FIRE ALARM SYSTEM FOR

COLLEGE OF SAN MATEO 5NDBPROJECT

3401 CSM Drive San Mateo, CA 94402

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SCOPE OF WORK

1. THIS PROJECT CONSISTS OF PROVIDING A MANUAL AND AUTOMATIC, ADA-COMPLIANT, GENERAL ALARM NOTIFICATION FIRE ALARM SYSTEM AS INDICATED HEREIN. MANUAL ACTIVATION CONSISTS OF PULL STATIONS AT ALL REQUIRED BUILDING EXITS. AUTOMATIC ACTIVATION CONSISTS OF MONITORING ALL REQUIRED SPRINKLER CONNECTIONS, ELEVATOR RECALL, ELEVATOR ALTERNATE RECALL AND SHUNT TRIP FUNCTIONS, AND AHU, FSD AND CONTROL NOTIFICATION CONSISTS OF HORNS AND STROBES, LOCATED IN ALL COMMON AREAS. THE DESIGN IS CONSISTENT WITH THE CAMPUS FIRE ALARM SYSTEM

2. PROVISION OF EQUIPMENT OR DEVICES AS ENUMERATED IN THE FIRE ALARM EQUIPMENT LIST.

3. INSPECTION & TESTING FOR A COMPLETE AND OPERATIONAL FIRE ALARM

CODE SUMMARY

APPLICABLE CODES:

CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)

(2006 UMC AND 2007 CALIFORNIA AMENDMENTS)

- 2007 CALIFORNIA BUILDING CODE PART 2, TITLE 24, CCR
- (2006 IBC AND 2007 CALIFORNIA AMENDMENTS)
- CALIFORNIA ELECTRICAL CODE PART 3, TITLE 24, CCR
- (2005 NEC AND 2007 CALIFORNIA AMENDMENTS) CALIFORNIA MECHANICAL CODE PART 4, TITLE 24, CCR
- 2007 CALIFORNIA PUMBING CODE PART 5, TITLE 24, CCR
- (2006 UPC AND 2007 CALIFORNIA AMENDMENTS)
- CALIFORNIA FIRE CODE PART 9, TITLE 24, CCR
- (2006 IFC AND 2007 CALIFORNIA AMENDMENTS)
- 2002 NFPA 72 NATIONAL FIRE ALARM CODE AND ALL AMENDMENTS IN ADDITIONS TO THE ABOVE

