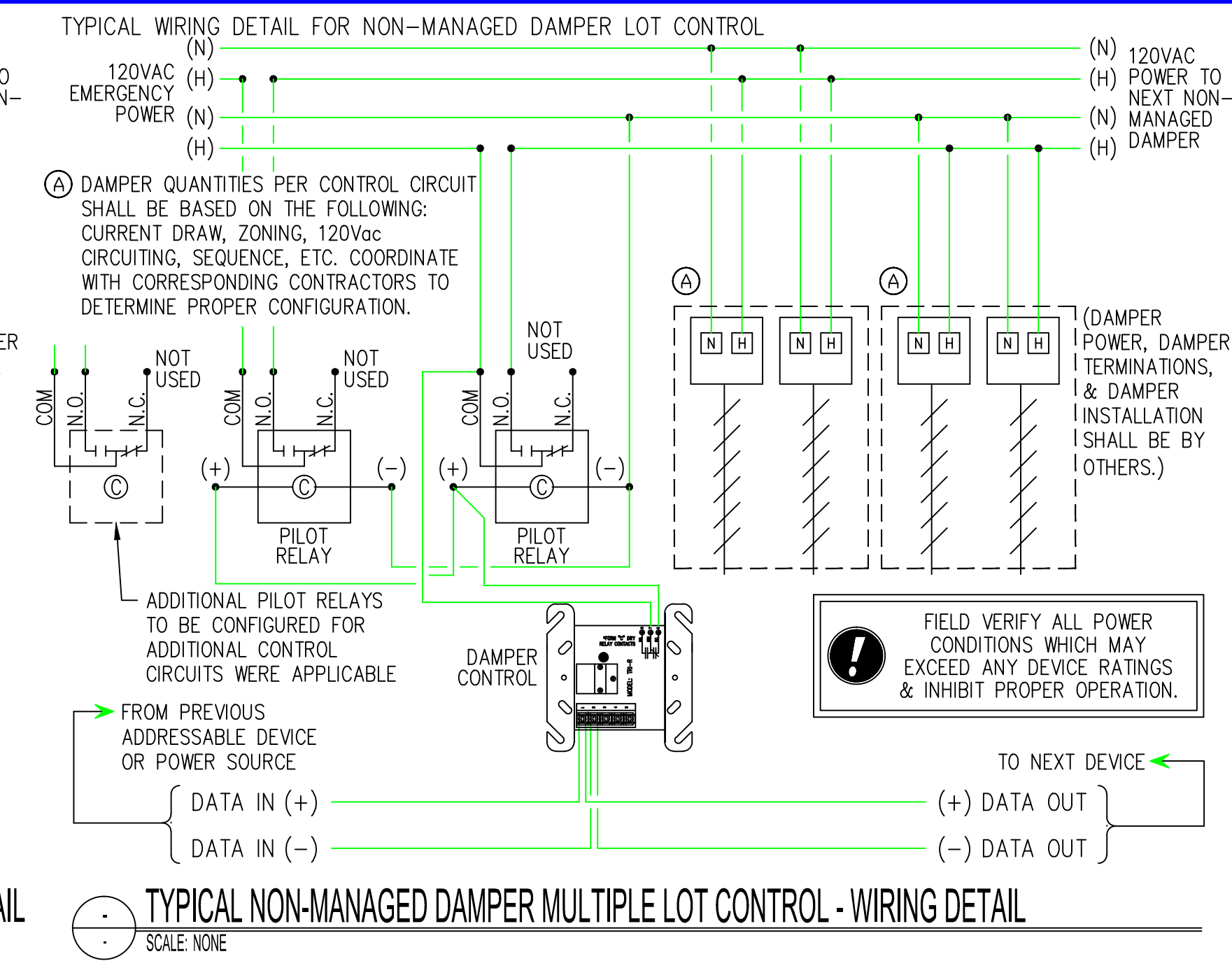
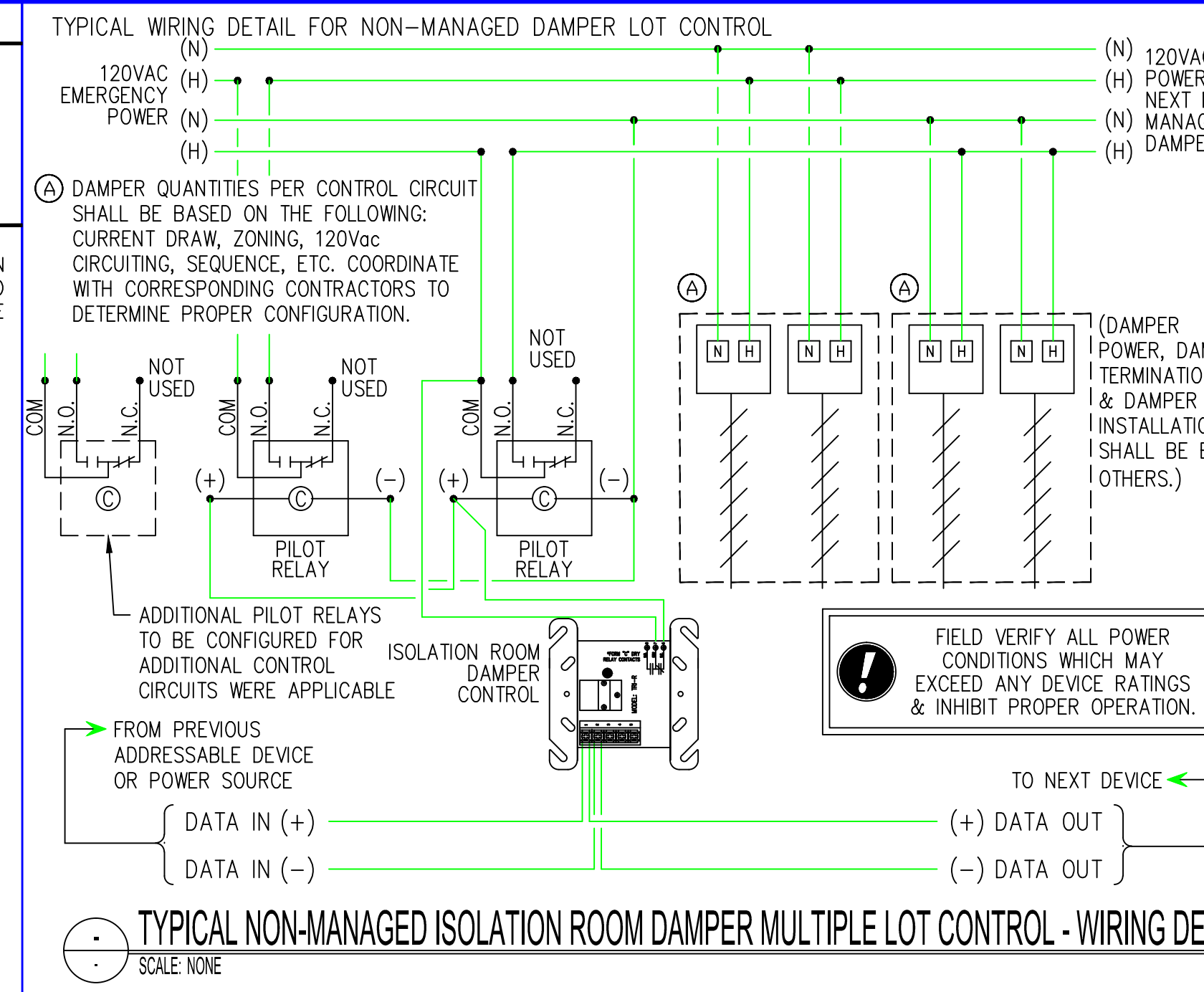
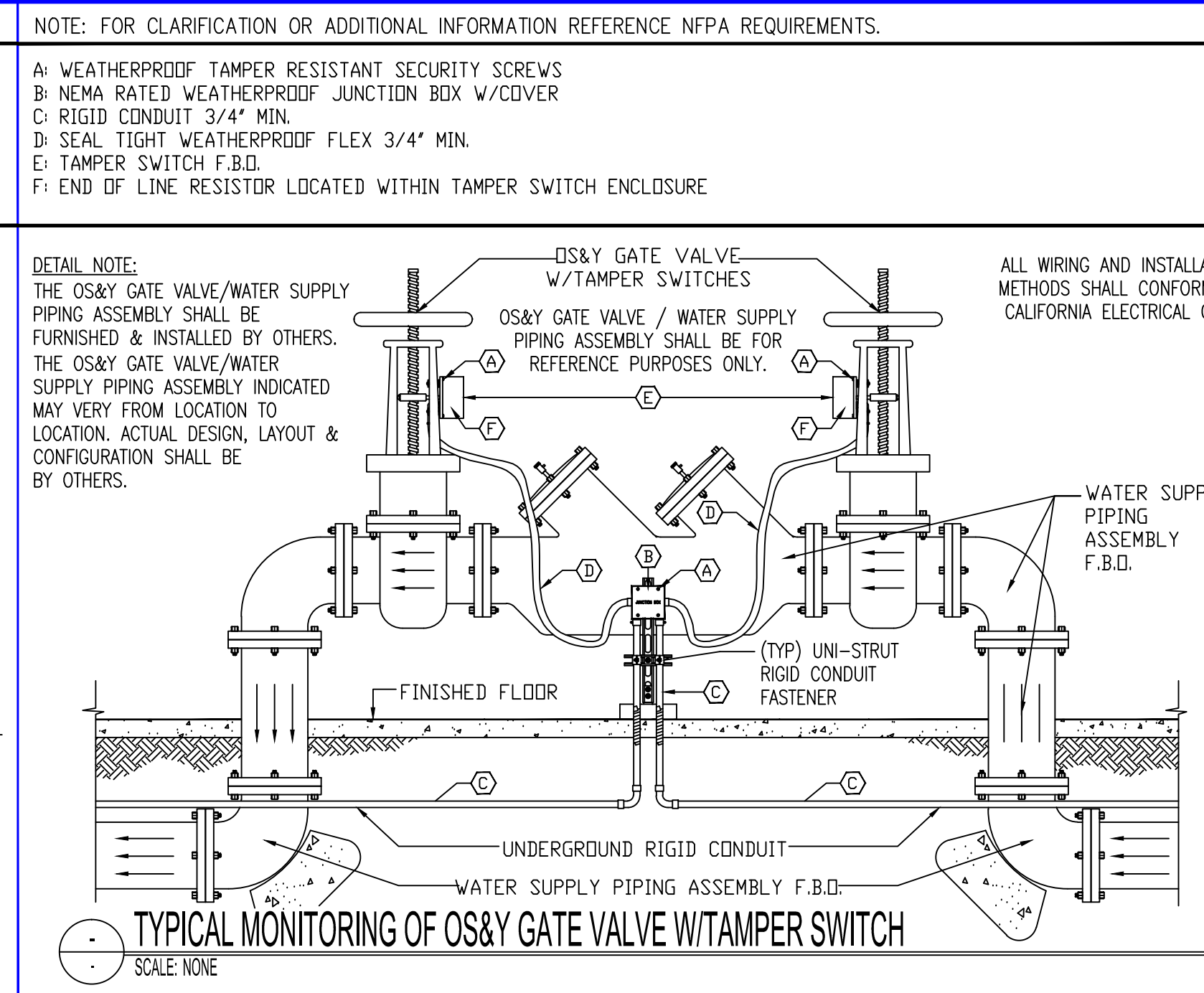
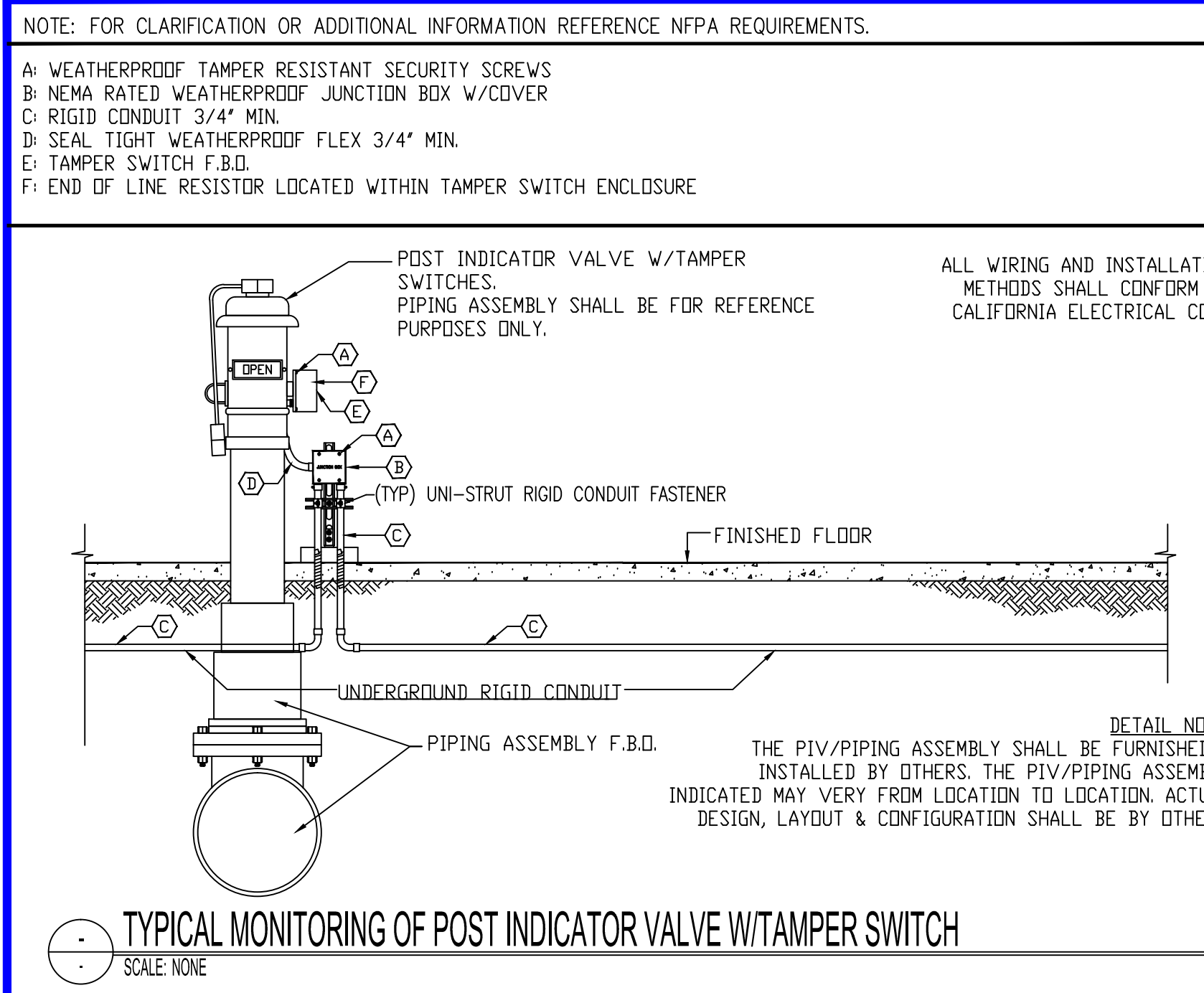
SCALE: NONE

The diagram illustrates the installation of a Fire Alarm Cabinet. At the top, a horizontal line represents the ceiling, with a label 'FINISHED CEILING LINE' pointing to it. A 'FIRE ALARM GUTTER' is shown installed above the cabinet, with a note: 'FIRE ALARM GUTTER TO BE INSTALLED ABOVE PANEL WHERE APPLICABLE. GUTTER DIMENSIONS TO BE FIELD VERIFIED.' The cabinet itself is a tall, rectangular unit. On the left side, a label 'CAB-3 CABINET' points to the unit. The cabinet has a top section with a display and controls, and two larger sections below. The top section is labeled 'FireFinder' at the bottom. To the right of the cabinet, a vertical dimension line indicates the height: '26.125" W x 44.75" H x 6.69" D'. Below this, a small box labeled '120VAC' is shown. A vertical dimension line on the right side of the cabinet indicates the distance from the floor to the top of the cabinet: '75' A.F.F.'. At the bottom, a horizontal line represents the floor, with a label 'FINISHED FLOOR' pointing to it. A note on the left side of the cabinet states: 'NOTE: 1.) CONDUIT MUST NOT STUB INTO THE BOTTOM OR THE LOWER SIDES OF THE CABINET BY THE BATTERIES OTHERWISE THE BATTERIES WILL NOT FIT INSIDE OF THE ENCLOSURE. 2.) 120 VAC POWER MUST BE STUBBED INTO THE CABINET FROM THE SIDE AS SHOWN. 3.) THE PANEL SHALL BE MOUNTED SO THAT THE BOTTOM OF THE DISPLAY IS A MINIMUM OF 60" ABOVE A.F.F.'



NOTES:

Drawing Number: EF0.12



SIEMENS

CALIFORNIA STATE CONTRACTORS
LICENSE NO.: #758796 - B/ C10/ C16/ C20

Siemens Building Technologies, Inc.
FIS FIRE/LIFE SAFETY DIVISION

10775 Business Center Drive
Cypress, California 90630 USA
Phone: (714) 761-2200
Fax: (714) 220-4958

This drawing and the information and design application herein contained is the property of SIEMENS BUILDING TECHNOLOGIES, Inc. and is loaned upon the express condition that the same be returned to SIEMENS BUILDING TECHNOLOGIES, Inc. upon request; all information herein contained shall be treated as secret and confidential; no reproduction of this drawing or part thereof shall be made without the written consent of SIEMENS BUILDING TECHNOLOGIES, Incorporated.

BEC
Building Electronic Controls, Inc.

BUILDING ELECTRONIC CONTROLS, INC.
2246 Lindsay Way
Blandford, CA 91740
PHONE: (909) 305-1600
FAX #: (909) 305-1604

LICENSE NO.: 729805
CLASSIFICATION: (S), C-7, C10
EXPIRATION DATE: 11/30/2012
RICHARD TAYLOR

NOTES:

MCCARTHY APPROVAL

A. Approval of notes for Architectural Review ☐
B. Review and Approval ☐
C. Rejection ☐

This review is for general conformance with Plans and Specifications only. Any deviations from same are clearly noted for the Engineer's review and approval. Review shall not constitute a complete check of detailed dimensions or count to verify the accuracy of the drawings or drawings to meet the requirements of the contract documents.

McCarthy

By: Date:
SHIP DRAWING REFERENCE NO.

☐ MXL ☐ VOICE ☐ XL3 ☐ SYSTEM3
☒ XLS ☐ FS-250 ☐ EST3 ☐ OTHER

OSHPD NO. #: IL-072072-30

RECORD
DRAWINGS

Rev No.	Date	Remarks	Initial
Drawn	H. JEANG		
Checked	-		
Approved	-		
Date	07.30.09		
Scale	N.T.S.		

TYPICAL DEVICE / WIRING DETAILS

Job Number: 440P-056306

Project: CHILDRENS HOSPITAL OF ORANGE COUNTY - TOWER II
455 SOUTH MAIN STREET
ORANGE, CALIFORNIA 92668-3874

Drawing Number: EF0.13

ASD 160H WIRING DETAILS

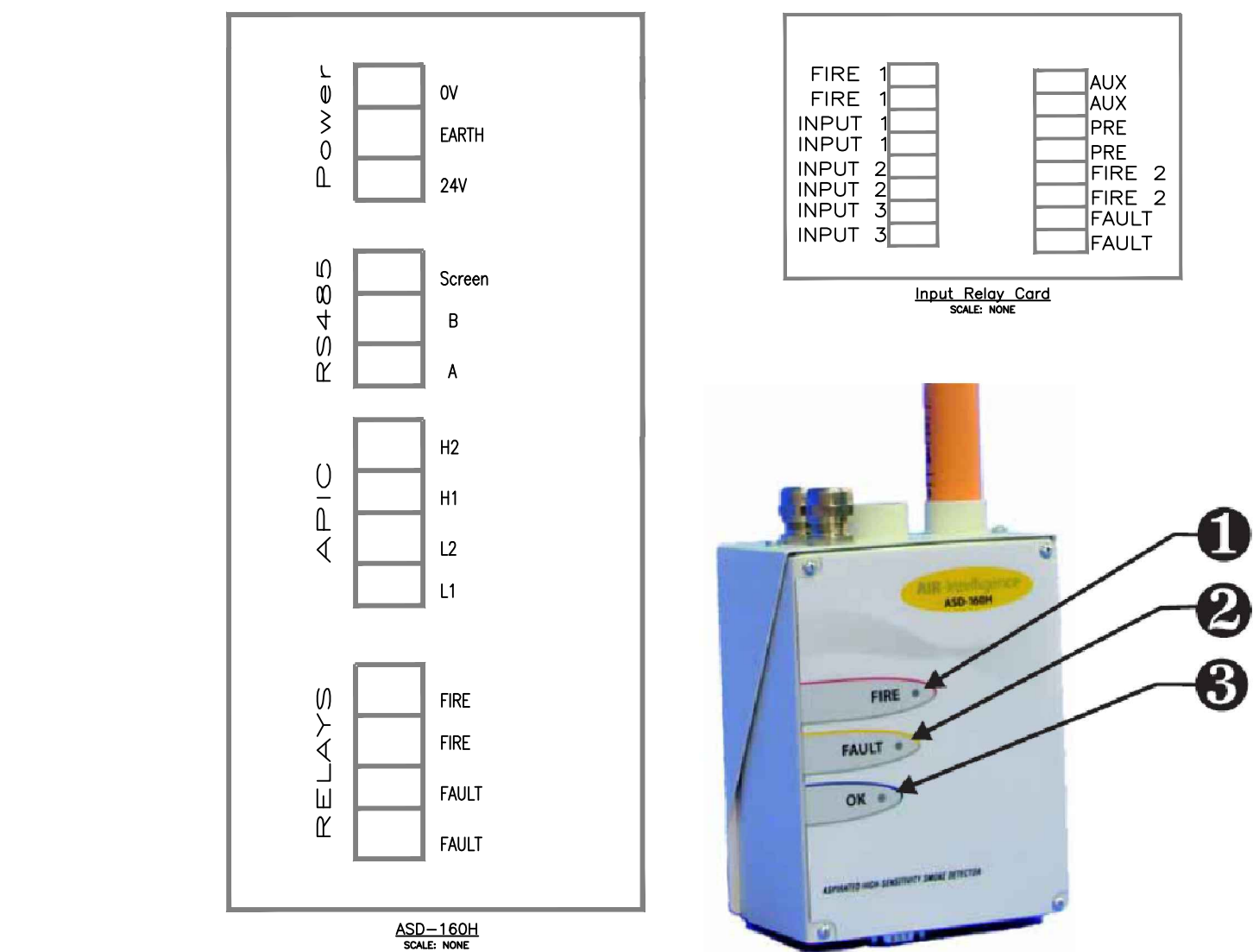


Figure 1-1. ASD-160H Indicators

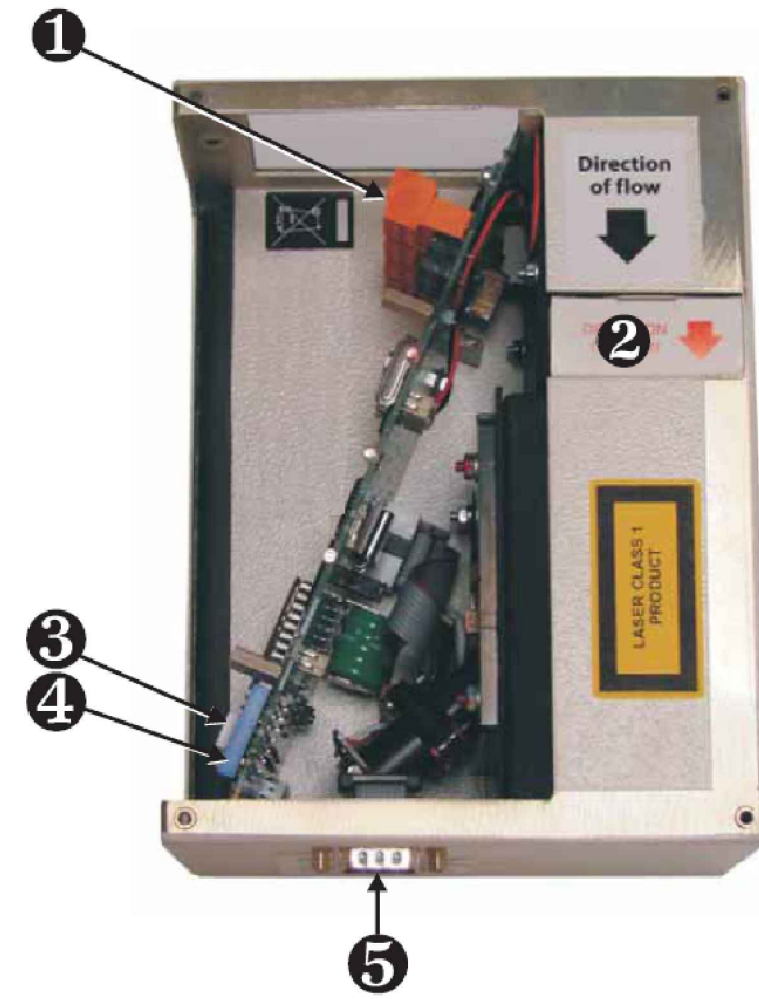


Figure 1-2. ASD-160H Detector Interior View

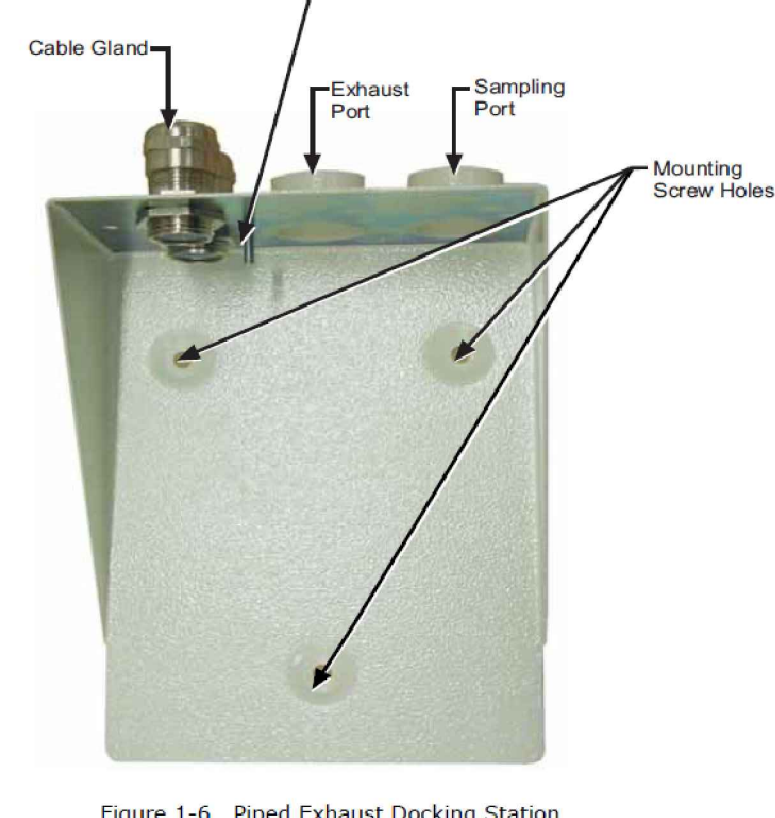


Figure 1-6. Piped Exhaust Docking Station

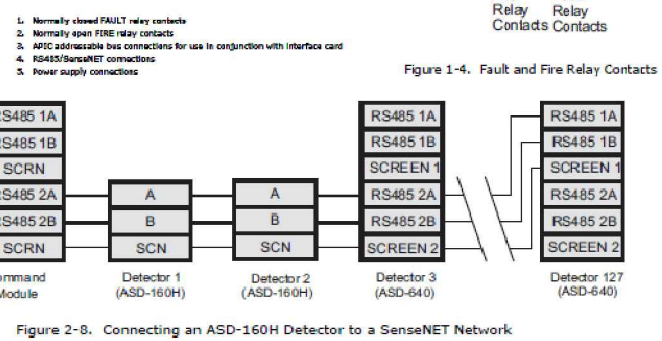
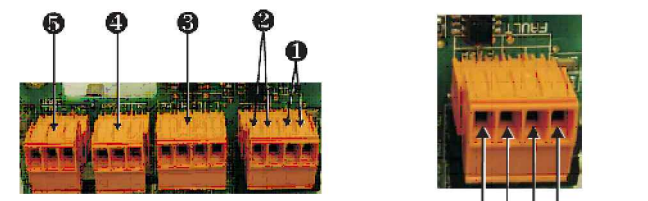


Figure 2-8. Connecting an ASD-320 Detector to a SenseNET Network



Figure 1-1. ASD-320 Indicators

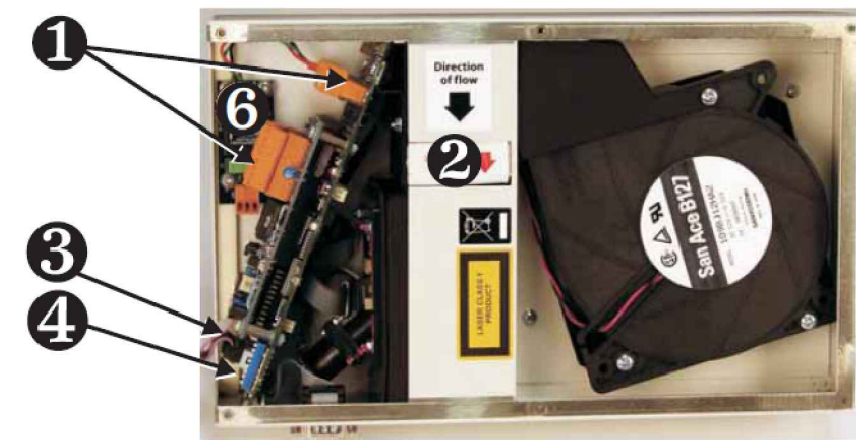


Figure 1-2. ASD-320 Detector Interior View

1. Removable terminal block connections
2. Dust separator (filter)
3. Addressable Programmable Interface Card (APIC) or relay card port
4. Detector address DIP switch
5. RS232 serial port
6. Power filter board

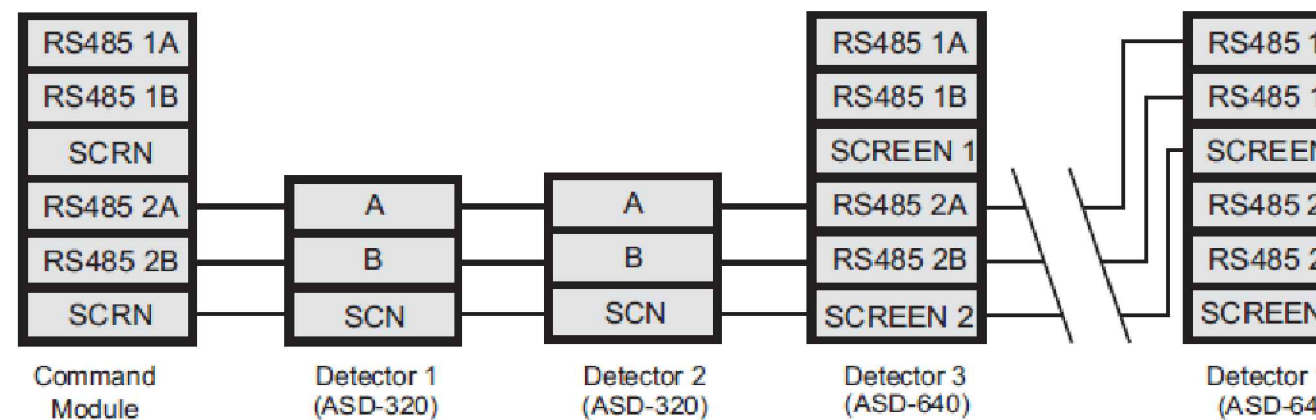


Figure 2-8. Connecting an ASD-320 Detector to a SenseNET Network

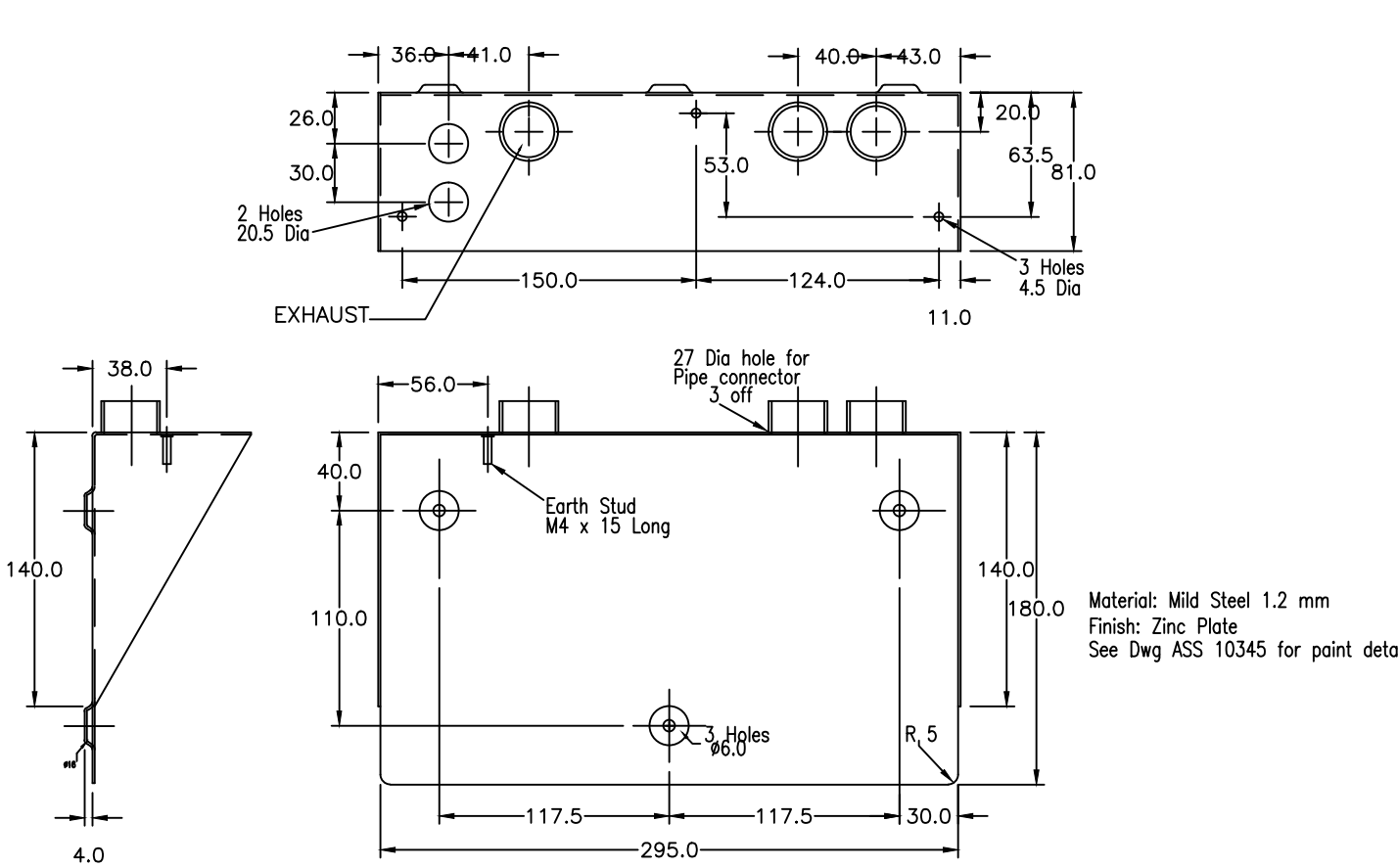


Figure 2-7. Sample DIP Switch Settings

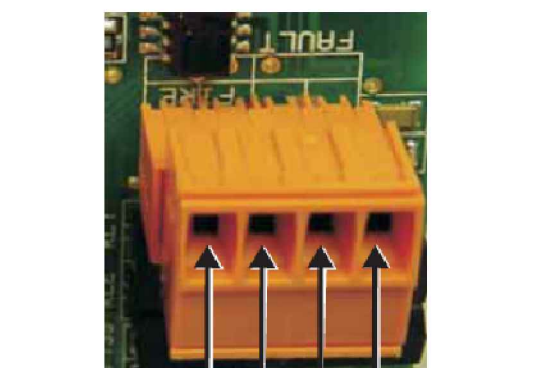


Figure 1-4. Fault and Fire Relay Contacts

ASD 320 WIRING DETAILS

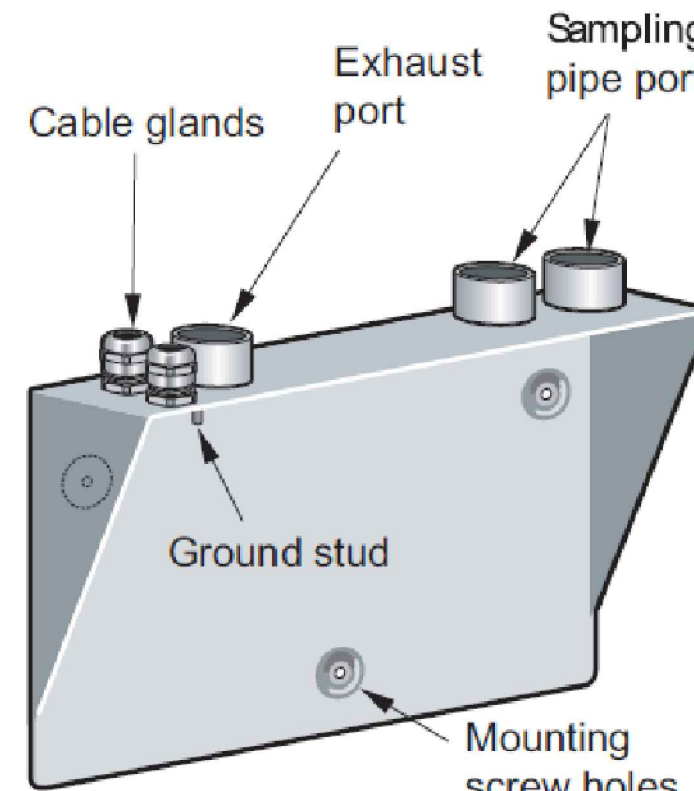


Figure 1-6. Two Port Docking Station with Piped Exhaust

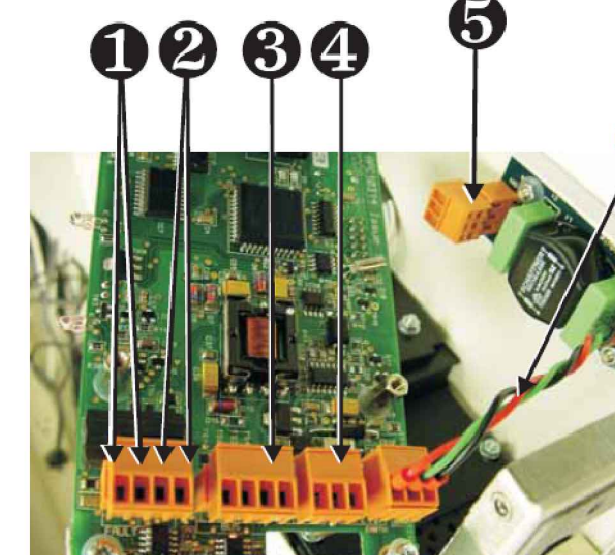


Figure 1-3. Detector Terminal Block Connections

1. Normally closed FAULT relay contacts
2. Normally open FIRE relay contacts
3. APIC addressable bus connections for use in conjunction with interface card
4. RS485/SenseNET connections
5. Power supply connections
6. Connection from power filter