GENERAL NOTES

- 1. ALL WIRING AND INSTALLATION MUST CONFORM WITH PROJECT SPECIFICATIONS, APPLICABLE CODE SUMMARIES AND REQUIREMENTS ADOPTED BY THE CITY.
- 2. SMOKE DETECTORS SHOULD NOT BE LOCATED IN A DIRECT AIRFLOW NOR CLOSER THAN 3 FEET (1 m) FROM AN AIR SUPPLY DIFFUSER OR RETURN AIR OPENING. PER NFPA 72 (CHAPTER A-5.7.4.1)
- 3. ALL SMOKE DETECTORS AND INITIATING DEVICES SHALL BE INSTALLED AS FAR AWAY AS POSSIBLE FROM FLORESCENT BALLAST (LIGHTING FIXTURES).
- 4. WHEN INSTALLING INITIATING AND NOTIFICATION DEVICES, POLARITY MUST BE OBSERVED.
- 5. ALL NOTIFICATION CIRCUIT WIRES MUST BE SUPERVISED. HENCE, NO PARALLEL BRANCHING OF WIRES IS PERMISSIBLE (T-TAPPING). ALL AUDIBLE SIGNALING DEVICES SHALL PRODUCE A DISTINCTIVE THREE-PULSE TEMPORAL TONE, AUDIBLE SIGNALS SHALL HAVE A SOUND LEVEL OF NOT LESS THAN 75dbA AT 10' OR AT LEAST 15dbA ABOVE THE AVERAGE AMBIENT SOUND LEVEL, WHICHEVER IS GREATER, BUT NOT MORE THAN 120dbA AT THE MINIMUM HEARING DISTANCE FROM THE AUDIBLE APPLIANCE (PER NFPA 72 CH. 7, 2002 ED.) WHEN MORE THAN TWO (2) VISUAL DEVICES ARE IN THE SAME VIEWING PLANE THE VISUAL DEVICES SHALL BE SYNCHRONIZED AS REQUIRED BY NFPA 72 CHAPTER 7 2002 EDITION.
- 6. DO NOT INSTALL ADDRESSABLE DEVICES PRIOR TO PROGRAMMING. (SEE NOTE 15)
- 7. ALL 24 VDC WIRE TO BE INSTALLED IN DEDICATED CONDUIT SEPARATE FROM 120 VAC WIRING, IN ACCORDANCE WITH CURRENT NATIONAL AND STATE ELECTRICAL CODES.
- 8. CONDUIT SIZING TO BE DETERMINED BY THE ELECTRICAL CONTRACTOR AND SHALL CONFORM TO CONDUIT FILL CAPACITIES AS PER REQUIREMENTS OF CURRENT EDITIONS OF NATIONAL AND STATE ELECTRICAL CODES.
- 9. DO NOT APPLY 120 VAC POWER TO CONTROL PANEL UNTIL A SIEMENS FIRE SAFETY SERVICE TECHNICIAN HAS INSPECTED ALL SYSTEM WIRING CONNECTIONS AND HAS APPROVED THE SYSTEM TO BE TURNED ON.
- 10. ALL PLUG-IN TYPE DETECTORS REQUIRE A 4" OCTAGONAL, 1-1/2" OR DEEPER MOUNTING BOX. REFER TO DETAIL DRAWINGS FOR DEVICE WIRING AND MOUNTING CONDITIONS.
- 11. 120 VAC INPUT CONNECTIONS TO THE FIRE ALARM CONTROL PANEL SHALL BE ON DEDICATED BRANCH CIRCUIT(S). THE CIRCUIT(S) AND CONNECTIONS SHALL BE MECHANICALLY PROTECTED. CIRCUIT DISCONNECTION SHALL HAVE A RED MARKING. SHALL BE ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL AND SHALL BE IDENTIFIED AS FIRE ALARM CIRCUIT CONTROL. THE LOCATION OF THE CIRCUIT DISCONNECTING BREAKER SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL UNIT.
- 12. INSTALLATION MATERIALS SUCH AS CONDUITS, FITTINGS, JUNCTION BOXES, TERMINAL CABINETS, PULL BOXES, HANGERS, ETC. ARE SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. ALL WIRING IS TO BE FROM DEVICE TERMINAL TO DEVICE TERMINAL SPLICES AND WIRE NUTS ARE NOT ACCEPTABLE.
- 13. ANY DEVIATION FROM THE DESIGN AND LOCATION OF EQUIPMENT SHOWN MUST FIRST HAVE A WRITTEN APPROVAL FROM SIEMENS FIRE SAFETY. ANY DEVIATION FROM DESIGN MUST ALSO BE INDICATED ON SIEMENS FIRE SAFETY SHOP DRAWINGS (BLUEPRINTS) AND RETURNED TO SIEMENS FIRE SAFETY AT TIME OF JOB COMPLETION.
- 14. THE DRAWINGS REPRESENT A SIEMENS FIRE SAFETY ENGINEERED FIRE ALARM SYSTEM PER CONTRACTUAL DESIGN DRAWINGS AND SPECIFICATIONS.
- a) CONTRACTOR SHALL NOT DEVIATE BY NOT MORE THAN 5% FROM THE FINAL APPROVED SHOP
- b) WIRE RUNS HAVE BEEN ENGINEERED TO COMPLY WITH SPECIFIC VOLTAGE DROP REQUIREMENTS. ANY DEVIATION FROM SHOWN WIRE RUNS WHICH RESULTS IN NONCOMPLIANCE WITH VOLTAGE DROP REQUIREMENTS SHALL BE THE SOLE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
- c) THESE SUBMITTED SHOP DRAWINGS ARE COMPLETE. SIEMENS FIRE SAFETY SHALL NOT BEAR ANY ADDITIONAL COSTS OF RE-ENGINEERING RECORD DRAWINGS (AS-BUILTS).
- 15. ALL SMOKE DETECTORS (NEW OR EXISTING) SHALL BE PROTECTED FROM DUST AND DEBRIS DURING CONSTRUCTION. SMOKE-SENSING DETECTORS SHALL NOT BE INSTALLED UNTIL AFTER THE CONSTRUCTION CLEANUP OF ALL TRADES IS COMPLETE AND FINAL. PER NFPA 72 (5.7.1.11) 2002 EDITION. Exception: WHERE REQUIRED BY THE AUTHORITY HAVING JURISDICTION FOR PROTECTION DURING CONSTRUCTION. DETECTORS THAT HAVE BEEN INSTALLED DURING CONSTRUCTION AND FOUND TO HAVE A SENSITIVITY OUTSIDE THE LISTED AND MARKED SENSITIVITY RANGE SHALL BE CLEANED OR REPLACED AT AN ADDITIONAL COST TO THE CONTRACTOR.
- 16. IF REQUIRED BY THE OWNER OR CONTRACT, LABELING OF FIELD DEVICES SHALL BE SUPPLIED BY THE INSTALLING CONTRACTOR.
- 17. ACCEPTANCE TESTING SHALL COMPLY WITH NFPA 72: 10.4.1.2.1.4 AND SHALL INCORPORATE 100% OF ALL DEVICES AFFECTED BY THIS MODIFICATION AS WELL AS 10% OF INITIATING DEVICES NOT DIRECTLY AFFECTED UP TO A MAXIMUM OF 50 DEVICES.