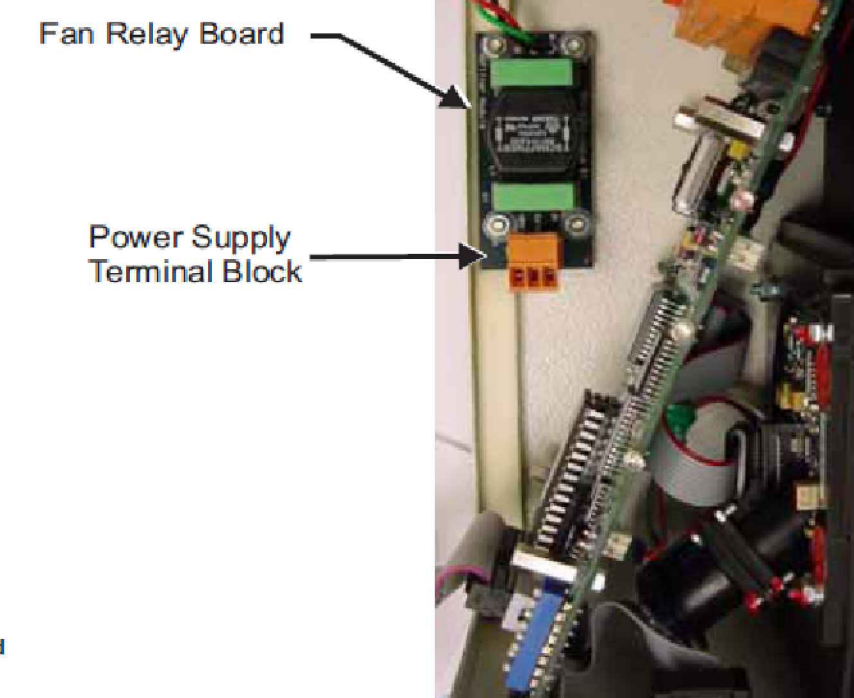


Figure 2-4. ASD-320 Power Supply Terminals

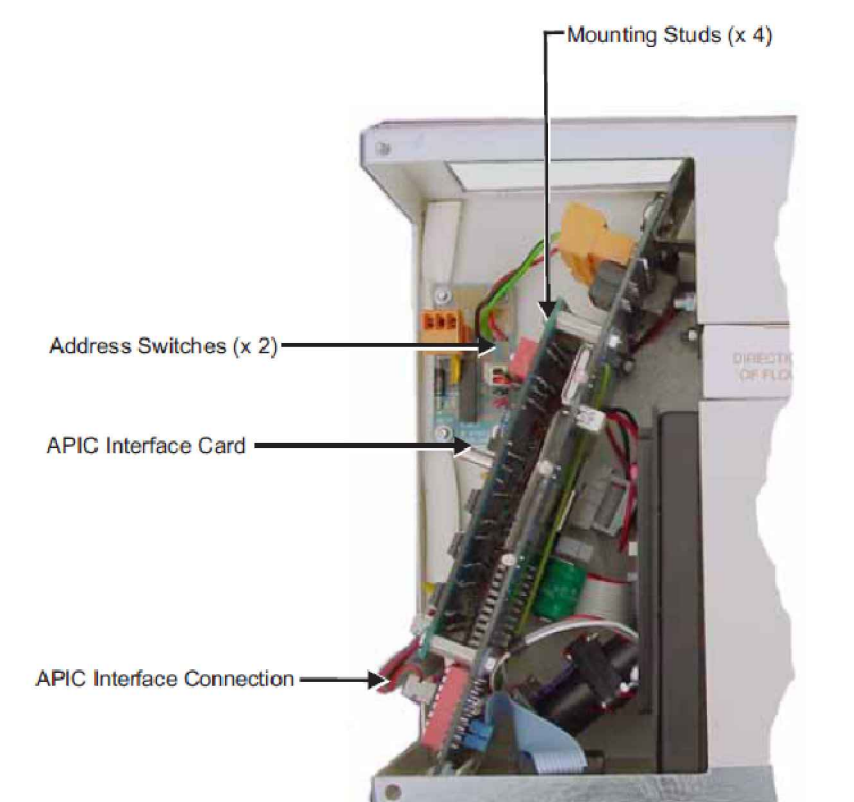


Figure 2-9. Connecting an ASD-320 to an Addressable Fire Panel

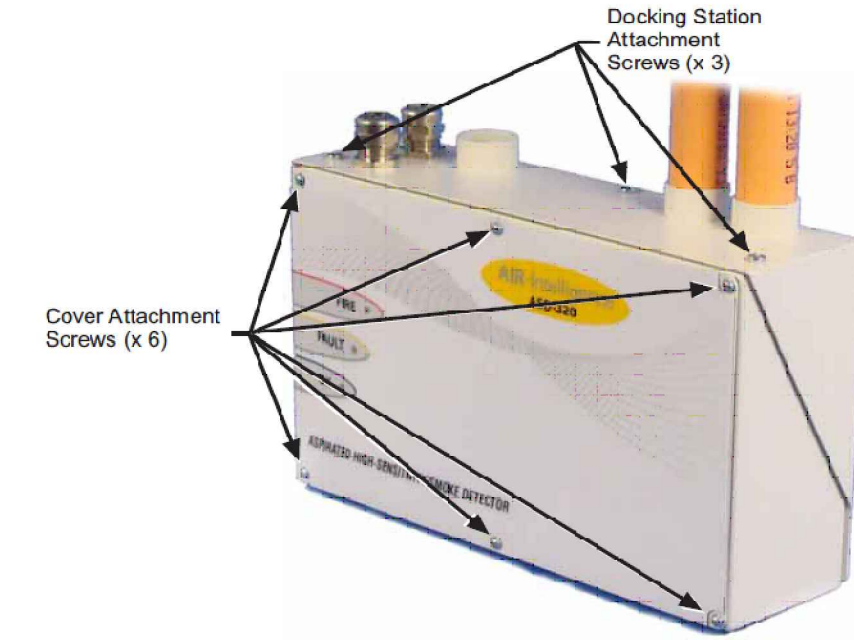


Figure 2-10. Final Installation of the ASD-320



Figure 2-5. APIC Address and RS485/SenseNET Terminals

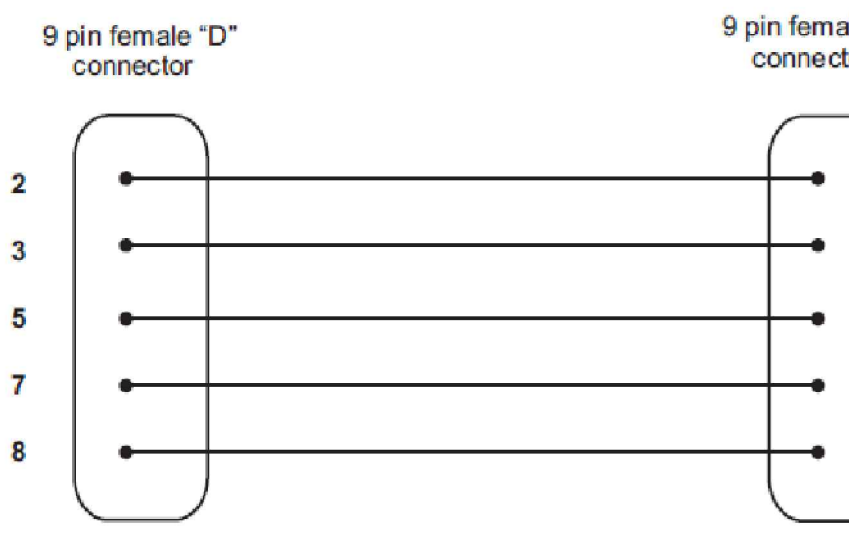


Figure 2-11. RS232 Cable Connections

ASD 640 WIRING DETAILS

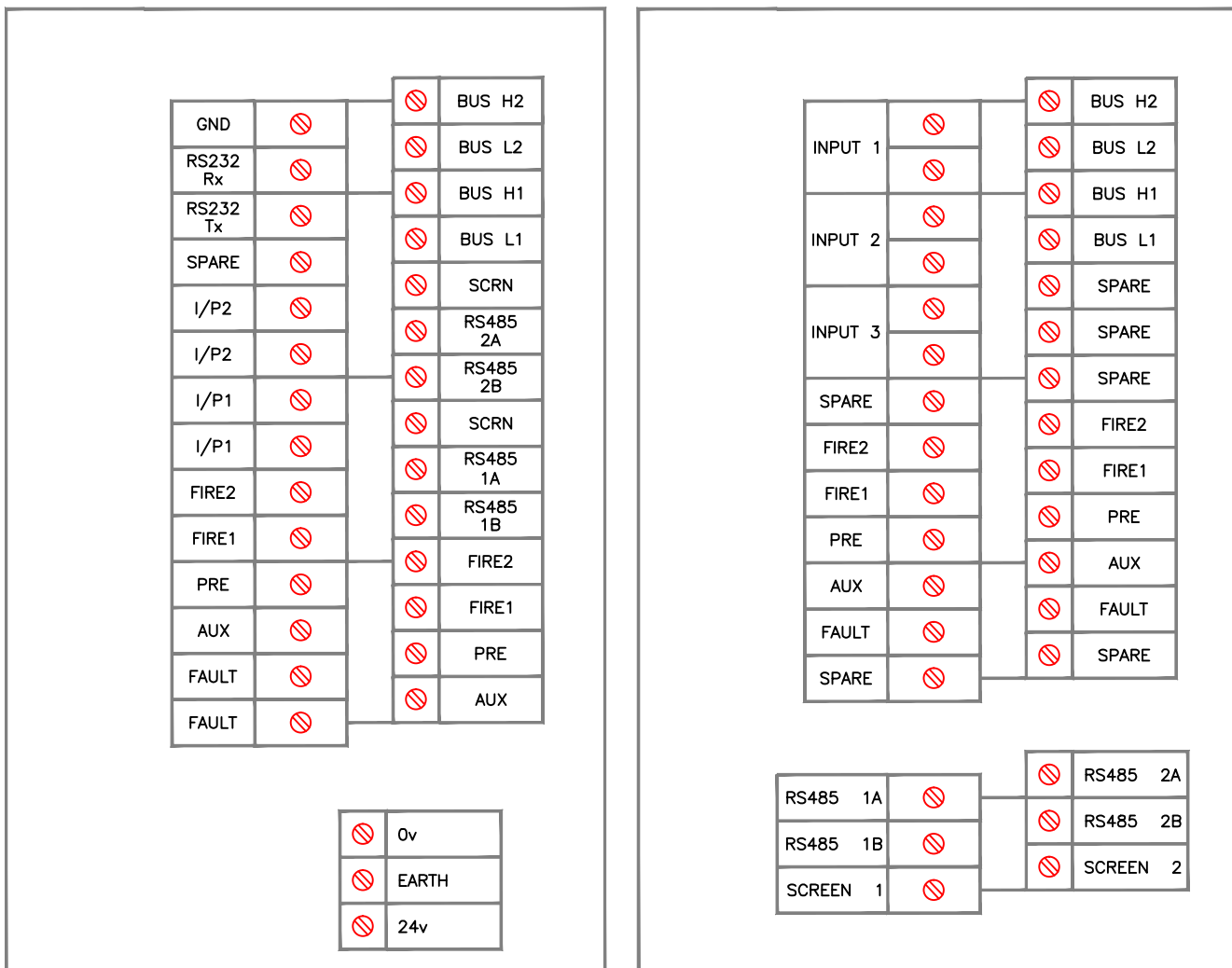


Figure 2-6. Top Power Cable Arrangement

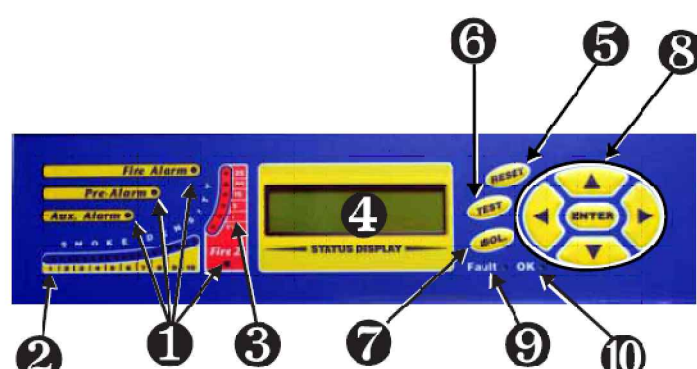


Figure 1-7. Standard Detector

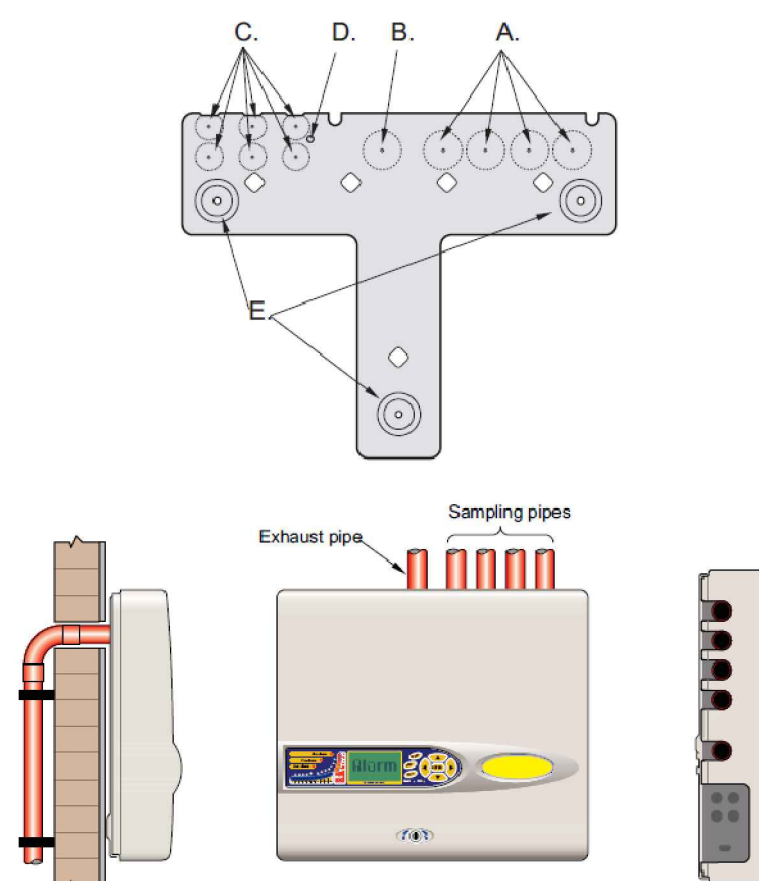


Figure 2-2. Detector Installation Options

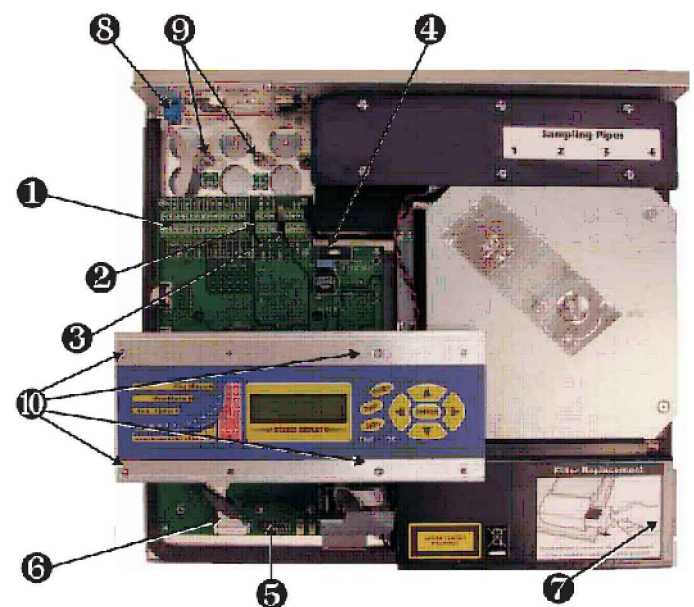


Figure 2-4. Detector Terminal Block Connections

1. Terminal block connections
2. RS485 terminal connections
3. 24VDC power supply connections
4. 1A x 5 25mm T-type protection fuse
5. Detector address DIP switch
6. Front panel display connections
7. Dust separator (filter) removal handle
8. RS232 serial port
9. Safety earth studs
10. Display attachment screws

Figure 2-4 shows the terminal block connections for a Standard Detector.

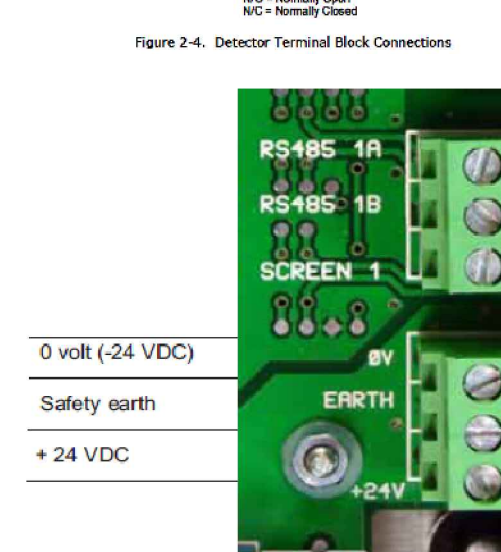


Figure 2-8. Detector Power Supply Connections

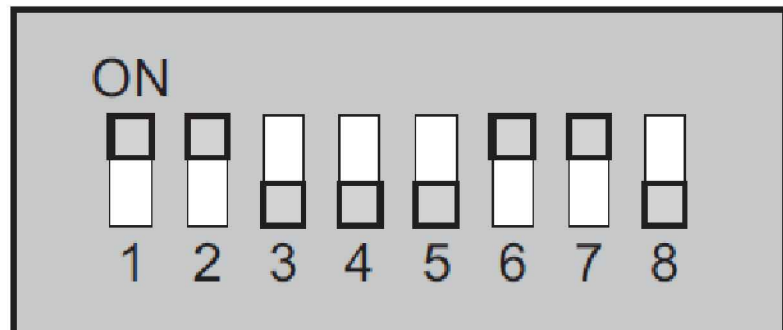


Figure 2-7. Sample DIP Switch Settings



Figure 1-1. Standard Detector

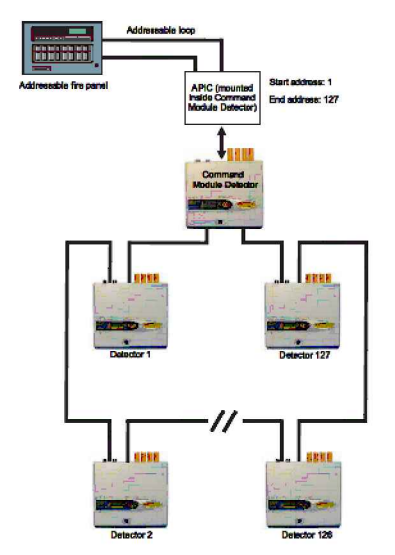


Figure 2-12. Non-Fault-Tolerant Serial Configuration

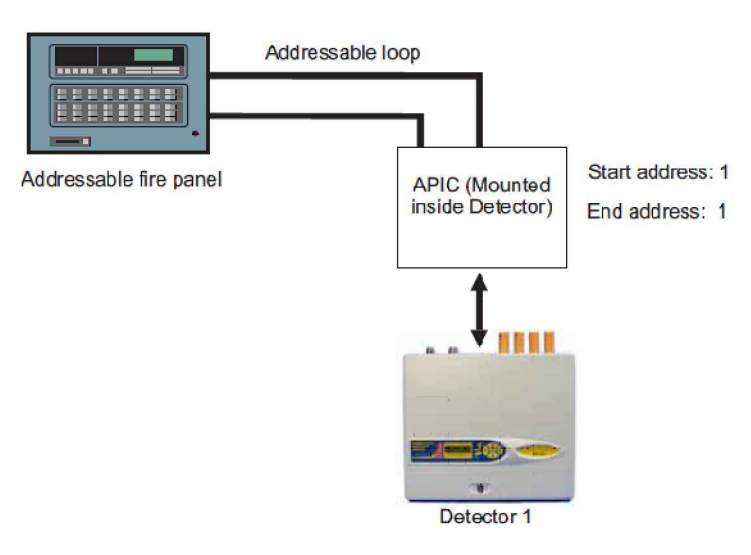


Figure 2-14. Connecting a Single ASD-640 to an Addressable Fire Panel

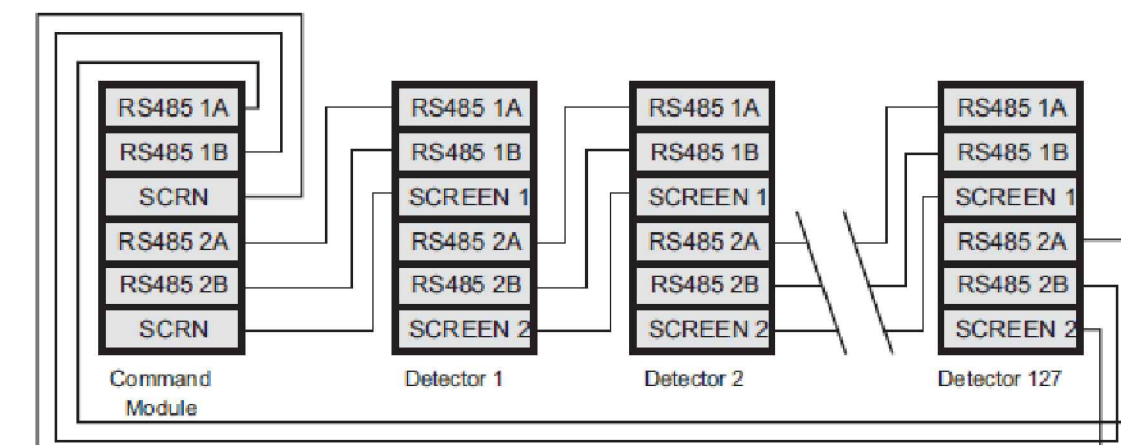


Figure 2-11. Fault Tolerant Detector Loop Configuration

SIEMENS

CALIFORNIA STATE CONTRACTORS
LICENSE NO.: #758796 - B/ C10/ C16/ C20

Siemens Building Technologies, Inc.
FIS FIRE/LIFE SAFETY DIVISION

10775 Business Center Drive
Cypress, California 90630 USA
Phone: (714) 761-2200
Fax: (714) 220-4958

This drawing and the information and design application herein contained is the property of SIEMENS BUILDING TECHNOLOGIES, Inc. and is loaned upon the express condition that the same be returned to SIEMENS BUILDING TECHNOLOGIES, Inc. upon request; all information herein contained shall be treated as secret and confidential; no reproduction of this drawing or part thereof shall be made without the written consent of SIEMENS BUILDING TECHNOLOGIES, Incorporated.

BEC
Building Electronic Controls, Inc.

BUILDING ELECTRONIC CONTROLS, INC.
2246 Lindsay Way
Glendora, CA 91740
PHONE: (909) 305-1600
FAX #: (909) 305-1604

LICENSE NO.: 729805
CLASSIFICATION: (S), C-7, C10
EXPIRATION DATE: 11/30/2012
RICHARD TAYLOR

NOTES:

MCCARTHY APPROVAL

A. Approved as noted for Architectural Review
B. Review and Approval
C. Rejected

This review is for general conformance with Plans and Specifications only. Any deviations from same not clearly noted by the Plans and Specifications are not to be construed as approval. Review shall not constitute a complete check of detailed dimensions or construction details. The reviewer shall assume no responsibility for any error or deviation from contract requirements.

McCarthy

By: [Signature]
SHIP DRAWING REFERENCE NO.

MXL VOICE XL3 SYSTEM3
XLS FS-250 EST3 OTHER

OSHPD NO. #: IL-072072-30

RECORD
DRAWINGS

Rev No. Date Remarks Initial

Drawn: H. JEANG

Checked: -

Approved: -

Date: 07.30.09

Scale: N.T.S.

ASD DETAILS

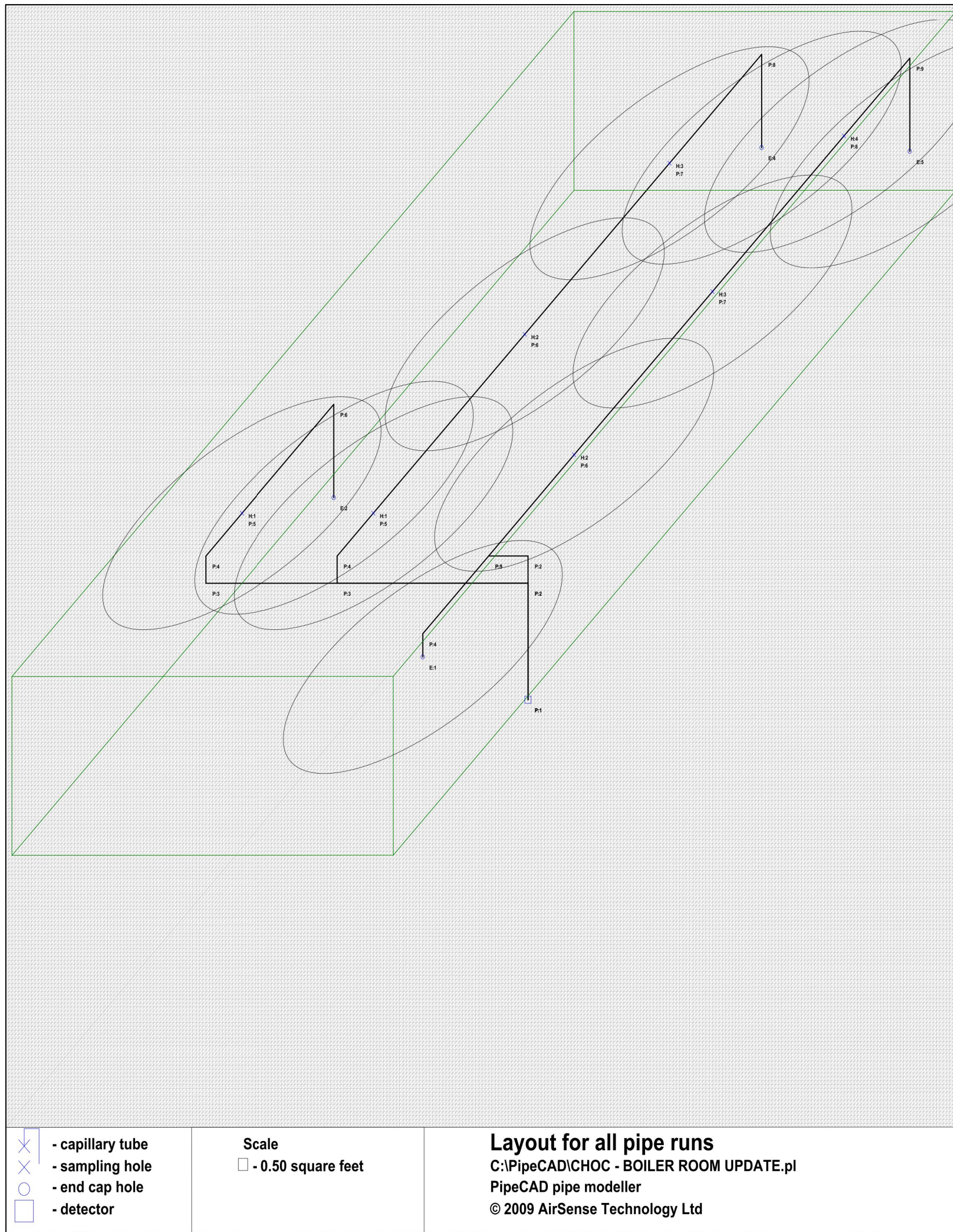
Job Number: 440P-056306

Project: CHILDRENS HOSPITAL OF
ORANGE COUNTY - TOWER II
455 SOUTH MAIN STREET
ORANGE, CALIFORNIA 92668-3874

Drawing Number: EFO.14A

ASD LAYOUTS AND CALCULATIONS

DETAIL "1" - LOWER LEVEL - BOILER ROOM



TRANSIT TIME CALCULATIONS

Hole number	Hole size ins	Flow liters/min	Flow percentage	Transit time seconds	Hole sensitivity % obdft
1	1/4	7.92	29.0%	14.9	0.91
2	1/4	6.85	23.5%	23.5	1.06
3	1/4	6.19	21.1%	36.3	1.17
4	1/4	5.82	21.7%	67.7	1.24

The balance between sampling holes is 89.7%. The balance between sampling pipes is 97.4%.

Flow rate for this pipe is 26.80 liters per minute with the aspirator set to 8.

The total flow rate is 79.10 liters per minute.

Detector sensitivity is set to 0.89% obdft in the hole calculation options.

The detector type is ASD-640.

There are 3 holes on this pipe run excluding the endcap hole.

There are 0 capillaries on this pipe run.

This pipe run length is 124.00 feet.

The total pipe length is 336.50 feet.

Results for pipe run 1 of 3
C:\PipeCAD\CHOC - BOILER ROOM UPDATE.pl
PipeCAD pipe modeller
© 2009 AirSense Technology Ltd

PIPE SCHEDULE

Pipe section	Length feet
1	15.00
2	29.00
3	3.50
4	5.90
5	22.00
6	22.00
7	14.00
8	12.00

9 standard pipe lengths will be required.

32 pipe clips will be required to fasten the pipe run using standard pipe clip spacing.

This pipe run has 1 endcap(s).

This pipe run has 3 sockets.

This pipe run length is 124.00 feet.

The total pipe length is 336.50 feet.

Pipe Schedule for pipe run 1 of 3
C:\PipeCAD\CHOC - BOILER ROOM UPDATE.pl
PipeCAD pipe modeller
© 2009 AirSense Technology Ltd

Hole number	Hole size ins	Flow liters/min	Flow percentage	Transit time seconds	Hole sensitivity % obdft
1	1/4	7.11	26.4%	10.8	1.02
2	1/4	5.80	21.5%	10.9	1.25
3	1/4	5.97	19.8%	17.7	1.43
4	1/4	4.82	17.1%	26.4	1.56
5	1/4	4.39	16.2%	39.8	1.65

The balance between sampling holes is 84.3%. The balance between sampling pipes is 97.4%.

Flow rate for this pipe is 27.80 liters per minute with the aspirator set to 8.

The total flow rate is 79.10 liters per minute.

Detector sensitivity is set to 0.89% obdft in the hole calculation options.

The detector type is ASD-640.

There are 3 holes on this pipe run excluding the endcap hole.

There are 0 capillaries on this pipe run.

This pipe run length is 113.50 feet.

The total pipe length is 336.50 feet.

Results for pipe run 2 of 3
C:\PipeCAD\CHOC - BOILER ROOM UPDATE.pl
PipeCAD pipe modeller
© 2009 AirSense Technology Ltd

Pipe section	Length feet
1	18.00
2	6.00
3	10.00
4	3.50
5	13.00
6	21.00
7	20.00
8	10.00
9	12.00

9 standard pipe lengths will be required.

32 pipe clips will be required to fasten the pipe run using standard pipe clip spacing.

This pipe run has 2 endcap(s).

This pipe run has 9 sockets.

This pipe run length is 113.50 feet.

The total pipe length is 336.50 feet.

Pipe Schedule for pipe run 2 of 3
C:\PipeCAD\CHOC - BOILER ROOM UPDATE.pl
PipeCAD pipe modeller
© 2009 AirSense Technology Ltd

Hole number	Hole size ins	Flow liters/min	Flow percentage	Transit time seconds	Hole sensitivity % obdft
1	1/4	13.96	51.6%	21.3	0.55
2	1/4	12.27	48.4%	36.2	0.59

The balance between sampling holes is 96.9%. The balance between sampling pipes is 97.4%.

Flow rate for this pipe is 26.23 liters per minute with the aspirator set to 8.

The total flow rate is 79.10 liters per minute.

Detector sensitivity is set to 0.89% obdft in the hole calculation options.

The detector type is ASD-640.

There are 1 holes on this pipe run excluding the endcap hole.

There are 0 capillaries on this pipe run.

This pipe run length is 99.00 feet.

The total pipe length is 336.50 feet.

Results for pipe run 3 of 3
C:\PipeCAD\CHOC - BOILER ROOM UPDATE.pl
PipeCAD pipe modeller
© 2009 AirSense Technology Ltd

Pipe section	Length feet
1	15.00
2	49.00
3	3.50
4	5.90
5	14.00
6	12.00

7 standard pipe lengths will be required.

32 pipe clips will be required to fasten the pipe run using standard pipe clip spacing.

This pipe run has 1 endcap(s).

This pipe run has 3 sockets.

This pipe run length is 99.00 feet.

The total pipe length is 336.50 feet.

Pipe Schedule for pipe run 3 of 3
C:\PipeCAD\CHOC - BOILER ROOM UPDATE.pl
PipeCAD pipe modeller
© 2009 AirSense Technology Ltd

DRILL SCHEDULE

Hole number	Hole size ins	Length ft	Pipe section	Position	Type
1	1/4	--	4	5.50	Hole
2	1/4	--	5	25.00	Hole
3	1/4	--	6	22.00	Hole
4	1/4	--	8	12.00	End cap hole

There are 3 holes on this pipe run excluding the endcap hole.

There are 0 capillaries on this pipe run.

Drill Schedule for pipe run 1 of 3
C:\PipeCAD\CHOC - BOILER ROOM UPDATE.pl
PipeCAD pipe modeller
© 2009 AirSense Technology Ltd

Hole number	Hole size ins	Length ft	Pipe section	Position	Type
1	1/4	--	4	3.00	End cap hole
2	1/4	--	5	13.00	Hole
3	1/4	--	6	21.00	Hole
4	1/4	--	7	20.00	Hole
5	1/4	--	9	12.00	End cap hole

There are 3 holes on this pipe run excluding the endcap hole.

There are 0 capillaries on this pipe run.

Drill Schedule for pipe run 2 of 3
C:\PipeCAD\CHOC - BOILER ROOM UPDATE.pl
PipeCAD pipe modeller
© 2009 AirSense Technology Ltd

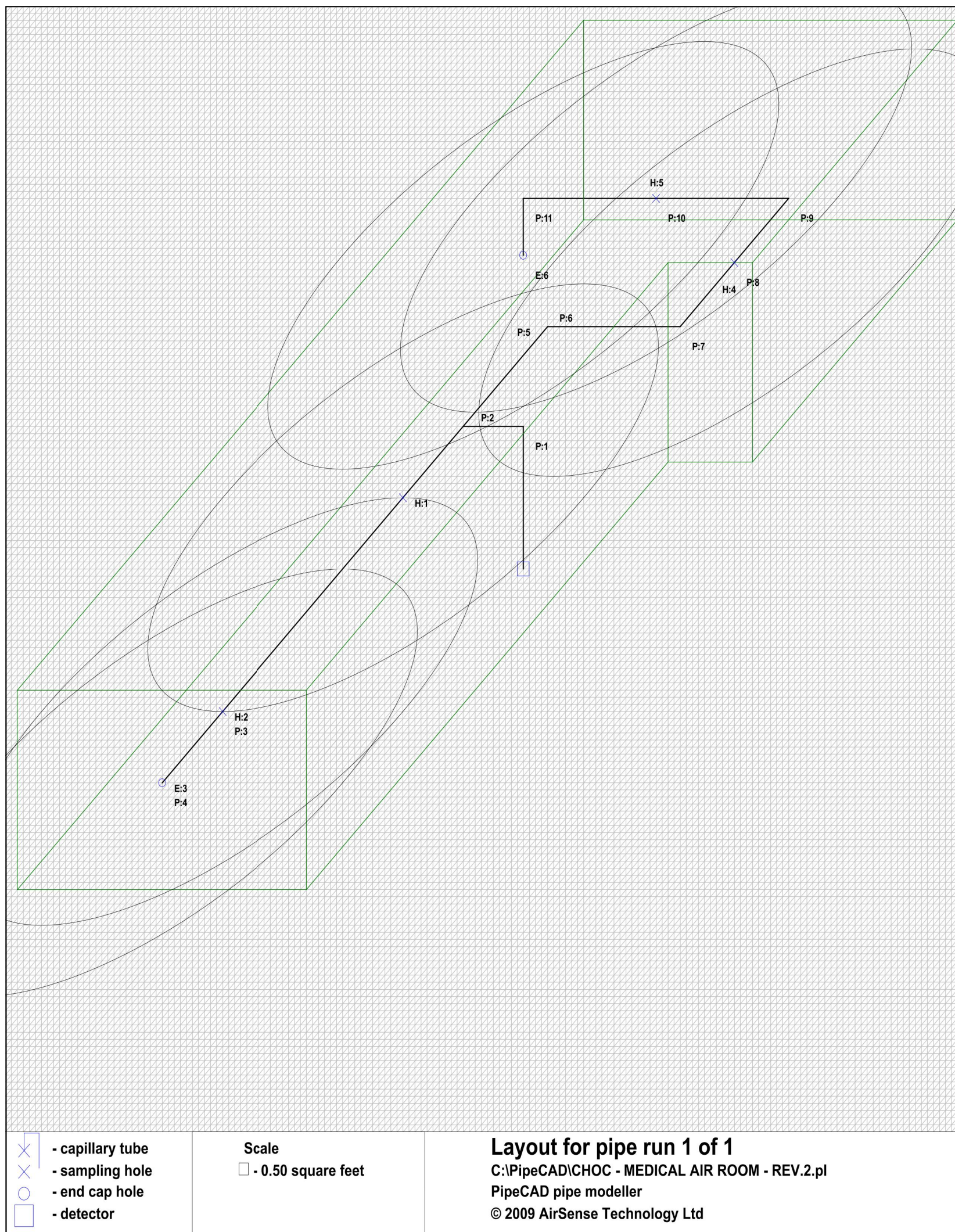
Hole number	Hole size ins	Length ft	Pipe section	Position	Type
1	1/4	--	4	5.50	Hole
2	1/4	--	6	12.00	End cap hole

There are 1 holes on this pipe run excluding the endcap hole.

There are 0 capillaries on this pipe run.

Drill Schedule for pipe run 3 of 3
C:\PipeCAD\CHOC - BOILER ROOM UPDATE.pl
PipeCAD pipe modeller
© 2009 AirSense Technology Ltd

DETAIL "2" - LOWER LEVEL - MEDICAL AIR/SUCTION COMPRESSORS ROOM



TRANSIT TIME CALCULATIONS

Hole number	Hole size ins	Flow liters/min	Flow percentage	Transit time seconds	Hole sensitivity % obdft
1	1/4	4.31	18.5%	7.2	0.49
2	1/4	4.02	17.2%	12.7	0.53
3	1/4	3.97	17.0%	15.1	0.54
4	1/4	3.91	16.7%	12.5	0.55
5	1/4	3.84	16.5%	15.1	0.55
6	1/4	3.51	15.0%	24.7	0.61

The balance between sampling holes is 94.5%. The balance between sampling pipes is 100.0%.

Flow rate for this pipe is 23.38 liters per minute with the aspirator set to 1.

The total flow rate is 23.38 liters per minute.

Detector sensitivity is set to 0.89% obdft in the hole calculation options.

The detector type is ASD-1000.

There are 4 holes on this pipe run excluding the endcap hole.

There are 0 capillaries on this pipe run.

This pipe run length is 93.00 feet.

The total pipe length is 93.00 feet.

Results for pipe run 1 of 1
C:\PipeCAD\CHOC - MEDICAL AIR ROOM - REV.2.pl
PipeCAD pipe modeller
© 2009 AirSense Technology Ltd

PIPE SCHEDULE

Pipe section	Length feet
1	10.00
2	5.00
3	20.00
4	5.00
5	7.00
6	11.00
7	4.50
8	4.50
9	11.00
10	11.00
11	4.00

1 standard pipe lengths will be required.

32 pipe clips will be required to fasten the pipe run using standard pipe clip spacing.

This pipe run has 2 endcap(s).

This pipe run has 3 sockets.

This pipe run length is 93.00 feet.

The total pipe length is 93.00 feet.

Pipe Schedule for pipe run 1 of 1
C:\PipeCAD\CHOC - MEDICAL AIR ROOM - REV.2.pl
PipeCAD pipe modeller
© 2009 AirSense Technology Ltd

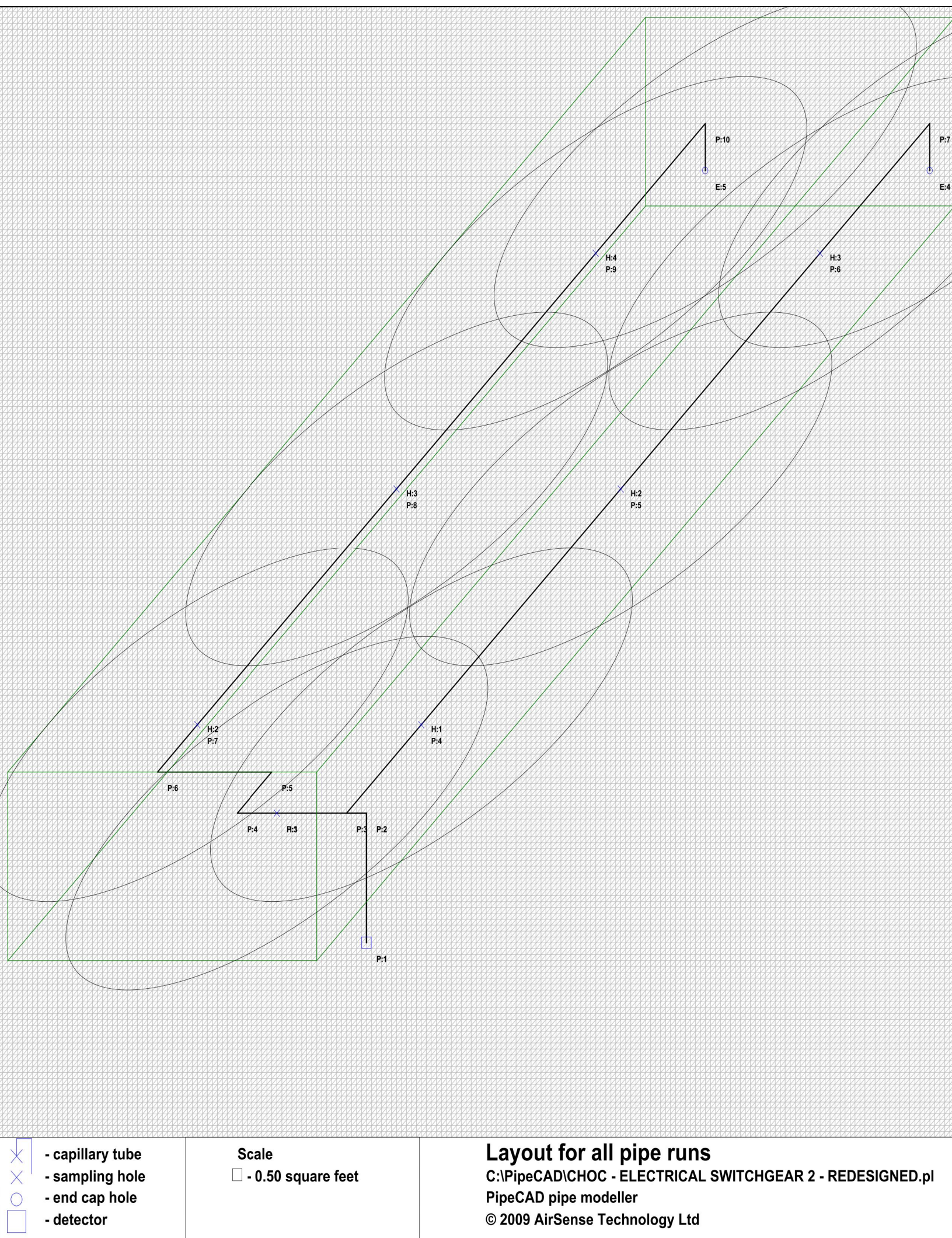
DRILL SCHEDULE

Hole number	Hole size ins	Length ft	Pipe section	Position	Type
1	1/4	--	3	5.00	Hole
2	1/4	--	4	0.00	Hole
3	1/4	--	4	0.00	End cap hole
4	1/4	--	9	4.50	Hole
5	1/4	--	11	11.00	Hole
6	1/4	--	11	4.00	End cap hole

There are 4 holes on this pipe run excluding the endcap hole.

Drill Schedule for pipe run 1 of 1
C:\PipeCAD\CHOC - MEDICAL AIR ROOM - REV.2.pl
PipeCAD pipe modeller
© 2009 AirSense Technology Ltd

DETAIL "3" - PENTHOUSE LEVEL - ELECTRICAL SWITCHGEAR ROOM



TRANSIT TIME CALCULATIONS

Hole number	Hole size ins	Flow liters/min	Flow percentage	Transit time seconds	Hole sensitivity % obdft
1	1/4	4.81	25.7%	9.0	0.71
2	1/4	4.02	21.9%	20.8	0.85
3	1/4	3.53	18.9%	34.9	0.86
4	1/4	3.22	17.2%	57.8	1.06
5	1/4	3.10	16.6%	96.9	1.10

The balance between sampling holes is 85.0%. The balance between sampling pipes is 99.7%.

Flow rate for this pipe is 18.70 liters per minute with the aspirator set to 1.

The total flow rate is 17.30 liters per minute.

Detector sensitivity is set to 0.89% obdft in the hole calculation options.

The detector type is ASD-320.

There are 4 holes on this pipe run excluding the endcap hole.

There are 0 capillaries on this pipe run.

This pipe run length is 98.00 feet.

The total pipe length is 173.50 feet.

Results for pipe run 1 of 2
C:\PipeCAD\CHOC - ELECTRICAL SWITCHGEAR 2 - REDESIGNED.pl
PipeCAD pipe modeller
© 2009 AirSense Technology Ltd

PIPE SCHEDULE

Pipe section	Length feet
1	11.00
2	9.00
3	4.00
4	3.50
5	11.00
6	4.00
7	20.00
8	20.00
9	11.00
10	4.00

7 standard pipe lengths will be required.

34 pipe clips will be required to fasten the pipe run using standard pipe clip spacing.

This pipe run has 1 endcap(s).

This pipe run has 7 sockets.

This pipe run length is 98.00 feet.

The total pipe length is 173.50 feet.