MXL FIRE ALARM WIRING GUIDELINES

- 1. ALL WIRING MUST COMPLY WITH LOCAL AND CALIFORNIA ELECTRICAL CODES. ALL WIRING MUST BE DONE AS DESCRIBED IN NOTES 2 & 6 BELOW, TO OBTAIN SAFE AND PROPER SYSTEM OPERATION.
- 2. EARTH GROUND THE MXL ENCLOSURE PROPERLY; SEE LATEST EDITION OF NATIONAL ELECTRICAL CODES FOR APPROVED METHODS. CONDUIT GROUND IS NOT ADEQUATE.
- 3. SEPARATE ALL WIRING FOR INITIATING DEVICES (i.e., DETECTORS, MANUAL STATIONS, TRI MODULES, ETC) FROM ALL OTHER WIRING IN THE MXL ENCLOSURE.
- 4. INSULATE ALL CABLE DRAIN WIRES FROM ANY CONDUIT OR OTHER EARTH GROUNDED ELECTRICAL BOX, INCLUDING THOSE IN THE MXL ENCLOSURE.
- 5. CONNECT SHIELD CABLE WIRE ONLY AT SPECIFIED LOCATION INSIDE THE MXL ENCLOSURE.
- 6. EARTH GROUND ALL CONDUIT RUNS THROUGHOUT THE INSTALLATON.
- 7. LINE RESISTANCE IS MEASURED AT THE ALD-21 MODULE SCREW TERMINALS. THE END OF THE LOOP MUST BE SHORTED, THE ALD-21 MODULE MUST BE REMOVED FROM THE SCREW TERMINALS, AND NO ADDRESSABLE DEVICES MAY BE INSTALLED.
- 8. LINE CAPACITANCE IS MEASURED AT THE ALD-21 MODULE SCREW TERMINALS THE END OF THE LOOP(S) MUST BE OPEN. THE ALD-21 MODULE MUST BE REMOVED FROM THE SCREW TERMINALS AND NO ADDRESSABLE DEVICES MAY BE INSTALLED.
- 9. ALL 110/120 VAC CIRCUITS SHOULD BE INSTALLED IN DEDICATED CONDUIT.
- 10. ALL INITIATING CIRCUITS ARE RATED POWER LIMITED AND SHOULD BE WIRED IN ACCORDANCE WITH APPLICABLE CODES.
- 11. UNDERGROUND WIRING IS PERMISSIBLE IF ALL NEC WIRING REQUIREMENTS ARE MET.
- 12. OVERHEAD OR EXTERIOR WIRING IS NOT RECOMMENDED.