Pipe Schedule for pipe run 1 of 2
C:\PipeCAD\CHOC - ELECTRICAL SWITCHGEAR 2 - REDESIGNED.pl
PipeCAD pipe modeller
© 2009 AirSense Technology Ltd

DRILL SCHEDULE

Hole number	Hole size ins	Length ft	Pipe section	Position	Type
1	1/4	--	2	9.00	Hole
2	1/4	--	8	4.00	Hole
3	1/4	--	7	20.00	Hole
4	1/4	--	8	20.00	Hole
5	1/4	--	10	4.00	End cap hole

There are 4 holes on this pipe run excluding the endcap hole.

Drill Schedule for pipe run 1 of 2
C:\PipeCAD\CHOC - ELECTRICAL SWITCHGEAR 2 - REDESIGNED.pl
PipeCAD pipe modeller
© 2009 AirSense Technology Ltd

Hole number	Hole size ins	Flow liters/min	Flow percentage	Transit time seconds	Hole sensitivity % obdft
1	1/4	5.38	29.9%	9.2	0.83
2	1/4	4.73	25.9%	19.9	0.72
3	1/4	4.31	23.2%	36.4	0.76
4	1/4	4.16	22.4%	61.8	0.82

The balance between sampling holes is 91.1%. The balance between sampling pipes is 99.7%.

Flow rate for this pipe is 18.40 liters per minute with the aspirator set to 1.

The total flow rate is 17.30 liters per minute.

Detector sensitivity is set to 0.89% obdft in the hole calculation options.

The detector type is ASD-320.

There are 3 holes on this pipe run excluding the endcap hole.

There are 0 capillaries on this pipe run.

This pipe run length is 75.50 feet.

The total pipe length is 173.50 feet.

Results for pipe run 2 of 2
C:\PipeCAD\CHOC - ELECTRICAL SWITCHGEAR 2 - REDESIGNED.pl
PipeCAD pipe modeller
© 2009 AirSense Technology Ltd

Pipe section	Length feet
1	11.00
2	2.00
3	7.50
4	20.00
5	20.00
6	11.00
7	4.00

6 standard pipe lengths will be required.

34 pipe clips will be required to fasten the pipe run using standard pipe clip spacing.

This pipe run has 1 endcap(s).

This pipe run has 7 sockets.

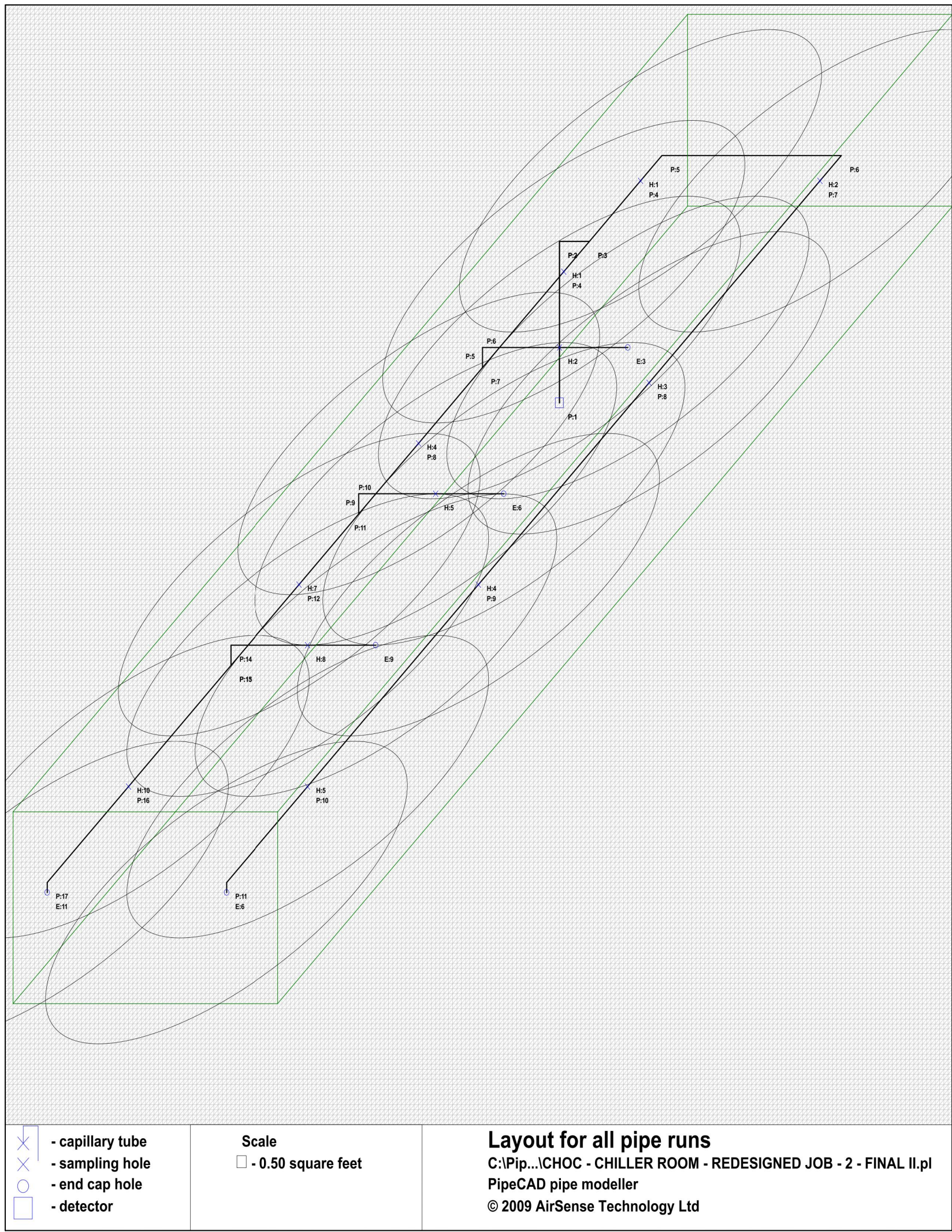
This pipe run length is 75.50 feet.

The total pipe length is 173.50 feet.

Pipe Schedule for pipe run 2 of 2
C:\PipeCAD\CHOC - ELECTRICAL SWITCHGEAR 2 - REDESIGNED.pl
PipeCAD pipe modeller
© 2009 AirSense Technology Ltd

ASD LAYOUTS AND CALCULATIONS

DETAIL '4' - PENTHOUSE LEVEL - CHILLER ROOM



TRANSIT TIME CALCULATIONS

Hole number	Hole size ins	Flow liters/min	Flow percentage	Transit time seconds	Hole sensitivity % abs/ft
1	1/4	2.36	12.4%	9.7	1.46
2	1/4	2.15	11.2%	10.3	1.61
3	1/4	2.10	11.0%	22.2	1.64
4	1/4	1.84	9.6%	10.8	1.88
5	1/4	1.89	9.8%	25.3	2.05
6	1/4	1.65	8.7%	29.6	2.09
7	1/4	1.58	8.2%	23.5	2.18
8	1/4	1.45	7.5%	33.5	2.39
9	1/4	1.42	7.4%	38.2	2.43
10	1/4	1.44	7.5%	34.0	2.40
11	1/4	1.41	7.4%	40.2	2.46

The balance between sampling holes is 84.2%. The balance between sampling pipes is 98.9%.

Flow rate for this pipe is 19.18 liters per minute with the aspirator set to 1.
The total flow rate is 37.60 liters per minute.

Detector sensitivity is set to 0.09% abs/ft in the hole calculation options.
The detector type is ASD-320.

There are 7 holes on this pipe run excluding the endcap hole.
There are 0 capillaries on this pipe run.

This pipe run length is 141.00 feet.
The total pipe length is 263.00 feet.

Results for pipe run 1 of 2
C:\Pip...CHOC - CHILLER ROOM - REDESIGNED JOB - 2 - FINAL II.pl
PipeCAD pipe modeller
© 2009 AirSense Technology Ltd

PIPE SCHEDULE

Pipe section	Length feet
1	16.00
2	3.50
3	3.00
4	9.50
5	2.00
6	17.00
7	7.00
8	7.00
9	17.00
10	7.00
11	6.00
12	2.00
13	17.00
14	12.00
15	9.50
16	1.00
17	1.00

10 standard pipe lengths will be required.
56 pipe clips will be required to fasten the pipe run using standard pipe clip spacing.

This pipe run has 4 endcaps.
This pipe run has 9 sockets.

This pipe run length is 141.00 feet.
The total pipe length is 263.00 feet.

Pipe Schedule for pipe run 1 of 2
C:\Pip...CHOC - CHILLER ROOM - REDESIGNED JOB - 2 - FINAL II.pl
PipeCAD pipe modeller
© 2009 AirSense Technology Ltd

Hole number	Hole size ins	Flow liters/min	Flow percentage	Transit time seconds	Hole sensitivity % abs/ft
1	1/4	4.50	24.1%	11.1	0.77
2	1/4	3.98	19.2%	23.9	0.86
3	1/4	3.97	19.4%	37.1	1.13
4	1/4	2.89	14.4%	59.1	1.28
5	1/4	2.45	13.1%	84.7	1.41
6	1/4	2.39	12.8%	115.5	1.45

The balance between sampling holes is 98.1%. The balance between sampling pipes is 98.9%.

Flow rate for this pipe is 18.70 liters per minute with the aspirator set to 1.
The total flow rate is 37.60 liters per minute.

Detector sensitivity is set to 0.09% abs/ft in the hole calculation options.
The detector type is ASD-320.

There are 5 holes on this pipe run excluding the endcap hole.
There are 2 capillaries on this pipe run.

This pipe run length is 122.00 feet.
The total pipe length is 263.00 feet.

Results for pipe run 2 of 2
C:\Pip...CHOC - CHILLER ROOM - REDESIGNED JOB - 2 - FINAL II.pl
PipeCAD pipe modeller
© 2009 AirSense Technology Ltd

Pipe section	Length feet
1	16.00
2	3.50
3	3.00
4	2.50
5	21.00
6	2.50
7	20.00
8	20.00
9	9.50
10	1.00
11	1.00

9 standard pipe lengths will be required.
56 pipe clips will be required to fasten the pipe run using standard pipe clip spacing.

This pipe run has 1 endcaps.
This pipe run has 9 sockets.

This pipe run length is 122.00 feet.
The total pipe length is 263.00 feet.

Pipe Schedule for pipe run 2 of 2
C:\Pip...CHOC - CHILLER ROOM - REDESIGNED JOB - 2 - FINAL II.pl
PipeCAD pipe modeller
© 2009 AirSense Technology Ltd

DRILL SCHEDULE

Hole number	Hole size ins	Length ft	Pipe section	Position	Type
1	1/4	--	3	3.00	Hole
2	1/4	--	6	9.00	Hole
3	1/4	--	6	17.00	End cap hole
4	1/4	--	7	7.50	Hole
5	1/4	--	11	9.00	Hole
6	1/4	--	10	17.00	End cap hole
7	1/4	--	11	7.00	Hole
8	1/4	--	14	9.00	Hole
9	1/4	--	14	17.00	End cap hole
10	1/4	--	15	12.00	Hole
11	1/4	--	17	1.00	End cap hole

There are 7 holes on this pipe run excluding the endcap hole.
There are 0 capillaries on this pipe run.

Drill Schedule for pipe run 1 of 2
C:\Pip...CHOC - CHILLER ROOM - REDESIGNED JOB - 2 - FINAL II.pl
PipeCAD pipe modeller
© 2009 AirSense Technology Ltd

All hole sizes are in inches
All pipe lengths are in feet

Hole number	Hole size ins	Length ft	Pipe section	Position	Type
1	1/4	--	3	9.00	Hole
2	1/4	--	6	2.50	Hole
3	1/4	--	7	20.00	Hole
4	1/4	--	8	20.00	Hole
5	1/4	--	9	20.00	Hole
6	1/4	--	11	1.00	End cap hole

There are 5 holes on this pipe run excluding the endcap hole.
There are 0 capillaries on this pipe run.

Drill Schedule for pipe run 2 of 2
C:\Pip...CHOC - CHILLER ROOM - REDESIGNED JOB - 2 - FINAL II.pl
PipeCAD pipe modeller
© 2009 AirSense Technology Ltd

All hole sizes are in inches
All pipe lengths are in feet

ASD POWER SUPPLY CALCULATIONS

DETAIL '5' - LOWER LEVEL - BOILER ROOM

Distributor:	BEC
Address:	GLENDORA, CA
Project Name:	CHILDREN'S HOSPITAL OF ORANGE COUNTY
Prepared By:	RUDY SALAZAR
Detector	BOILER ROOM
Location /	
Dates:	8/24/2011
Backup Duration	Standby Duration : 24 hours Alarm Duration : 10 minutes

Equipment	Load mA	Qty	Total	Alarm Current @ 24VDC	Load mA	Qty	Total
ASD-160H Detector w/ Docking Station	225	0	0	250	0	0	0
ASD-160H Detector w/ Docking Station and Input Relay Card	255	0	0	280	0	0	0
ASD-320 Detector w/ Docking Station	370	0	0	400	0	0	0
ASD-320 Detector w/ Docking Station and Input Relay Card	400	0	0	430	0	0	0
ASD-640 Detector @ Fan Speed = 8 (default)	470	0	0	520	0	0	0
ASD-640 Detector @ Fan Speed = 16	750	0	0	800	0	0	0
ASD-640 Detector w/ Command Module @ Fan Speed = 8 (default)	650	0	0	730	0	0	0
ASD-640 Detector w/ Command Module @ Fan Speed = 16	930	0	0	1210	0	0	0
ASD-640 Detector w/ Minimum Display @ Fan Speed = 8 (default)	450	1	450	500	1	500	0
ASD-640 Detector w/ Minimum Display @ Fan Speed = 16	730	0	0	1190	0	0	0
ASD-CM 19" rack-mount Command Module	180	0	0	210	0	0	0
ASD-CM Stand-Alone Command Module	180	0	0	210	0	0	0
Remote Display Unit	40	0	0	60	0	0	0
PSU LOAD IN STANDBY	70	1	70	60	1	60	0

Total Standby & Alarm Current Consumed, mA = 520 X 560

Standby Duration, hours = 24.0 Alarm Duration, hours = 0.2

Standby & Alarm Battery Capacity Required, mAh = 12,480.0 93.3

Total Standby & Alarm Battery Capacity Required, mAh = 12,573.3

Total Standby & Alarm Battery Capacity Required, AH = 12.6

Battery Deration factor = 20%
Minimum Battery Capacity Required, AH = 15.1
Battery Capacity Selected, AH = 18

DETAIL '6' - LOWER LEVEL - MEDICAL AIR/SUCTION COMPRESSORS ROOM

Distributor:	BEC
Address:	GLENDORA, CA
Project Name:	CHILDREN'S HOSPITAL OF ORANGE COUNTY
Prepared By:	RUDY SALAZAR
Detector	MEDICAL AIR/SUCTION COMPRESSORS ROOM
Location /	
Dates:	8/24/2011
Backup Duration	Standby Duration : 24 hours Alarm Duration : 10 minutes

Equipment	Load mA	Qty	Total	Alarm Current @ 24VDC	Load mA	Qty	Total
ASD-160H Detector w/ Docking Station	225	0	0	250	0	0	0
ASD-160H Detector w/ Docking Station and Input Relay Card	255	1	255	280	1	280	0
ASD-320 Detector w/ Docking Station	370	0	0	400	0	0	0
ASD-320 Detector w/ Docking Station and Input Relay Card	400	0	0	430	0	0	0
ASD-640 Detector @ Fan Speed = 8 (default)	470	0	0	520	0	0	0
ASD-640 Detector @ Fan Speed = 16	750	0	0	800	0	0	0
ASD-640 Detector w/ Command Module @ Fan Speed = 8 (default)	650	0	0	730	0	0	0
ASD-640 Detector w/ Command Module @ Fan Speed = 16	930	0	0	1210	0	0	0
ASD-640 Detector w/ Minimum Display @ Fan Speed = 8 (default)	450	0	0	500	0	0	0
ASD-640 Detector w/ Minimum Display @ Fan Speed = 16	730	0	0	1190	0	0	0
ASD-CM 19" rack-mount Command Module	180	0	0	210	0	0	0
ASD-CM Stand-Alone Command Module	180	0	0	210	0	0	0
Remote Display Unit	40	0	0	60	0	0	0
PSU LOAD IN STANDBY	70	1	70	60	1	60	0

Total Standby & Alarm Current Consumed, mA = 325 X 340

Standby Duration, hours = 24.0 Alarm Duration, hours = 0.2

Standby & Alarm Battery Capacity Required, mAh = 7,800.0 56.7

Total Standby & Alarm Battery Capacity Required, mAh = 7,856.7

Total Standby & Alarm Battery Capacity Required, AH = 7.9

Battery Deration factor = 20%
Minimum Battery Capacity Required, AH = 9.4
Battery Capacity Selected, AH = 12

DETAIL '7' - PENTHOUSE LEVEL - CHILLER ROOM

Distributor:	BEC
Address:	GLENDORA, CA
Project Name:	CHILDREN'S HOSPITAL OF ORANGE COUNTY
Prepared By:	RUDY SALAZAR
Detector	PENTHOUSE - CHILLER ROOM
Location /	
Dates:	8/24/2011
Backup Duration	Standby Duration : 24 hours Alarm Duration : 10 minutes

Equipment	Load mA	Qty	Total	Alarm Current @ 24VDC	Load mA	Qty	Total
ASD-160H Detector w/ Docking Station	225	0	0	250	0	0	0
ASD-160H Detector w/ Docking Station and Input Relay Card	255	0	0	280	0	0	0
ASD-320 Detector w/ Docking Station	370	0	0	400	0	0	0
ASD-320 Detector w/ Docking Station and Input Relay Card	400	1	400	430	1	430	0
ASD-640 Detector @ Fan Speed = 8 (default)	470	0	0	520	0	0	0
ASD-640 Detector @ Fan Speed = 16	750	0	0	800	0	0	0
ASD-640 Detector w/ Command Module @ Fan Speed = 8 (default)	650	0	0	730	0	0	0
ASD-640 Detector w/ Command Module @ Fan Speed = 16	930	0	0	1210	0	0	0
ASD-640 Detector w/ Minimum Display @ Fan Speed = 8 (default)	450	0	0	500	0	0	0
ASD-640 Detector w/ Minimum Display @ Fan Speed = 16	730	0	0	1190	0	0	0
ASD-CM 19" rack-mount Command Module	180	0	0	210	0	0	0
ASD-CM Stand-Alone Command Module	180	0	0	210	0	0	0
Remote Display Unit	40	0	0	60	0	0	0
PSU LOAD IN STANDBY	70	1	70	60	1	60	0

Total Standby & Alarm Current Consumed, mA = 470 X 490

Standby Duration, hours = 24.0 Alarm Duration, hours = 0.2

Standby & Alarm Battery Capacity Required, mAh = 11,290.0 81.7

Total Standby & Alarm Battery Capacity Required, mAh = 11,361.7

Total Standby & Alarm Battery Capacity Required, AH = 11.4

Battery Deration factor = 20%
Minimum Battery Capacity Required, AH = 13.8
Battery Capacity Selected, AH = 18

DETAIL '8' - PENTHOUSE LEVEL - ELECTRICAL SWITCHGEAR ROOM

Distributor:	BEC
Address:	GLENDORA, CA
Project Name:	CHILDREN'S HOSPITAL OF ORANGE COUNTY
Prepared By:	RUDY SALAZAR
Detector	PENTHOUSE-ELECTRICAL SWITCHGEAR ROOM
Location /	
Dates:	8/24/2011
Backup Duration	Standby Duration : 24 hours Alarm Duration : 10 minutes

Equipment	Load mA	Qty	Total	Alarm Current @ 24VDC	Load mA	Qty	Total
ASD-160H Detector w/ Docking Station	225	0	0	250	0	0	0
ASD-160H Detector w/ Docking Station and Input Relay Card	255	0	0	280	0	0	0
ASD-320 Detector w/ Docking Station	370	0	0	400	0	0	0
ASD-320 Detector w/ Docking Station and Input Relay Card	400	1	400	430	1	430	0
ASD-640 Detector @ Fan Speed = 8 (default)	470	0	0	520	0	0	0
ASD-640 Detector @ Fan Speed = 16	750	0	0	800	0	0	0
ASD-640 Detector w/ Command Module @ Fan Speed = 8 (default)	650	0	0	730	0	0	0
ASD-640 Detector w/ Command Module @ Fan Speed = 16	930	0	0	1210	0	0	0
ASD-640 Detector w/ Minimum Display @ Fan Speed = 8 (default)	450	0	0	500	0	0	0
ASD-640 Detector w/ Minimum Display @ Fan Speed = 16	730	0	0	1190	0	0	0
ASD-CM 19" rack-mount Command Module	180	0	0	210	0	0	0
ASD-CM Stand-Alone Command Module	180	0	0	210	0	0	0
Remote Display Unit	40	0	0	60	0	0	0
PSU LOAD IN STANDBY	70	1	70	60	1	60	0

Total Standby & Alarm Current Consumed, mA = 470 X 490

Standby Duration, hours = 24.0 Alarm Duration, hours = 0.2

Standby & Alarm Battery Capacity Required, mAh = 11,290.0 81.7

Total Standby & Alarm Battery Capacity Required, mAh = 11,361.7

Total Standby & Alarm Battery Capacity Required, AH = 11.4

Battery Deration factor = 20%
Minimum Battery Capacity Required, AH = 13.8
Battery Capacity Selected, AH = 18

SIEMENS

CALIFORNIA STATE CONTRACTORS
LICENSE NO.: #758796 - B/ C10/ C16/ C20

Siemens Building Technologies, Inc.
FIS FIRE/LIFE SAFETY DIVISION

10775 Business Center Drive
Cypress, California 90630 USA

Phone: (714) 761-2200
Fax: (714) 220-4956

This drawing and the information and design application herein contained is the property of SIEMENS BUILDING TECHNOLOGIES, Inc. and is loaned upon the express condition that the same be returned to SIEMENS BUILDING TECHNOLOGIES, Inc. upon request; all information herein contained shall be treated as secret and confidential; no reproduction of this drawing or part thereof shall be made without the written consent of SIEMENS BUILDING TECHNOLOGIES, Incorporated.



BUILDING ELECTRONIC CONTROLS, INC.

2246 Lindsay Way
Glendora, CA 91740

PHONE: (909) 305-1600
FAX #: (909) 305-1604

LICENSE NO.: 72905

CLASSIFICATION (S): C-7 C10

EXPIRATION DATE: 11/30/2012

RICHARD TAYLOR



NOTES:

MCCARTHY APPROVAL

A. Approval of notes for Architectural Review
B. Review and Approval
C. Revision

This review is for general conformance with Plans and Specifications only. Any deviations from same not clearly noted by the Engineer have not been reviewed. Review that not constitute a complete check of detailed dimensions or construction details. Reviewer shall be responsible for any error or deviation from contract requirements.

McCarthy

By: DATE: 8/24/2011

SHIP DRAWING REFERENCE NO.

MXL VOICE XL3 SYSTEM3
XLS FS-250 EST3 OTHER

OSHPD NO. #: IL-072072-30

RECORD
DRAWINGS

Rev No. Date Initials

Drawn: H.JEANG

Checked: -

Approved: -

Date: 07.30.09

Scale: N.T.S.

ASD CALCULATIONS

Job Number: 440P-056306

Project: CHILDRENS HOSPITAL OF ORANGE COUNTY - TOWER II
455 SOUTH MAIN STREET
ORANGE, CALIFORNIA 92668-3874

Drawing Number: EF0.14C

REMOTE (NAC) POWER SUPPLY					(NEW)	
PROJECT NAME:		CHOC TOWER II				
PANEL NAME:		REMOTE POWER SUPPLY - V1.4				
PANEL LOCATION:		LEVEL 1 - IS ROOM - 1.016				
DEVICE		QTY	CURRENT PER DEVICE		STANDBY	ALARM
For each device use this formula: This column x This column = Current per number of devices						
PAD-3 Distributed Power Module		1	Standby:	35 mA	35 mA	
			Alarm:	140 mA		140 mA
(A)		PAD-3 Current			35 mA	140 mA
Auxiliary Devices		Refer to device manual for current ratings				
		0	0 mA	0 mA	0 mA	0 mA
		0	0 mA	0 mA	0 mA	0 mA
		0	0 mA	0 mA	0 mA	0 mA
*Magnetic Door Holder (DH1224FC1)		0	20 mA	0 mA	0 mA	0 mA
(B)		Auxiliary Devices Current			0 mA	0 mA
Notification Appliances		Refer to device manual for current ratings				
(V1.4-1)		1,5	69, 264 mA			1389 mA
(V1.4-2)		7,2,1,5	69, 111, 200, 69 mA			1250 mA
(V1.4-3)		2,3,2,6	69, 111, 264, 69 mA			1413 mA
(V1.4-4)		2,1,1,3,1	69, 111, 200, 69, 111mA			767 mA
(C)		Notification Appliances Current			0 mA	4819 mA
(D) Total current ratings of all devices in system (Line A + Line B + Line C)					35 mA	4959 mA
(E) Total current rating converted to amperes (Line D x 0.001)					0.035 A	4.959 A
(F) Number of standby hours (24 or 60 for NFPA 72, Chapter 1, 1-5.5)					24 H	
(G) Multiply lines E and F					0.84 AH	
(H) Alarm sounding period in hours (For example: 5 minutes = 0.0833 hours)						0.0833 H
(I) Multiply lines E and H						0.41 AH
(J) Add lines G and I					1.25 AH	
(K) Multiply line J by 1.2 (20% extra insurance to meet desired performance)					1.50 AH	
(L) Batteries to be provided						(2) 12Volt 7Ah

REMOTE (NAC) POWER SUPPLY					(NEW)	
PROJECT NAME:		CHOC TOWER II				
PANEL NAME:		REMOTE POWER SUPPLY - V1.5				
PANEL LOCATION:		LEVEL 1 - OFFICE FIRE CONTROL - 1.007.42				
DEVICE		QTY	CURRENT PER DEVICE		STANDBY	ALARM
For each device use this formula: This column x This column = Current per number of devices						
PAD-3 Distributed Power Module		1	Standby:	35 mA	35 mA	
			Alarm:	140 mA		140 mA
(A)			PAD-3 Current		35 mA	140 mA
Auxiliary Devices			Refer to device manual for current			
	0	0 mA	0 mA	0 mA	0 mA	
	0	0 mA	0 mA	0 mA	0 mA	
	0	0 mA	0 mA	0 mA	0 mA	
*Magnetic Door Holder (DH1224FC1)		0	20 mA	0 mA	0 mA	0 mA
(B)		Auxiliary Devices Current		0 mA	0 mA	
Notification Appliances			Refer to device manual for current			
(V1.5-1)		3,2,1,6,1	69, 111, 200, 69, 64mA			1107 mA
(V1.5-2)		5,2,5,2	69, 200, 69, 64 mA			1218 mA
(V1.5-3)		7,2,2	69, 69, 64 mA			749 mA
(V1.5-4)		1,1,1	133, 210, 268 mA			611 mA
(C)		Notification Appliances Current		0 mA		3685 mA
(D) Total current ratings of all devices in system (Line A + Line B + Line C)					35 mA	3825 mA
(E) Total current rating converted to amperes (Line D x 0.001)					0.035 A	3.825 A
(F) Number of standby hours (24 or 60 for NFPA 72, Chapter 1, 1-5.5)					24 H	
(G) Multiply lines E and F					0.84 AH	
(H) Alarm sounding period in hours (For example: 5 minutes = 0.0833 hours)						0.0833 H
(I) Multiply lines E and H						0.32 AH
(J) Add lines G and I					1.16 AH	
(K) Multiply line J by 1.2 (20% extra insurance to meet desired performance)					1.39 AH	
(L) Batteries to be provided						(2) 12Volt 7Ah

CIRCUIT NO.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP	
					V	%
REMOTE POWER SUPPLY - VB1						
VB1-1	12	1433 mA	404'	12	2.33 V	8.62%
VB1-2	11	1406 mA	365'	12	2.60 V	9.64%
VB1-3	11	1298 mA	382'	12	1.63 V	6.03%
VB1-4	11	1258 mA	338'	12	1.71 V	6.33%

REMOTE POWER SUPPLY - VB.2						
CIRCUIT NO.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP	
					V	%
VB2-1	4	1404 mA	101'	12	0.57 V	2.11%
VB2-2	4	1404 mA	182'	12	1.03 V	3.80%
VB2-3	3	1335 mA	172'	12	0.72 V	2.65%
VB2-4	4	1404 mA	188'	12	1.06 V	3.93%

REMOTE POWER SUPPLY - VB3						
CIRCUIT NO.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP	
					V	%
VB3-1	12	996 mA	387'	12	1.43 V	5.29%
VB3-2	7	901 mA	240'	12	0.87 V	3.22%
VB3-3	6	1376 mA	389'	12	2.15 V	7.97%
VB3-4	4	956 mA	400'	12	1.54 V	5.62%

REMOTE POWER SUPPLY - VB4						
CIRCUIT NO#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP	
					V	%
VB4-1	14	1156 mA	479'	12	2.23 V	8.24%
VB4-2	11	1570 mA	418'	12	2.60 V	9.63%
VB4-3	9	900 mA	451'	12	1.63 V	6.04%
VB4-4	22	541 mA	1034'	12	2.25 V	8.33%

REMOTE POWER SUPPLY - V.B.5						
CIRCUIT NO.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP	
					V	%
V.B.5-1	7	1298 mA	384'	12	2.00 V	7.42%
V.B.5-2	5	1259 mA	492'	12	2.43 V	9.00%
V.B.5-3	11	900 mA	510'	12	1.24 V	4.62%
V.B.5-4	26	628 mA	1043'	12	2.63 V	9.75%

REMOTE POWER SUPPLY - V1.1						
CIRCUIT NO.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP	
					V	%
A1.1-1	25	575 mA	1029'	12	2.38 V	8.81%
A1.1-2	24	552 mA	1020'	12	2.26 V	8.38%
A1.1-3	16	366 mA	806'	12	1.19 V	4.42%
A1.1-4	20	460 mA	740'	12	1.37 V	5.07%

REMOTE POWER SUPPLY - V1.2						
CIRCUIT NO.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP	
					V	%
V1.2-1	14	1050 mA	548'	12	2.31 V	8.57%
V1.2-2	9	1011 mA	431'	12	1.75 V	6.48%
V1.2-3	12	1169 mA	461'	12	2.17 V	8.02%
V1.2-4	1	210 mA	111'	12	0.09 V	0.39%

REMOTE POWER SUPPLY - V1.3						
CIRCUIT NO.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP	
					V	%
V1.3-1	14	954 mA	422'	12	1.00 V	3.70%
V1.3-2	14	1443 mA	374'	12	2.17 V	8.04%
V1.3-3	9	883 mA	376'	12	1.34 V	4.94%
V1.3-4	13	981 mA	508'	12	2.00 V	7.42%

REMOTE POWER SUPPLY - V1.4						
CIRCUIT NO.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP	
					V	%
V1.4-1	6	1389 mA	412'	12	2.30 V	8.52%
V1.4-2	16	1383 mA	410'	12	2.28 V	8.44%
V1.4-3	13	1413 mA	454'	12	2.58 V	9.55%
V1.4-4	8	767 mA	396'	12	1.22 V	4.52%

REMOTE POWER SUPPLY - V1.5						
CIRCUIT NO.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP	
					V	%
V1.5-1	13	1107 mA	323'	12	1.44 V	5.32%
V1.5-2	14	1218 mA	431'	12	2.11 V	7.82%
V1.5-3	11	749 mA	520'	12	1.57 V	5.80%
V1.5-4	3	611 mA	220'	12	0.54 V	2.25%

REMOTE (NAC) POWER SUPPLY					(NEW)
PROJECT NAME:		CHOC TOWER II			
PANEL NAME:		REMOTE POWER SUPPLY - V.B.5			
PANEL LOCATION:		LOWER LEVEL - IS ROOM - B.028			
DEVICE	QTY	CURRENT PER DEVICE		STANDBY	ALARM
For each device use this formula: This column x This column = Current per number of devices					
PAD-3 Distributed Power Module	1	Standby:	35 mA	35 mA	
(A)		Alarm:	140 mA		140 mA
			PAD-3 Current	35 mA	140 mA
Auxiliary Devices		Refer to device manual for current ratings			
	0	0 mA	0 mA	0 mA	0 mA
	0	0 mA	0 mA	0 mA	0 mA
	0	0 mA	0 mA	0 mA	0 mA
*Magnetic Door Holder (DH1224FC1)	0	20 mA	0 mA	0 mA	0 mA
(B)	Auxiliary Devices Current			0 mA	0 mA
Notification Appliances		Refer to device manual for current ratings			
(V.B.5-1)	1,5,1	64, 233, 69 mA			1298 mA
(V.B.5-2)	1,4	64, 233 mA			996 mA
(V.B.5-3)	8,2,1	69, 69, 210 mA			900 mA
(V.B.5-4)	11,1,3	23, 25 mA			628 mA
		Notification Appliances Current		0 mA	4055 mA
(D) Total current ratings of all devices in system (Line A + Line B + Line C)				35 mA	4195 mA
(E) Total current rating converted to amperes (Line D x 0.001)				0.035 A	4.195 A
(F) Number of standby hours (24 or 60 for NFPA 72, Chapter 1, 1-5.5)				24 H	
(G) Multiply lines E and F				0.84 AH	
(H) Alarm sounding period in hours (For example: 5 minutes = 0.0833 hours)					0.0833 H
(I) Multiply lines E and H					0.35 AH
(J) Add lines G and I				1.19 AH	
(K) Multiply line J by 1.2 (20% extra insurance to meet desired performance)				1.43 AH	
(L) Batteries to be provided					(2) 12Volt 7Ah

REMOTE (NAC) POWER SUPPLY					(NEW)	
PROJECT NAME:		CHOC TOWER II				
PANEL NAME:		REMOTE POWER SUPPLY - V1.1				
PANEL LOCATION:		LEVEL 1 - IS ROOM - 1.067				
DEVICE		QTY	CURRENT PER DEVICE		STANDBY	ALARM
For each device use this formula: This column x This column = Current per number of devices						
PAD-3 Distributed Power Module		1	Standby:	35 mA	35 mA	
(A)			Alarm:	140 mA		140 mA
				PAD-3 Current	35 mA	140 mA
Auxiliary Devices Refer to device manual for current ratings						
		0	0 mA	0 mA	0 mA	0 mA
		0	0 mA	0 mA	0 mA	0 mA
		0	0 mA	0 mA	0 mA	0 mA
*Magnetic Door Holder (DH1224FC1)		0	20 mA	0 mA	0 mA	0 mA
(B)		Auxiliary Devices Current			0 mA	0 mA
Notification Appliances Refer to device manual for current ratings						
(A1.1-1)		25	23, 44 mA			575 mA
(A1.1-2)		24	23 mA			552 mA
(A1.1-3)		16	23 mA			368 mA
(A1.1-4)		20	23 mA			460 mA
(C)		Notification Appliances Current			0 mA	1955 mA
(D) Total current ratings of all devices in system (Line A + Line B + Line C)					35 mA	2095 mA
(E) Total current rating converted to amperes (Line D x 0.001)					0.035 A	2.095 A
(F) Number of standby hours (24 or 60 for NFPA 72, Chapter 1, 1-5.5)					24 H	
(G) Multiply lines E and F					0.84 AH	
(H) Alarm sounding period in hours (For example: 5 minutes = 0.0833 hours)						0.0833 H
(I) Multiply lines E and H						0.17 AH
(J) Add lines G and I					1.01 AH	
(K) Multiply line J by 1.2 (20% extra insurance to meet desired performance)					1.22 AH	
(L) Batteries to be provided						(2) 12Volt 7Ah

REMOTE (NAC) POWER SUPPLY					(NEW)	
PROJECT NAME:		CHOC TOWER II				
PANEL NAME:		REMOTE POWER SUPPLY - V1.2				
PANEL LOCATION:		LEVEL 1 - IS ROOM - 1.067				
DEVICE		QTY	CURRENT PER DEVICE		STANDBY	ALARM
For each device use this formula: This column x This column = Current per number of devices						
PAD-3 Distributed Power Module		1	Standby:	35 mA	35 mA	
			Alarm:	140 mA		140 mA
(A)			PAD-3 Current		35 mA	140 mA
Auxiliary Devices			Refer to device manual for current ratings			
	0	0 mA	0 mA	0 mA	0 mA	
	0	0 mA	0 mA	0 mA	0 mA	
	0	0 mA	0 mA	0 mA	0 mA	
	0	0 mA	0 mA	0 mA	0 mA	
*Magnetic Door Holder (DH1224FC1)		0	20 mA	0 mA	0 mA	0 mA
(B)			Auxiliary Devices Current		0 mA	0 mA
Notification Appliances			Refer to device manual for current ratings			
(V1.2-1)		5,7,2	69, 69, 111 mA			1050 mA
(V1.2-2)		3,2,4	69, 264, 69 mA			1011 mA
(V1.2-3)		2,2,1,4,3	69, 111, 200, 69, 111mA			1169 mA
(V1.2-4)		1	210 mA			210 mA
(C)			Notification Appliances Current		0 mA	3440 mA
(D) Total current ratings of all devices in system (Line A + Line B + Line C)					35 mA	3580 mA
(E) Total current rating converted to amperes (Line D x 0.001)					0.035 A	3.580 A
(F) Number of standby hours (24 or 60 for NFPA 72, Chapter 1, 1-5.5)					24 H	
(G) Multiply lines E and F					0.84 AH	
(H) Alarm sounding period in hours (For example: 5 minutes = 0.0833 hours)						0.0833 H
(I) Multiply lines G and H						0.30 AH
(J) Add lines G and I					1.14 AH	
(K) Multiply line J by 1.2 (20% extra insurance to meet desired performance)					1.37 AH	
(L) Batteries to be provided						
						(2) 12Vt 7A

REMOTE (NAC) POWER SUPPLY					(NEW)
PROJECT NAME:		CHOC TOWER II			
PANEL NAME:		REMOTE POWER SUPPLY - V1.6			
PANEL LOCATION:		LEVEL 1 - IS ROOM - 1.016			
DEVICE	QTY	CURRENT PER DEVICE		STANDBY	ALARM
For each device use this formula: This column x This column = Current per number of devices					
PAD-3 Distributed Power Module	1	Standby:	35 mA	35 mA	
(A)		Alarm:	140 mA		140 mA
		PAD-3 Current		35 mA	140 mA
Auxiliary Devices Refer to device manual for current ratings					
	0	0 mA	0 mA	0 mA	0 mA
	0	0 mA	0 mA	0 mA	0 mA
	0	0 mA	0 mA	0 mA	0 mA
*Magnetic Door Holder (DH1224FC1)	0	20 mA	0 mA	0 mA	0 mA
(B)		Auxiliary Devices Current		0 mA	0 mA
Notification Appliances Refer to device manual for current ratings					
(V1.6-1)	1,1	210, 268 mA			478 mA
(V1.6-2)	2,1	99, 133 mA			331 mA
(V1.6-3)					0 mA
(V1.6-4)					0 mA
(C)		Notification Appliances Current		0 mA	809 mA
(D) Total current ratings of all devices in system (Line A + Line B + Line C)				35 mA	949 mA
(E) Total current rating converted to amperes (Line D x 0.001)				0.035 A	0.949 A
(F) Number of standby hours (24 or 60 for NFPA 72, Chapter 1, 1-5.5)				24 H	
(G) Multiply lines E and F				0.84 AH	
(H) Alarm sounding period in hours (For example: 5 minutes = 0.0833 hours)					0.0833 H
(I) Multiply lines E and H					0.08 AH
(J) Add lines G and I				0.92 AH	
(K) Multiply line J by 1.2 (20% extra insurance to meet desired performance)				1.10 AH	
(L) Batteries to be provided					(2) 12Volt 7Ah

CIRCUIT NO.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP V	%
REMOTE POWER SUPPLY - V2.1						
V2.1-1	10	1125 mA	372'	12	1.68 V	6.83%
V2.1-2	14	1312 mA	300'	12	1.58 V	5.86%
V2.1-3	8	1444 mA	425'	12	2.47 V	9.14%
V2.1-4	10	905 mA	375'	12	1.36 V	5.05%

CIRCUIT NO.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP V	%
REMOTE POWER SUPPLY - V2.2						
V2.2-1	9	1424 mA	361'	12	2.07 V	7.65%
V2.2-2	6	624 mA	262'	12	0.66 V	2.43%
V2.2-3	8	1073 mA	340'	12	1.47 V	5.42%
V2.2-4	3	1335 mA	275'	12	1.48 V	5.47%

CIRCUIT NO.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP V	%
REMOTE POWER SUPPLY - V2.3						
A2.3-1	21	483 mA	734'	12	1.43 V	5.30%
A2.3-2	20	460 mA	895'	12	1.66 V	6.15%
A2.3-3	22	506 mA	994'	12	2.02 V	7.49%
A2.3-4	17	391 mA	773'	12	1.22 V	4.52%

CIRCUIT NO.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP V	%
REMOTE POWER SUPPLY - V2.4						
V2.4-1	12	1319 mA	534'	12	2.30 V	8.52%
V2.4-2	12	1021 mA	425'	12	1.74 V	6.46%
V2.4-3	4	1014 mA	350'	12	1.43 V	5.30%
SPARE						

CIRCUIT NO.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP V	%
REMOTE POWER SUPPLY - V2.5						
V2.5-1	14	1050 mA	533'	12	2.25 V	8.33%
V2.5-2	13	1285 mA	497'	12	2.57 V	9.51%
V2.5-3	2	1335 mA	207'	12	1.11 V	4.11%
SPARE						

CIRCUIT NO.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP V	%
REMOTE POWER SUPPLY - V3.1						
V3.1-1	18	1430 mA	429'	12	2.47 V	9.13%
V3.1-2	14	1228 mA	436'	12	2.15 V	7.97%
V3.1-3	15	1119 mA	460'	12	2.07 V	7.66%
V3.1-4	15	1077 mA	422'	12	1.83 V	6.77%

CIRCUIT NO.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP V	%
REMOTE POWER SUPPLY - V3.2						
A3.2-1	21	483 mA	1036'	12	2.01 V	7.45%
A3.2-2	19	437 mA	1141'	12	2.00 V	7.42%
A3.2-3	22	506 mA	860'	12	1.75 V	6.48%
A3.2-4	15	345 mA	1100'	12	1.53 V	5.65%

CIRCUIT NO.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP V	%
REMOTE POWER SUPPLY - V3.3						
V3.3-1	14	1181 mA	506'	12	2.40 V	8.89%
V3.3-2	8	678 mA	416'	12	1.13 V	4.40%
V3.3-3	8	1187 mA	486'	12	2.36 V	8.59%
V3.3-4	8	1664 mA	372'	12	2.49 V	9.22%

CIRCUIT NO.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP V	%
REMOTE POWER SUPPLY - V3.4						
V3.4-1	18	1583 mA	420'	12	2.67 V	9.90%
V3.4-2	13	1065 mA	552'	12	2.36 V	8.75%
V3.4-3	13	1613 mA	401'	12	3.63 V	13.63%
V3.4-4	18	1437 mA	438'	12	2.53 V	9.37%