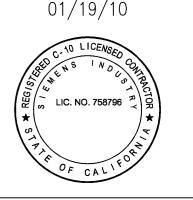
			N	IEW FII	RE ALARM EQUIPME	NT LIST	-	
CATE- GORY	ITEM NO.	SYMBOL	QTY	MODEL NUMBER	DESCRIPTION	MANUFACTURER	DATA SHEET NUMBER	CALIFORNIA STAT FIRE MARSHAL LISTING NUMBER
	1		1	MME-KIT	MME-KIT (SMALL ENCLOSURE) CONSISTS OF:	SIEMENS	5056	
	2				1 MBR-MP MODULE MOUNTING PLATE	SIEMENS	5056	7300-0067:17
	3		1	MDL-1	1 MME-3 ENCLOSURE / DOOR PACKAGE CLEAR PLEXIGLAS LENS	SIEMENS	5056 5056	7300-0067:17
	5		1	MDB-1	SHEET METAL BLANK PLATE	SIEMENS	5056	
	6		1	MHD-1	DEAD FRONT PANEL	SIEMENS	5056	7300-0067:1
PANEL	7		1	MHD-2	DEAD FRONT PANEL	SIEMENS	5056	7300-0067:1
CONTROL P.	8	FACP	1	MKB-3	MXL DISPLAY/KEYBOARD	SIEMENS	5026	7165-0067:1
M CONT	9		1	MMB-3	MXL MAIN CONTROL BOARD	SIEMENS	5079	7165-0067:1
E ALARM	10		1	MOM-4	OPTION MODULE CARD CAGE	SIEMENS	5004	7300-0067:1
MXL FIRE	11		1	ALD-2I NIM-1W	ANALOG LOOP DRIVER MODULE NETWORK INTERFACE MODULE	SIEMENS SIEMENS	5036 5072	7300-0067:1 7300-0067:1
Ñ ,	13		1	MPS-12	POWER SUPPLY w/TRANSFORMER, 12 AMPS	SIEMENS	5000	7165-0067:1
	14		1	CP2341	SURGE SUPPRESSOR	SIEMENS		7300-0067:1
	15		2	WKA12-33J	35 AMP/HOUR BATTERIES (12 VDC)	WERKER		Not Applicabl
	16		1	PLM-35	POWER LIMITING MODULE	SIEMENS	3182	7165-0067:0
	17							
	18	ANN	1	RCC-1F	FIRE COMMAND CENTER/ANNUNCIATOR (FLUSH MOUNT)	SIEMENS	5039	7300-0067:15
POWER SUPPLY	19	BPS	4	PS-24-8MC	NAC EXTENDER PANEL	WHEELOCK		7315-0785:16
	21	TRI-D	8 4	WKA12-7.5F TRI-D	SLA 12V 7.5AH F1-TERM WERKER INTERFACE MODULE, DUAL INPUT	WERKER SIEMENS	6179	Not Applicable 7300-0067:14
	22	TRI-S	1	TRI-S	INTERFACE MODULE, SINGLE INPUT	SIEMENS	6179	7300-0067:14
	23	TRI-M	1	TRI-B6M	INTERFACE MODULE, SINGLE INPUT (MINIATURE)	SIEMENS	6170	7300-0067:1
	24	TRI-R	17	TRI-R	INTERFACE MODULE, SINGLE INPUT w/RELAY	SIEMENS	6179	7300-0067:1
	25	Р	16	MSI-10B	INTELLIGENT MANUAL PULL STATION (SINGLE ACTION)	SIEMENS	6187	7150-0067:0
	26	②	18	FP-11	INTELLIGENT PHOTOELECTRIC SMOKE DETECTOR	SIEMENS	6175	7272-0067:2
	27		18	DB-11	DETECTOR BASE FOR FP-11 DETECTOR	SIEMENS	6175	7300-0067:1
	28	② _{RB}	6	FP-11	INTELLIGENT PHOTOELECTRIC SMOKE DETECTOR	SIEMENS	6175	7272-0067:2
	29	KB		DB-X11RS	DETECTOR BASE w/ RELAY FOR FP-11 DETECTOR	SIEMENS	6175	7300-0067:1
	30	•	2	FPT-11 DB-11	DETECTOR BASE FOR FPT-11 DETECTOR	SIEMENS	6176 6176	7270-0067:2 7300-0067:1
	31		41	FP-11	INTELLIGENT DUCT SMOKE DETECTOR	SIEMENS	6175	7272-0067:2
	33		41	AD2-XHR	DUCT DETECTOR HOUSING & RELAY	SIEMENS	6185	3240-0067:2
	34		11	ST-10	DUCT DETECTOR SAMPLING TUBE	SIEMENS	6185	Not Applicab
	35	, ,	16	ST-25	DUCT DETECTOR SAMPLING TUBE	SIEMENS	6185	Not Applicab
	36		14	ST-50	DUCT DETECTOR SAMPLING TUBE	SIEMENS	6185	Not Applicab
	37		4	ILP-1	INTELLIGENT PHOTOELECTRIC DETECTOR	SIEMENS	6164	7272-0067:1