REMOTE (NAC) POWER SUPPLY					(NEW)
PROJECT NAME:		CHOC TOWER II			
PANEL NAME:		REMOTE POWER SUPPLY - V3.1			
PANEL LOCATION:		LEVEL 3 - IS ROOM - 3.064			
DEVICE	QTY	CURRENT PER DEVICE		STANDBY	ALARM
For each device use this formula: This column x This column = Current per number of devices					
PAD-3 Distributed Power Module	1	Standby:	35 mA	35 mA	
(A)		Alarm:	140 mA		140 mA
		PAD-3 Current		35 mA	140 mA
Auxiliary Devices		Refer to device manual for current ratings			
	0	0 mA	0 mA	0 mA	0 mA
	0	0 mA	0 mA	0 mA	0 mA
	0	0 mA	0 mA	0 mA	0 mA
*Magnetic Door Holder (DH1224FC1)	0	20 mA	0 mA	0 mA	0 mA
(B)		Auxiliary Devices Current		0 mA	0 mA
Notification Appliances		Refer to device manual for current ratings			
(V3.1-1)	12,2,1,2,1	69, 111, 200, 69, 111mA			1499 mA
(V3.1-2)	6,2,6	69, 200, 69 mA			1228 mA
(V3.1-3)	5,8,2	69, 69, 111 mA			1119 mA
(V3.1-4)	7,1,7	69, 111, 69 mA			1077 mA
(C)		Notification Appliances Current		0 mA	4854 mA
(D)	Total current ratings of all devices in system (Line A + Line B + Line C)			35 mA	5063 mA
(E)	Total current rating converted to amperes (Line D x 0.001)			0.035 A	5.063 A
(F)	Number of standby hours (24 or 60 for NFPA 72, Chapter 1, 1-5.5)			24 H	
(G)	Multiply lines E and F			0.84 AH	
(H)	Alarm sounding period in hours (For example: 5 minutes = 0.0833 hours)				0.0833 H
(I)	Multiply lines E and H				0.42 AH
(J)	Add lines G and I			1.26 AH	
(K)	Multiply line J by 1.2 (20% extra insurance to meet desired performance)			1.51 AH	
(L)	Batteries to be provided				(2) 12Volt 7Ah

REMOTE (NAC) POWER SUPPLY					(NEW)
PROJECT NAME:		CHOC TOWER II			
PANEL NAME:		REMOTE POWER SUPPLY - V3.2			
PANEL LOCATION:		LEVEL 3 - IS ROOM - 3.064			
DEVICE	QTY	CURRENT PER DEVICE	STANDBY	ALARM	
For each device use this formula: This column x This column = Current per number of devices					
PAD-3 Distributed Power Module	1	Standby: 35 mA	35 mA		
(A)		Alarm: 140 mA		140 mA	
		PAD-3 Current	35 mA	140 mA	
Auxiliary Devices Refer to device manual for current ratings					
	0	0 mA	0 mA	0 mA	
	0	0 mA	0 mA	0 mA	
	0	0 mA	0 mA	0 mA	
*Magnetic Door Holder (DH1224FC1)	0	20 mA	0 mA	0 mA	
(B)		Auxiliary Devices Current	0 mA	0 mA	
Notification Appliances Refer to device manual for current ratings					
(A3.2-1)	21	23 mA		483 mA	
(A3.2-2)	20	23 mA		460 mA	
(A3.2-3)	22	23 mA		506 mA	
(A3.2-4)	15	23 mA		345 mA	
(C)		Notification Appliances Current	0 mA	1794 mA	
(D) Total current ratings of all devices in system (Line A + Line B + Line C)			35 mA	1934 mA	
(E) Total current rating converted to amperes (Line D x 0.001)			0.035 A	1.934 A	
(F) Number of standby hours (24 or 60 for NFPA 72, Chapter 1, 1-5.5)			24 H		
(G) Multiply lines E and F			0.84 AH		
(H) Alarm sounding period in hours (For example: 5 minutes = 0.0833 hours)				0.0833 H	
(I) Multiply lines E and H				0.16 AH	
(J) Add lines G and I			1.00 AH		
(K) Multiply line J by 1.2 (20% extra insurance to meet desired performance)			1.20 AH		
(L) Batteries to be provided				(2) 12Volt 7Ah	

REMOTE (NAC) POWER SUPPLY					(NEW)
PROJECT NAME:		CHOC TOWER II			
PANEL NAME:		REMOTE POWER SUPPLY - V3.3			
PANEL LOCATION:		LEVEL 3 - IS ROOM - 3.022			
DEVICE	QTY	CURRENT PER DEVICE		STANDBY	ALARM
For each device use this formula: This column x This column = Current per number of devices					
PAD-3 Distributed Power Module	1	Standby:	35 mA	35 mA	
(A)		Alarm:	140 mA		140 mA
		PAD-3 Current		35 mA	140 mA
Auxiliary Devices		Refer to device manual for current ratings			
	0	0 mA	0 mA	0 mA	0 mA
	0	0 mA	0 mA	0 mA	0 mA
	0	0 mA	0 mA	0 mA	0 mA
*Magnetic Door Holder (DH1224FC1)	0	20 mA	0 mA	0 mA	0 mA
(B)		Auxiliary Devices Current		0 mA	0 mA
Notification Appliances		Refer to device manual for current ratings			
(V3.3-1)	7,1,1,4,1	69, 111, 200, 69, 111mA			1181 mA
(V3.3-2)	4,1,2	69, 264, 69mA			678 mA
(V3.3-3)	3,1,1,1,2	69, 69, 111, 264, 268mA			1187 mA
(V3.3-4)	7,1	200, 264 mA			1664 mA
(C)		Notification Appliances Current		0 mA	4710 mA
(D) Total current ratings of all devices in system (Line A + Line B + Line C)				35 mA	4850 mA
(E) Total current rating converted to amperes (Line D x 0.001)				0.035 A	4.850 A
(F) Number of standby hours (24 or 60 for NFPA 72, Chapter 1, 1-5.5)				24 H	
(G) Multiply lines E and F				0.84 AH	
(H) Alarm sounding period in hours (For example: 5 minutes = 0.0833 hours)					0.0833 H
(I) Multiply lines E and H					0.40 AH
(J) Add lines G and I				1.24 AH	
(K) Multiply line J by 1.2 (20% extra insurance to meet desired performance)				1.49 AH	
(L) Batteries to be provided					(2) 12Volt 7Ah

REMOTE (NAC) POWER SUPPLY					(NEW)
PROJECT NAME:		CHOC TOWER II			
PANEL NAME:		REMOTE POWER SUPPLY - V3.4			
PANEL LOCATION:		LEVEL 3 - IS ROOM - 3.106.13			
DEVICE	QTY	CURRENT PER DEVICE		STANDBY	ALARM
For each device use this formula: This column x This column = Current per number of devices					
PAD-3 Distributed Power Module	1	Standby:	35 mA	35 mA	
(A)		Alarm:	140 mA		140 mA
		PAD-3 Current		35 mA	140 mA
Auxiliary Devices		Refer to device manual for current			
	0	0 mA	0 mA	0 mA	0 mA
	0	0 mA	0 mA	0 mA	0 mA
	0	0 mA	0 mA	0 mA	0 mA
*Magnetic Door Holder (DH1224FC1)	0	20 mA	0 mA	0 mA	0 mA
(B)		Auxiliary Devices Current		0 mA	0 mA
Notification Appliances		Refer to device manual for current			
(V3.4-1)	5,1,7,4,1	69, 111, 69, 111, 200mA			1583 mA
(V3.4-2)	6,3,4	69, 69, 111 mA			1065 mA
(V3.4-3)	2,1,3,7	69, 200, 264, 69 mA			1613 mA
(V3.4-4)	9,8,1	69, 69, 264 mA			1437 mA
(C)		Notification Appliances Current		0 mA	5698 mA
(D) Total current ratings of all devices in system (Line A + Line B + Line C)				35 mA	5838 mA
(E) Total current rating converted to amperes (Line D x 0.001)				0.035 A	5.838 A
(F) Number of standby hours (24 or 60 for NFPA 72, Chapter 1, 1-5-5)				24 H	
(G) Alarm sounding Line E and F				0.84 AH	
(H) Alarm limes period in hours (For example: 5 minutes = 0.0833 hours)					0.0833 H
(I) Multiply Lines E and H					0.49 AH
(J) Add Lines G and I				1.33 AH	
(K) Multiply Line J by 1.2 (80% extra insurance to meet desired performance)				1.59 AH	
(L) Batteries to be provided					(2) 12Volt 7A

REMOTE (NAC) POWER SUPPLY (NEW)				
PROJECT NAME:		CHOC TOWER II		
PANEL NAME:		REMOTE POWER SUPPLY - VB.6		
PANEL LOCATION:		LOWER LEVEL - IS ROOM - B028		
DEVICE	QTY	CURRENT PER DEVICE	STANDBY	ALARM
For each device use this formula: This column x This column = Current per number of devices				
PAD-3 Distributed Power Module	1	Standby: 35 mA Alarm: 140 mA	35 mA	140 mA
(A)		PAD-3 Current	35 mA	140 mA
Auxiliary Devices Refer to device manual for current ratings				
	0	0 mA	0 mA	0 mA
	0	0 mA	0 mA	0 mA
	0	0 mA	0 mA	0 mA
*Magnetic Door Holder (DH1224FC1)	0	20 mA	0 mA	0 mA
(B)		Auxiliary Devices Current	0 mA	0 mA
Notification Appliances Refer to device manual for current ratings				
(AB.6-1)	24	23 mA		552 mA
(AB.6-2)	19	23 mA		437 mA
(AB.6-3)	24	23 mA		552 mA
(VB.6-1)	1,3,1	111, 200, 268 mA		979 mA
(C)		Notification Appliances Current	0 mA	2520 mA
(D) Total current ratings of all devices in system (Line A + Line B + Line C)			35 mA	2660 mA
(E) Total current rating converted to amperes (Line D x 0.001)			0.035 A	2.660 A
(F) Number of standby hours (24 or 60 for NFPA 72, Chapter 1, 1-5.5)			24 H	
(G) Multiply lines E and F			0.84 AH	
(H) Alarm sounding period in hours (For example: 5 minutes = 0.0833 hours)				0.0833 H
(I) Multiply lines E and H				0.22 AH
(J) Add lines G and I			1.06 AH	
(K) Multiply line J by 1.2 (20% extra insurance to meet desired performance)			1.27 AH	
(L) Batteries to be provided				(2) 12Volt 7Ah

REMOTE (NAC) POWER SUPPLY (NEW)				
PROJECT NAME:		CHOC TOWER II		
PANEL NAME:		REMOTE POWER SUPPLY - VB.7		
PANEL LOCATION:		LOWER LEVEL - IS ROOM - B.062		
DEVICE	QTY	CURRENT PER DEVICE	STANDBY	ALARM
For each device use this formula: This column x This column = Current per number of devices				
PAD-3 Distributed Power Module	1	Standby: 35 mA Alarm: 140 mA	35 mA	140 mA
(A)		PAD-3 Current	35 mA	140 mA
Auxiliary Devices Refer to device manual for current ratings				
	0	0 mA	0 mA	0 mA
	0	0 mA	0 mA	0 mA
	0	0 mA	0 mA	0 mA
*Magnetic Door Holder (DH1224FC1)	0	20 mA	0 mA	0 mA
(B)		Auxiliary Devices Current	0 mA	0 mA
Notification Appliances Refer to device manual for current ratings				
(VB.7-1)	1, 3	111, 268 mA		915 mA
SPARE				
SPARE				0 mA
SPARE				915 mA
(C)		Notification Appliances Current	0 mA	915 mA
(D) Total current ratings of all devices in system (Line A + Line B + Line C)			35 mA	1055 mA
(E) Total current rating converted to amperes (Line D x 0.001)			0.035 A	1.055 A
(F) Number of standby hours (24 or 60 for NFPA 72, Chapter 1, 1-5.5)			24 H	
(G) Multiply lines E and F			0.84 AH	
(H) Alarm sounding period in hours (For example: 5 minutes = 0.0833 hours)				0.0833 H
(I) Multiply lines E and H				0.09 AH
(J) Add lines G and I			0.07 AH	
(K) Multiply line J by 1.2 (20% extra insurance to meet desired performance)			0.089 AH	
(L) Batteries to be provided				(2) 12Volt 7Ah

CIRCUIT ND.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP V	%
REMOTE POWER SUPPLY - V4.1						
V4.1-1	1	268 mA	148'	12	0.74 V	0.59%
V4.1-2	4	580 mA	192'	12	0.45 V	1.66%
V4.1-3	1	268 mA	314'	12	0.34 V	1.25%
V4.1-4	0	0 mA	0'	12	0.00 V	0.00%

CIRCUIT ND.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP V	%
REMOTE POWER SUPPLY - V4.2						
A4.2-1	9	207 mA	355'	12	0.30 V	1.09%
A4.2-2	1	23 mA	314'	12	0.03 V	0.11%
A4.2-3	0	0 mA	0'	12	0.00 V	0.00%
A4.2-4	0	0 mA	0'	12	0.00 V	0.00%

CIRCUIT ND.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP V	%
REMOTE POWER SUPPLY - V4.3						
V4.3-1	2	536 mA	300'	12	0.65 V	2.39%
A4.3-2	4	92 mA	593'	12	0.22 V	0.81%
A4.3-3	4	92 mA	499'	12	0.18 V	0.68%
V4.3-4	2	536 mA	192'	12	0.41 V	1.53%

CIRCUIT ND.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP V	%
REMOTE POWER SUPPLY - V5.1						
V5.1-1	12	1256 mA	452'	12	2.99 V	8.71%
V5.1-2	12	1377 mA	352'	12	1.95 V	8.12%
V5.1-3	15	1381 mA	399'	12	2.22 V	9.23%
V5.1-4	9	1373 mA	341'	12	1.88 V	7.84%

CIRCUIT ND.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP V	%
REMOTE POWER SUPPLY - V5.2						
A5.2-1	12	276 mA	452'	12	0.30 V	2.09%
A5.2-2	18	414 mA	865'	12	1.44 V	6.00%
A5.2-3	0	0 mA	0'	12	0.00 V	0.00%
A5.2-4	7	175 mA	678'	12	0.47 V	1.97%

CIRCUIT ND.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP V	%
REMOTE POWER SUPPLY - V5.3						
V5.3-1	0	0 mA	0'	12	0.00 V	0.00%
V5.3-2	0	0 mA	0'	12	0.00 V	0.00%
V5.3-3	0	0 mA	0'	12	0.00 V	0.00%
V5.3-4	0	0 mA	0'	12	0.00 V	0.00%

CIRCUIT ND.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP V	%
REMOTE POWER SUPPLY - V6.1						
V6.1-1	2	400 mA	284'	12	0.48 V	1.78%
V6.1-2	2	536 mA	357'	12	0.77 V	2.84%
V6.1-3	0	0 mA	0'	12	0.00 V	0.00%
A6.1-4	4	276 mA	519'	12	0.58 V	2.13%

CIRCUIT ND.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP V	%
REMOTE POWER SUPPLY - V7.1						
V7.1-1	2	400 mA	284'	12	0.46 V	1.69%
V7.1-2	2	536 mA	348'	12	0.75 V	2.78%
V7.1-3	0	0 mA	0'	12	0.00 V	0.00%
V7.1-4	4	276 mA	504'	12	0.56 V	2.07%

CIRCUIT ND.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP V	%
REMOTE POWER SUPPLY - VB.1						
AVB.1-1	17	425 mA	1334'	12	2.28 V	8.44%
AVB.1-2	2	350 mA	663'	12	0.93 V	3.44%
AVB.1-3	6	1550 mA	290'	12	1.81 V	6.69%
AVB.1-4	1	268 mA	112'	12	0.23 V	0.83%