	38	, ,	4	AD-3ILP	DUCT DETECTOR HOUSING	SIEMENS	6124	3240-0067:1
	39	ILP ILP	4	DA-X3SR	DUCT RELAY MODULE	SIEMENS	6124	Not Applicab
rs	40		4	STA-6 EAD-3	DUCT DETECTOR SAMPLING TUBE DUCT DETECTOR SAMPLING TUBE	SIEMENS SIEMENS	6124 6124	Not Applicab
PERIPHERALS	41) 15cd	*	LAD-3	MULTI CANDELA STROBE, 15cd (Red) Wall Mtd.	WHEELOCK	0124	Not Applicab 7125-0785:1
	43	∑30cd			MULTI CANDELA STROBE, 30cd (Red) Wall Mtd.	WHEELOCK		7125 0705.1
SYSTEM	44	75cd	85	RSS-24MCW-FR	MULTI CANDELA STROBE, 75cd (Red) Wall Mtd.	WHEELOCK		7125-0785:1
CES &	45)110cd			MULTI CANDELA STROBE, 110cd (Red) Wall Mtd.	WHEELOCK		7125-0785:1
D DEVICES	46	∑ 15cd C			MULTI CANDELA STROBE, 15CD (Red) Ceiling Mtd.	WHEELOCK		7125-0785:1
FIELD	47	∑ 30cd	20	RSS-24MCC-FR	MULTI CANDELA STROBE, 30CD (Red) Ceiling Mtd.	WHEELOCK		7125-0785:1
	48	75cd C	20	N33-24MCC-11	MULTI CANDELA STROBE, 75CD (Red) Ceiling Mtd.	WHEELOCK		7125-0785:1
	49) 95cd			MULTI CANDELA STROBE, 95CD (Red) Ceiling Mtd.	WHEELOCK		7125-0785:1
	50				MULTI CAMPELA HODA (CTRODE, 4500 (D. I) WILLIAM	WILLIAM		7405 0705
	51 52	∑ 30cd			MULTI CANDELA HORN/STROBE, 15CD (Red) Wall Mtd. MULTI CANDELA HORN/STROBE, 30CD (Red) Wall Mtd	WHEELOCK		7125-0785:1
	53		31	NS-24MCW-FR	MULTI CANDELA HORN/STROBE, 75CD (Red) Wall Mtd	WHEELOCK		7125-0785:
	54				MULTI CANDELA HORN/STROBE, 110CD (Red) Wall Mtd.	WHEELOCK		7125-0785:
	55							
	56	∇			MULTI CANDELA HORN/STROBE, 15CD (Red) Ceiling Mtd.	WHEELOCK		7125-0785:
	57	∑ 30cd C	1	NS-24MCC-FR	MULTI CANDELA HORN/STROBE, 30CD (Red) Ceiling Mtd.	WHEELOCK		7125-0785:
	58	∇			MULTI CANDELA HORN/STROBE, 75CD (Red) Ceiling Mtd.	WHEELOCK		7125-0785:
	59	∑ 110cd C			MULTI CANDELA HORN/STROBE, 110CD (Red) Ceiling Mtd.	WHEELOCK		7125-0785:
	60 61		4	DCCWD 2475W FD	WEATHERPROOF STROBE, 75cd (Red) Wall Mtd.	WHEELOCK		7125-0785:1
	62	75cd WP	4	RSSWP-2475W-FR WPSBB-R	WEATHERPROOF BACKBOX	WHEELOCK		
	63	X - 2 -	1	RSSWP-2475C-FR	WEATHERPROOF STROBE, 75cd (Red) Ceiling Mtd.	WHEELOCK		7125-0785:1
	64	C 75cd WP	1	WPSBB-R	WEATHERPROOF BACKBOX	WHEELOCK		
	65	▽ 75cd ※ WP	1	ASWP-2475W-FR	WEATHERPROOF HORN/STROBE, 75cd (Red) Wall Mtd.	WHEELOCK		7125-0785:1
	66		1	WPBB-R	WEATHERPROOF BACKBOX	WHEELOCK		
	67	<u> </u>	14	FM-998 TRI-VOLT	TRI-VOLT MAGNETIC DOOR HOLDER, 120VAC	RIXSON		3550-0047:0
	68							
	69 70							
15	70 71	J	_	BY OTHERS	JUNCTION BOX (PROVIDED BY ELECTRICAL CONTRACTOR)	PROVIDED BY OTHERS		
SYMBOLS	71	 ○	_	BY OTHERS	WATERFLOW SWITCH	PROVIDED BY OTHERS		
	73	<u> </u>	_	BY OTHERS	TAMPER SWITCH	PROVIDED BY OTHERS		
MISCELLANEOUS	74	<u> </u>	_	BY OTHERS	END-OF-LINE DEVICE (VALUE AS SPECIFIED)	PROVIDED BY OTHERS		
بب	75	PIV	_	BY OTHERS	POST INDICATOR VALVE SWITCH	PROVIDED BY OTHERS		



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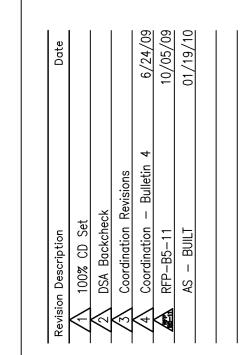
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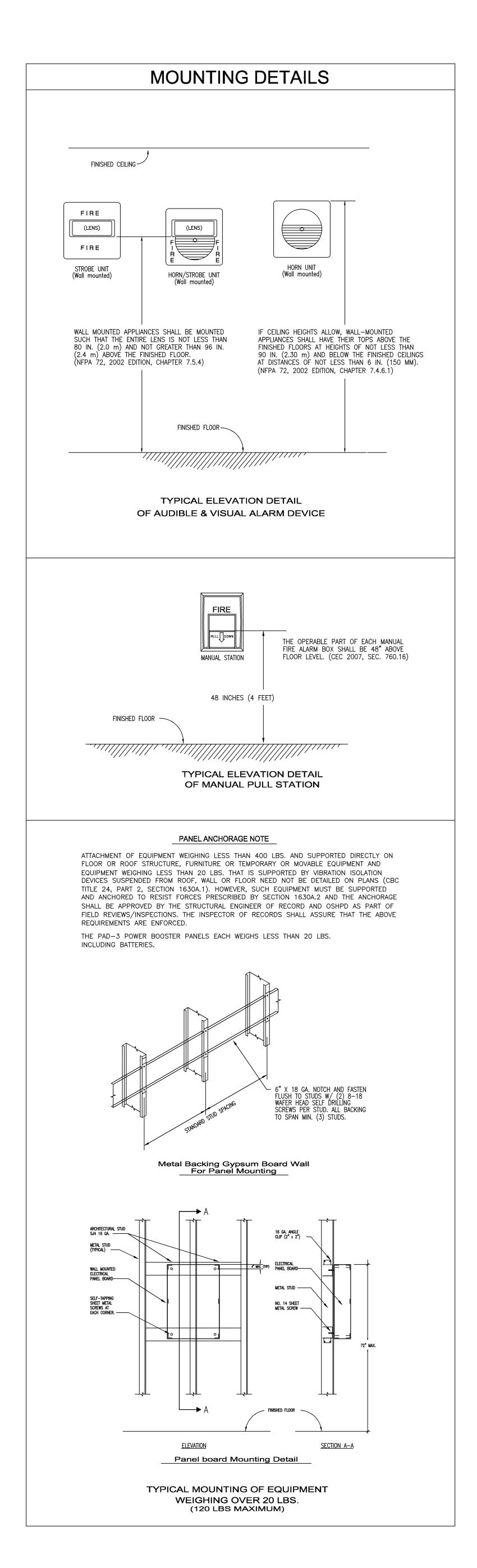
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Not Applicable DRAWING INDEX/MISC. NOTES/ EQUIPMENT LIST