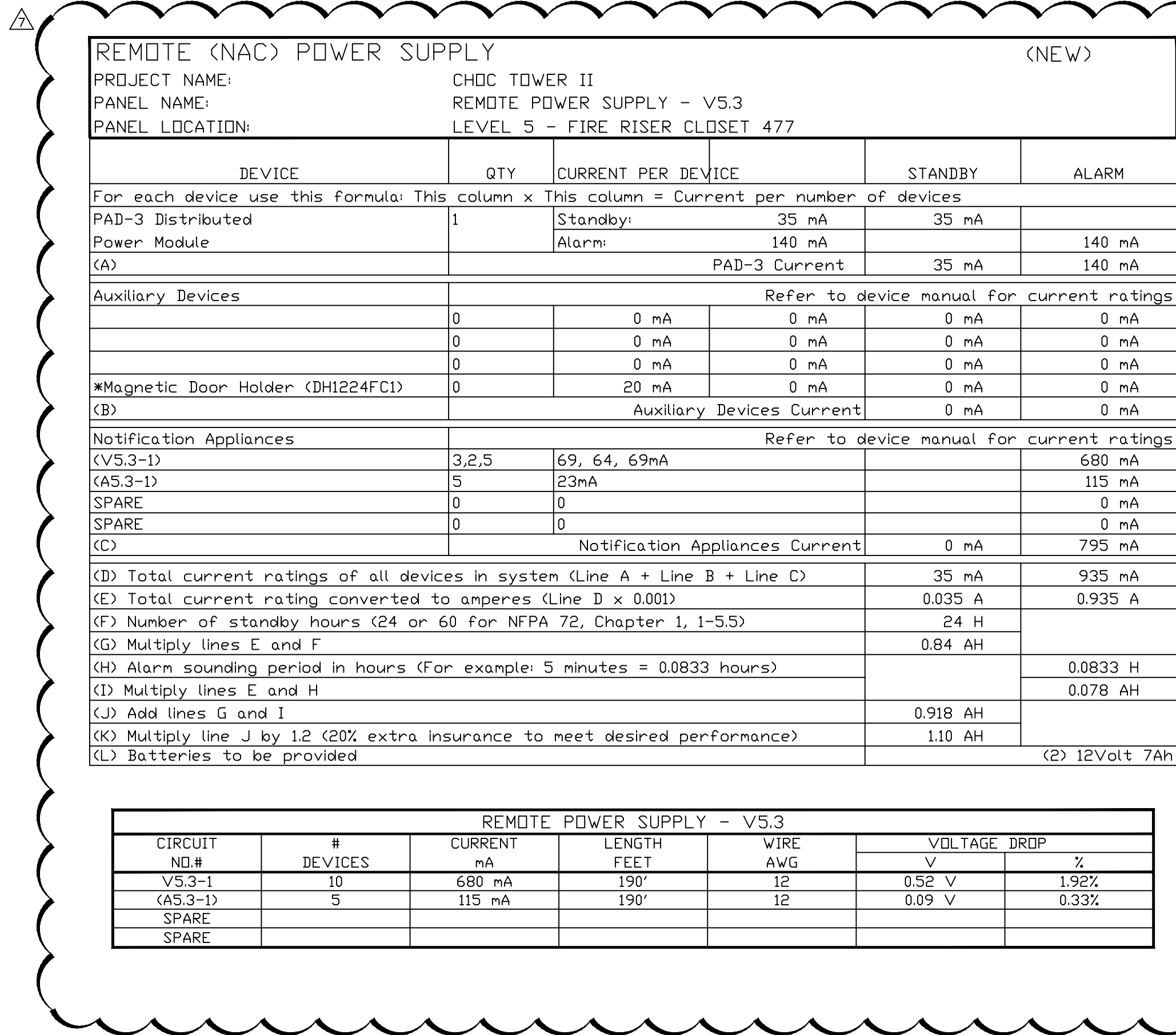
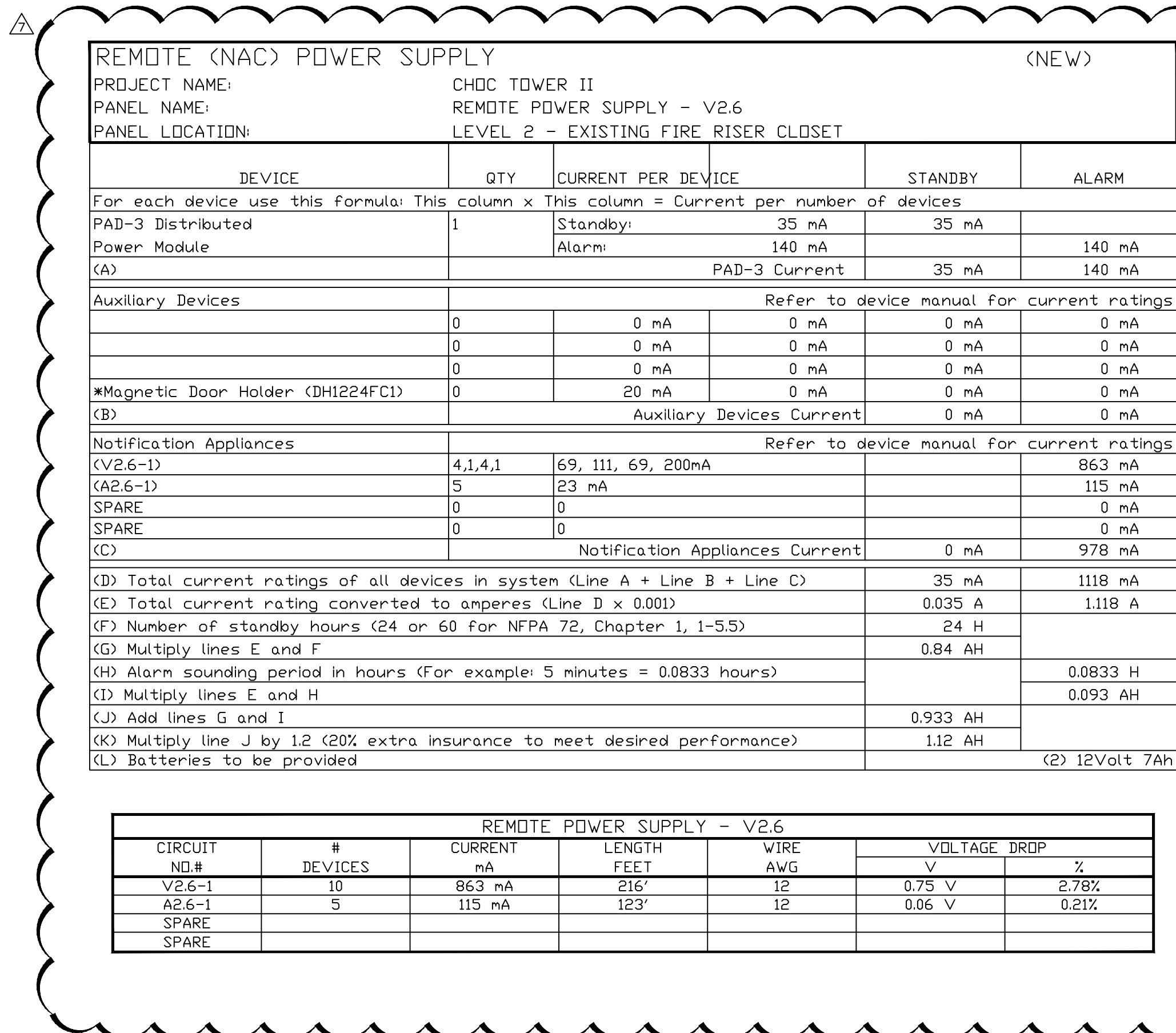
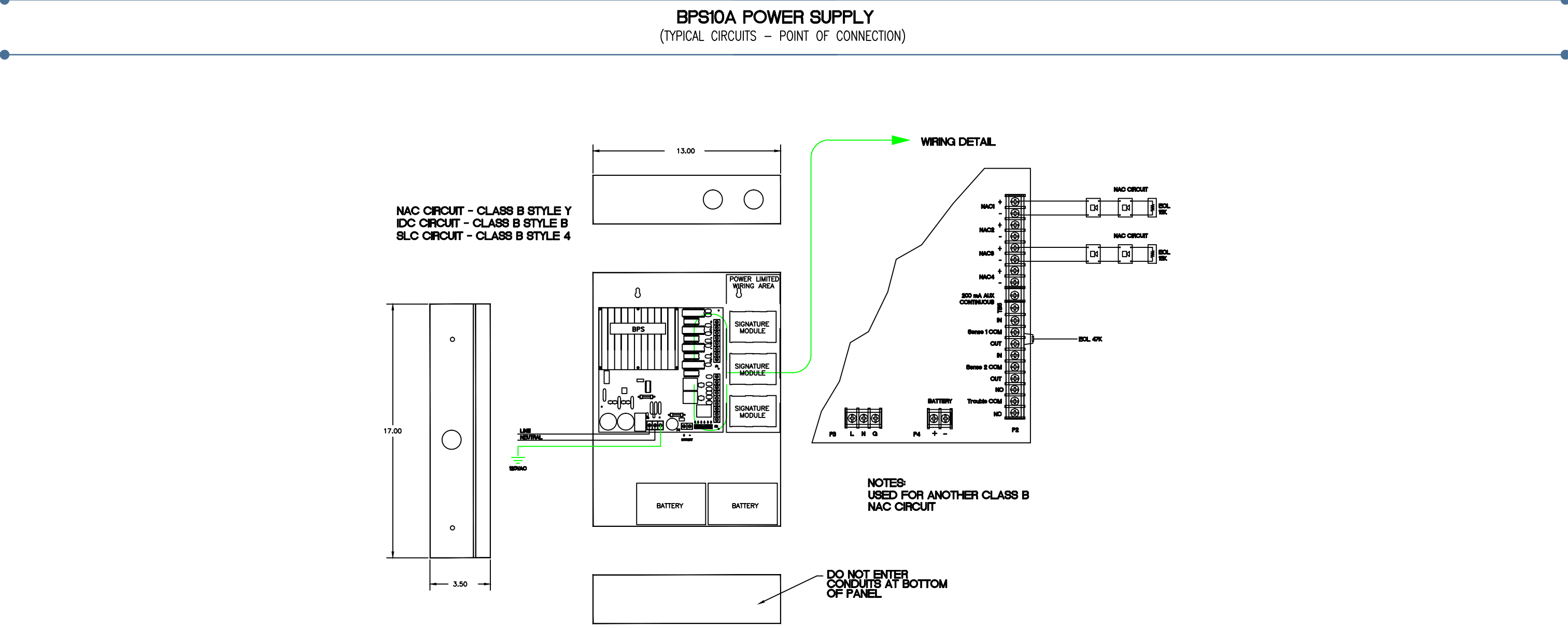
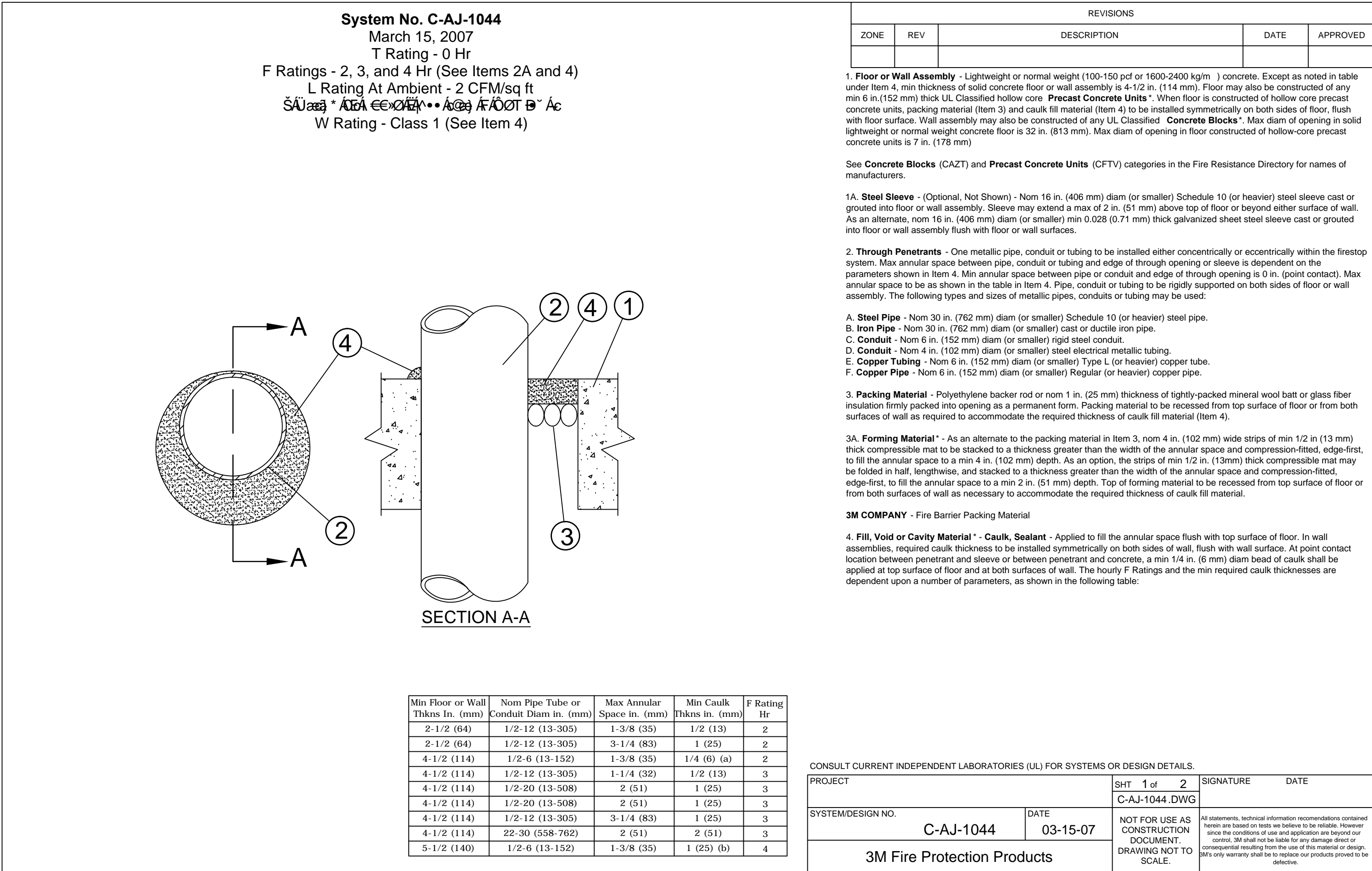
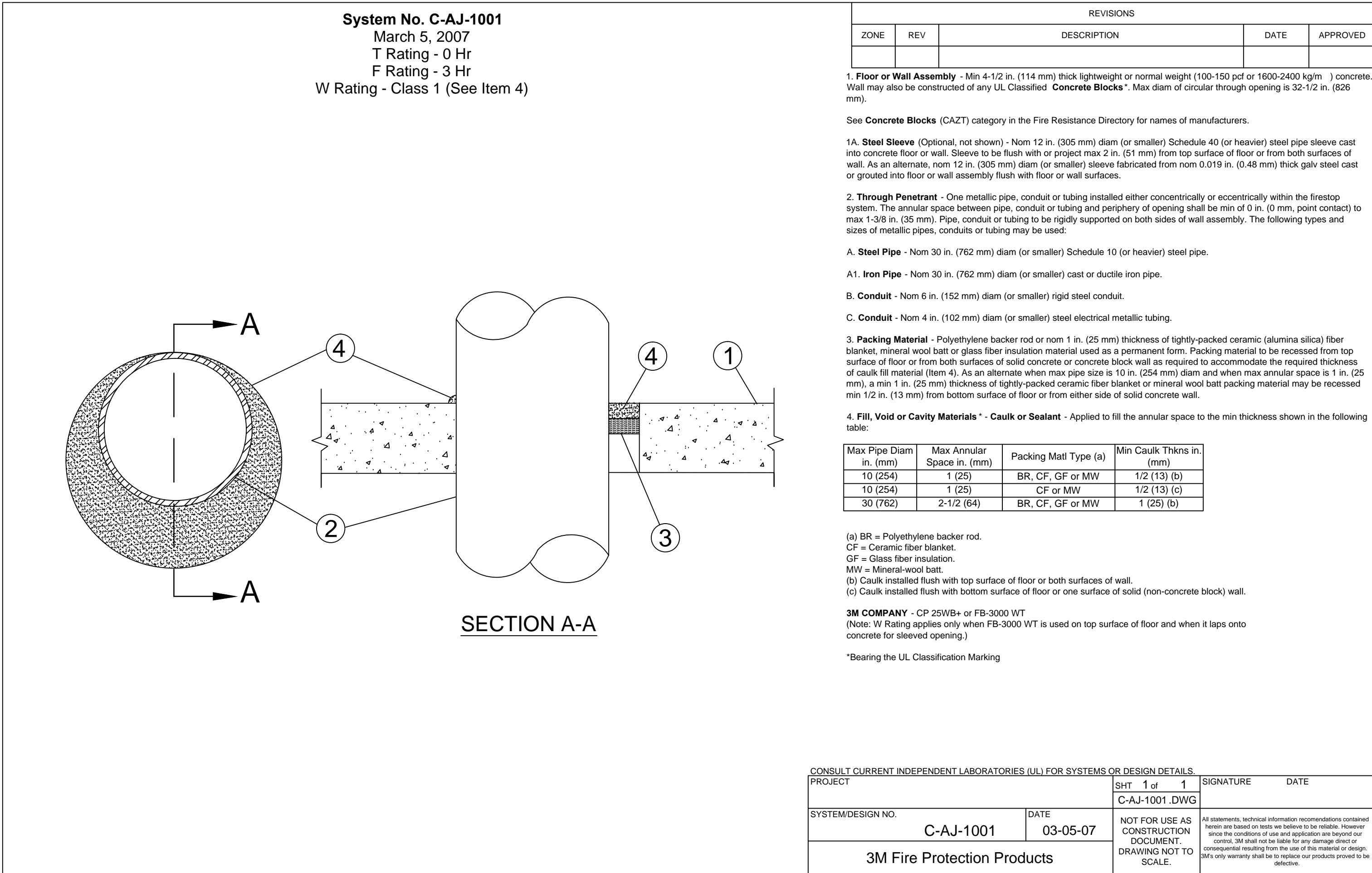
CIRCUIT ND.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP V	%
REMOTE POWER SUPPLY - VB.6						
AB.6-1	24	552 mA	1079'	12	2.39 V	8.87%
AB.6-2	19	437 mA	791'	12	1.39 V	5.15%
AB.6-3	24	552 mA	518'	12	1.15 V	4.26%
VB.6-1	1,3,1	979 mA	920'	12	2.09 V	7.73%

CIRCUIT ND.#	# DEVICES	CURRENT mA	LENGTH FEET	WIRE AWG	VOLTAGE DROP V	%
REMOTE POWER SUPPLY - VB.6						
VB.7-1	4	915 mA	295'	12	1.09 V	4.02%
SPARE	0	0 mA	0'	12	0.00 V	0.00%
SPARE	0	0 mA	0'	12	0.00 V	0.00%
SPARE	0	0 mA	0'	12	0.00 V	0.00%

REMOTE (NAC) POWER SUPPLY (NEW)				
PROJECT NAME:		CHOC TOWER II		
PANEL NAME:		REMOTE POWER SUPPLY - V.5.2		
PANEL LOCATION:		LEVEL 5 - IS ROOM - 5.123		
DEVICE	QTY	CURRENT PER DEVICE	STANDBY	ALARM
For each device use this formula: This column x This column = Current per number of devices				
PAD-3 Distributed Power Module	1	Standby: 35 mA Alarm: 140 mA	35 mA	140 mA
(A)		PAD-3 Current	35 mA	140 mA
Auxiliary Devices Refer to device manual for current ratings				
	0	0 mA	0 mA	0 mA
	0	0 mA	0 mA	0 mA
	0	0 mA	0 mA	0 mA
*Magnetic Door Holder (DH1224FC1)	0	20 mA	0 mA	0 mA
(B)		Auxiliary Devices Current	0 mA	0 mA
Notification Appliances Refer to device manual for current ratings				
(A5.2-1)	12	23 mA		276 mA
(A5.2-2)	18	23 mA		414 mA
(A5.2-3)				0 mA
(A5.2-4)	7	25 mA		175 mA
(C)		Notification Appliances Current	0 mA	865 mA
(D) Total current ratings of all devices in system (Line A + Line B + Line C)			35 mA	1005 mA
(E) Total current rating converted to amperes (Line D x 0.001)			0.035 A	1.005 A
(F) Number of standby hours (24 or 60 for NFPA 72, Chapter 1, 1-5.5)			24 H	
(G) Multiply lines E and F			0.84 AH	
(H) Alarm sounding period in hours (For example: 5 minutes = 0.0833 hours)				0.0833 H
(I) Multiply lines E and H				0.08 AH
(J) Add lines G and I			0.92 AH	
(K) Multiply line J by 1.2 (20% extra insurance to meet desired performance)			1.11 AH	
(L) Batteries to be provided				(2) 12Volt 7Ah

REMOTE (NAC) POWER SUPPLY (NEW)				
PROJECT NAME:		CHOC TOWER II		
PANEL NAME:		REMOTE POWER SUPPLY - V.7.1		
PANEL LOCATION:		LEVEL 7 - IS ROOM - 7.121.01		
DEVICE	QTY	CURRENT PER DEVICE	STANDBY	ALARM
For each device use this formula: This column x This column = Current per number of devices				
PAD-3 Distributed Power Module	1	Standby: 35 mA Alarm: 140 mA	35 mA	140 mA
(A)		PAD-3 Current	35 mA	140 mA
Auxiliary Devices Refer to device manual for current ratings				
	0	0 mA	0 mA	0 mA
	0	0 mA	0 mA	0 mA
	0	0 mA	0 mA	0 mA
*Magnetic Door Holder (DH1224FC1)	0	20 mA	0 mA	0 mA
(B)		Auxiliary Devices Current	0 mA	0 mA
Notification Appliances Refer to device manual for current ratings				
(A6.1-1)	2	200 mA		400 mA
(A6.1-2)	2	268 mA		536 mA
(A6.1-3)				0 mA
(A6.1-4)	4	69 mA		276 mA
(C)		Notification Appliances Current	0 mA	1212 mA
(D) Total current ratings of all devices in system (Line A + Line B + Line C)			35 mA	1352 mA
(E) Total current rating converted to amperes (Line D x 0.001)			0.035 A	1.352 A
(F) Number of standby hours (24 or 60 for NFPA 72, Chapter 1, 1-5.5)			24 H	
(G) Multiply lines E and F			0.84 AH	
(H) Alarm sounding period in hours (For example: 5 minutes = 0.0833 hours)				0.0833 H
(I) Multiply lines E and H				0.11 AH
(J) Add lines G and I			0.95 AH	
(K) Multiply line J by 1.2 (20% extra insurance to meet desired performance)			1.14 AH	
(L) Batteries to be provided				(2) 12Volt 7Ah

REMOTE (NAC) POWER SUPPLY (NEW)				
PROJECT NAME:		CHOC TOWER II		
PANEL NAME:		REMOTE POWER SUPPLY - V.7.1		
PANEL LOCATION:		LEVEL 7 - IS ROOM - 7.121.01		
DEVICE	QTY	CURRENT PER DEVICE	STANDBY	ALARM
For each device use this formula: This column x This column = Current per number of devices				
PAD-3 Distributed Power Module	1	Standby: 35 mA Alarm: 140 mA	35 mA	140 mA
(A)		PAD-3 Current	35 mA	140 mA
Auxiliary Devices Refer to device manual for current ratings				
	0	0 mA	0 mA	0 mA
	0	0 mA	0 mA	0 mA
	0	0 mA	0 mA	0 mA
*Magnetic Door Holder (DH1224FC1)	0	20 mA	0 mA	0 mA
(B)		Auxiliary Devices Current	0 mA	0 mA
Notification Appliances Refer to device manual for current ratings				
(V7.1-1)	2	200 mA		400 mA
(V7.1-2)	2	268 mA		536 mA
(V7.1-3)				0 mA
(A7.1-4)	4	69 mA		276 mA
(C)		Notification Appliances Current	0 mA	1212 mA
(D) Total current ratings of all devices in system (Line A + Line B + Line C)			35 mA	1352 mA
(E) Total current rating converted to amperes (Line D x 0.001)			0.035 A	1.352 A
(F) Number of standby hours (24 or 60 for NFPA 72, Chapter 1, 1-5.5)			24 H	
(G) Multiply lines E and F			0.84 AH	
(H) Alarm sounding period in hours (For example: 5 minutes = 0.0833 hours)				0.0833 H
(I) Multiply lines E and H				0.11 AH
(J) Add lines G and I			0.95 AH	
(K) Multiply line J by 1.2 (20% extra insurance to meet desired performance)			1.14 AH	
(L) Batteries to be provided				(2) 12Volt 7Ah



SIEMENS

CALIFORNIA STATE CONTRACTORS
LICENSE NO.: #758796 - B/ C10/ C16/ C20

Siemens Building Technologies, Inc.
FIS FIRE/ LIFE SAFETY DIVISION
10775 Business Center Drive
Cypress, California 90630 USA
Phone: (714) 761-2200
Fax: (714) 220-4988

This drawing and the information and design application herein contained is the property of SIEMENS BUILDING TECHNOLOGIES, Inc. and is loaned upon the express condition that the same be returned to SIEMENS BUILDING TECHNOLOGIES, Inc. upon request; all information herein contained shall be treated as secret and confidential; no reproduction of this drawing or part thereof shall be made without the written consent of SIEMENS BUILDING TECHNOLOGIES, Incorporated.

BUILDING ELECTRONIC CONTROLS, INC.
2246 Lindsay Way
Glendora, CA 91740
PHONE: (909) 305-1600
FAX #: (909) 305-1604
LICENSE NO.: 729905
CLASSIFICATION [S]: C-7, C10
EXPIRATION DATE: 11/30/2012
RICHARD TAYLOR

NOTES:

MCCARTHY APPROVAL

A. Approved as noted for Architectural Review ☐

B. Review and Rebuild ☐

C. Rebuild ☐

This review is for general conformance with Plans and Specifications only. Any deviations from same will be noted on the plan. The reviewer will not be responsible for the design or construction of the project. The reviewer will not be responsible for the design or construction of the project. The reviewer will not be responsible for the design or construction of the project.

McCarthy

By: _____ Date: _____
SHOP DRAWING REFERENCE NO.

☐ MXL ☐ VOICE ☐ XL3 ☐ SYSTEM3

☒ XLS ☐ FS-250 ☐ EST3 ☐ OTHER

OSHDP NO. #: IL-072072-30

Rev	No.	Date	Remarks	Initial
07/20/12	DESIGN REVISION			
11/21/11	DESIGN REVISION			
07/23/11	DESIGN REVISION			
05/02/11	REVISION THE DEPARTMENT CORRECT LINS			
11/30/10	DESIGN REVISION			LF
07/30/10	DESIGN REVISION			
11/05/09	BACKGROUND REVISIONS			PM

Drawn: H-JEANG
Checked: -
Approved: -
Date: 07.30.09
Scale: N.T.S.

Job Number: 440P-056306

Project: CHILDRENS HOSPITAL OF ORANGE COUNTY - TOWER II
455 SOUTH MAIN STREET
ORANGE, CALIFORNIA 92868-3874

Drawing Number: EFO.17A