THROUGH-PENETRATION FIRESTOP SYSTEM DETAILS SYSTEM NO. CAJ1027 (FORMERLY SYSTEM NO. 202) F RATING - 3 HOUR T RATING - 0 HOUR 1. FLOOR OR WALL ASSEMBLY - MIN 4-1/2 IN. THICK LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS. MAX THROUGH OPENING SIZE SEE CONCRETE BLOCKS (CAZT) CATEGORY IN FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS. 2. PIPE OR CONDUIT - NOM. 10 IN. DIA. (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE, NOM 6 IN. DIA. (OR SMALLER) RIGID STEEL CONDUIT, NOM 4 IN. DIA. (OR SMALLER) STEEL EMT OR NOM 3 IN. DIA. (OR SMALLER). TYPE L (OR HEAVIER) COPPER PIPE. MAX ONE PIPE OR CONDUIT PER THROUGH OPENING. MAX ANNULAR SPACE BETWEEN PIPE OR CONDUIT AND EDGE OF OPENING IS 3/4 IN. MIN ANNULAR SPACE BETWEEN PIPE OR CONDUIT AND EDGE OF OPENING IS 0 IN. (POINT CONTACT). PIIPE OR CONDUIT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. 3. FILL VOID OR CAVITY MATERIALS - PUTTY-MOLDABLE PUTTY MATERIAL KNEADED BY HAND AND APPLIED TO FILL ANNULAR SPACE TO A MIN DEPTH OF 1 IN FLUSH WITH TOP SURFACE OF FLOOR. IN WALL ASSEMBLIES, REQUIRED PUTTY THICKNESS TO BE INSTALLED SYMMETRICALLY ON BOTH SIDES OF WALL. MINNESOTA MINING & MFG. CO.- MPS-2+. *BEARING THE CLASSIFICATION MARKING. SYSTEM NO. CAJ1044 (FORMERLY SYSTEM NO 319) T RATING - 0 HR L RATING AT AMBIENT - 2 CFM/SQ FT (SEE ITEM 4) L RATING AT 400 F - LESS THAN 1 CFM/SQ FT (SEE ITEM 4) SECTION A-A 1. FLOOR WALL ASSEMBLY-LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. EXCEPT AS NOTED IN TABLE UNDER ITEM 4, MIN THICKNESS OF SOLID CONCRETE FLOOR OR WALL ASSEMBLY IS 4-1/2 IN. FLOOR MAY ALSO BE CONSTRUCTED OF ANY MIN 6 IN. THICK UL CLASSIFIED HOLLOW-CORE. PRECOAT CONCRETE UNITS. WHEN FLOOR IS CONSTRUCTED OF HOLLOW-CORE PRECOAT CONCRETE UNITS, PACKING MATERIALS (ITEM 3) AND CAULK FILL MATERIAL (ITEM 4) TO BE INSTALLED SYMMETRICALLY ON BOTH SIDES OF THE FLOOR, FLUSH WITH FLOOR SURFACE. WALL ASSEMBLY MAY ALSO BE CONSTRUCTED OF CONCRETE BLOCKS. MAX DIA. OF OPENING IS 32 II SEE CONCRETE BLOCKS (CAZT) AND PRECAST CONCRETE UNITS (CFTV) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURER 1A. STEEL SLEEVE - (OPTIONAL NOT SHOWN) NOM 16 IN. (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL SLEEVE CAST OR GROUTED INTO FLOOR OR WALL ASSEMBLY. SLEEVE MAY EXTEND A MAX OF 2 IN. ABOVE TOP FLOOR OR BEYOND EITHER SURFACE OF WALL. 2. PIPE OR CONDUIT - NOM 30 IN.DIA. (OR SMALLER) CAST IRON OR SCHEDULE 10 (OR HEAVIER) STEEL PIPE, NOM 6 IN. DIA. (OR SMALLER) STEEL CONDUIT, NOM 3 IN. DIA. (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBE OR NOM 4 IN. DIA. (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING. MAX ANNULAR SPACE BETWEEN PIPE OR CONDUIT AND EDGE OF THROUGH OPENING NOT TO EXCEED 2 IM. MIN ANNULAR SPACE BETWEEN PIPE OR CONDUIT AND EDGE OF THROUGH OPENING IS 0 IN. (POINT CONTACT). PIPE OR CONDUIT TO BE RIGIDLY SUPPORTED ON BOTH SIDE OF FLOOR OR WALL ASSEMBLY. 3. PACKING MATERIAL - POLYETHYLENE BACKER ROD OR NOM 1 IN. THICKNESS OF THIGHTLY-PACKRD MINERAL WOOL BATT OR GLASS FIBER INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OF FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF CAULK FILL MATERIAL (ITEM 4). 4. FILL, VOID OR CAVITY MATERIAL - CAULK - APPLIED TO FILL THE ANNULAR SPACE FLUSH WITH TOP SURFACE OF FLOOR. IN WALL ASSEMBLIES, REQUIRED CAULK THICKNESS TO BE INSTALLED SYMMETRICALLY ON BOTH SIDES OF WALL, FLUSH WITH WALL SURFACE. THE HOURLY F RATING AND THE MIN REQUIRED CAULK THICKNESS ARE DEPENDENT UPON A NUMBER OF PARAMETERS, AS SHOWN ON THE FOLLOWING TABLE. TUBE OR CONDUIT ANNULAR THHNS, IN SPACE, IN THHNS, IN RATING, HR (a) MIN 2 IN THICKNESS OF MINERAL-WOOL BATT INSULATION REQUIRED IN ANNULAR SPACE. (b) MIN 1 IN. THICKNESS OF MINERAL-WOOL BATT INSULATION REQUIRED IN ANNULAR SPACE ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. MIN 1IN. THICKNESS OF CAULK TO BE INSTALLED FLUSH WITH EACH SURFACE FLOOR OR WALL ASSEMBLY MINNESOTA MINING & MANUFACTURING CO - TYPES CP-25 WB, CP-25 WB+. (NOTE: L RATING AND OR USE OF OPTIONAL SLEEVE APPLY ONLY WHEN TYPE CP-25WB + CAULK IS USED). SYSTEM NO. WL1001 (FORMERLY SYSTEM NO 147) F RATING - 1 & 2 HOURS T RATING - 0, 1, 1-1/2 & 2 HOURS SECTION A-A 1. WALL ASSEMBLY - THE 1,2,3, OR 4 HR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL OR PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES: A. STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS (MAX 2 HR FIRE RATED ASSEMBLIES) OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. LUMBER SPACED 16 IN. O.C. WITH NOM 2 BY 4 IN. LUMBER END PLATES AND CROSS BRACES. STEEL STUDS TO BE MIN 3-5/8 IN. WIDE BY 1-3/8 IN. DEEP CHANNELS SPACED MAX 24 O.C. B. WALLBOARD GYPSUM * - NOM 1/2 OR 5/8 IN. THICK, 4 FT. WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE. THICKNESS, NUMBER OF LAYERS FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM OF OPENING IS 13-1/2 IN. 2. PIPE OR CONDUIT - NOM 12 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE, NOM 12 IN. DIAM (OR SMALLER) SERVICE WEIGHT (OR HEAVIER) CAST IRON SOIL PIPE, NOM 12 IN. DIAM (OR SMALLER) CLASS 50 (OR HEAVIER) DUCTILE IRON PRESSURE PIPE, NOM 6 IN. DIAM (OR SMALLER) STEEL CONDUIT, NOM 4 IN. DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR TYPE L (OR HEAVIER) COPPER TUBING OR NOM 1 IN. DIAM (OR SMALLER) FLEXIBLE STEEL CONDUIT. WHEN COPPER PIPE OR FLEXIBLE STEEL CONDUIT IS USED, MAX F RATING OF FIRESTOP SYSTEM (ITEM 3) IS 2 H. STEEL PIPES OR CONDUITS LARGER THAN NOM 4 IN. DIAM MAY ONLY BE USED IN WALLS CONSTRUCTED USING STEEL CHANNEL STUDS A MAX OF ONE PIPE OR CONDUIT IS PERMITTED IN THE FIRESTOP SYSTEM PIPE OR CONDUIT TO BE INSTALLED NEAR CENTER OF STUD CAVITY WIDTH AND TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. 3. FILL, VOID OR CAVITY MATERIAL * - CAULK - CAULK FILL MATERIAL INSTALLED TO COMPLETELY FILL ANNULIAR SPACE BETWEEN PIPE OR CONDUIT AND GYPSLIM WALLBOARD AND WITH A MIN 1/4 IN DIAM BEAD OF CAULK APPLIED TO PERIMETER OF PIPE OR CONDUIT AT ITS EGRESS FROM THE WALL. CAULK INSTALLED SYMMETRICALLY ON BOTH SIDES OF WALL ASSEMBLY. THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE HOURLY FIRE RATING

OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS SHOWN IN THE FOLLOWING TABLE. THE HOURLY TRATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE TYPE OR SIZE OF THE PIPE OR CONDUIT AND THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS

ANNULAR SPACE

0 TO 1/4

0 TO 1-1/2#

1/4 TO 1/2

#0 TO 1-1/2 IN. ANNULAR SPACE APPLIES ONLY WHEN TYPE CP-25 WB+ CAULK IS USED.

CP-25 WB+. (NOTE: L RATINGS APPLY ONLY WHEN TYPE CP-25 WB+ CAULK IS USED)

MINNESOTA MINING & MFG. CO. - TYPES CP-25 S/L, CP-25 N/S, CP-25 WB,

F RATING

1 OR 2 1 OR 2

3 OR 4

T RATING

INSTALLED AS TABULATED BELOW:

+ WHEN COPPER PIPE IS USED. T RATING IS 0 H

MAX PIPE OR CONDUIT

DIAM, IN

SYMBOL	RECOMMENDED WIRE TYPE	USED ON
Ą	2-CONDUCTOR, #16 AWG SOLID TWISTED SHIELDED	FIRE ALARM ADDRESSABLE INITIATING DEVICES:
; 	CABLE	- FP-SERIES SMOKE DETECTORS - FPT-SERIES HEAT DETECTORS - TRI-SERIES INTERFACE MODULES - AD-SERIES & ILP DUCT DETECTORS - MSI-SERIES PULL STATION
} → → →	2-CONDUCTOR, #12 AWG SOLID CABLE	NOTIFICATION APPLIANCE CIRCUIT: - STROBE - HORN/STROBE (COMBINATION)
₽	2-CONDUCTOR, #12 AWG SOLID CABLE	24 VDC POWER TO: - REMOTE ANNUNCIATOR - DOOR HOLDERS
ک ۔ ۔ ۔ ۔ ۔ ۔ ۔ ۔ ۔ ۔ ۔ ۔ ۔ ۔ ۔ ۔ ۔ ۔ ۔ 	2—CONDUCTOR, #16 AWG SOLID TWISTED SHIELDED CABLE	TRI to MONITORED DEVICES: - NAC EXTENDER PANEL - WATERFLOW SWITCH - TAMPER SWITCH - POST INDICATOR VALVE
M }	2—CONDUCTOR, #16 AWG SOLID TWISTED SHIELDED CABLE	"M-NET" - MXL NETWORK WIRING: - MODULES that "SPEAK" M-NET: - REMOTE ANNUNCIATOR PANEL
P	2-CONDUCTOR, #12 AWG SOLID CABLE	PANEL ACTIVATION: - NAC EXTENDER PANEL ACTIVATION - HORN SILENCE
X X	2—CONDUCTOR, #16 AWG SOLID TWISTED SHIELDED CABLE	"X-NET" - MXL NETWORK WIRING: - MODULES that "SPEAK" X-NET: - MXL TO MXL NETWORK
<i>├── </i>	2-CONDUCTOR, #12 AWG SOLID, THHN	120 VAC POWER WIRING TO: - FIRE SMOKE DAMPER (BY OTHERS) - AIR HANDLING UNIT - ELEVATOR SMOKE GUARD OR ROLL DOWN DOOR
20VAC - 11	2—CONDUCTOR, #12 AWG SOLID, THHN (GROUNDED WIRE)	120 VAC POWER TO: - FIRE ALARM CONTROL PANEL - NAC EXTENDER PANEL
	R NOTIFICATION APPLIANCE CIRCUITS R INITIATING DEVICE CIRCUITS (IDC)	
3. WIRING FOR	R SIGNALING LINE CIRCUITS (SLC) IS G GUIDELINES FOR CABLE TYPE USE	S CLASS B, STYLE 4.

DEVICE DES	SIGNATION LEGEND
INITIAT EXAMPLES: 1.028	ING DEVICES — DEVICE REFERENCE NUMBER — INITIATING ALD LOOP DESIGNATION — DEVICE SYMBOL (SMOKE DETECTOR)
AUDIBLE /	VISUAL CIRCUITS:
EXAMPLES: V1-1	DEVICE REFERENCE NUMBERHORN/STROBE CIRCUIT DESIGNATIONSTROBE CANDELA RATINGDEVICE SYMBOL (HORN/STROBE)

· ·	· · · · ·	- / \'	<u> </u>	71 ¥ I		<u> </u>					PER	_ \ \ \ \		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\1	_	1
NOTE: BLANK = NOT APPLICABLE R = REQUIRED ACTION	FACP ALARM	FACP TROUBLE	FACP SUPERVISORY	ANNUNCIATE ALARM @ RCC	ANNUNCIATE TROUBLE @ RCC	ANNUNCIATE SUPERVISORY @ RCC	TRANSMIT ALARM SIGNAL TO CENTRAL MONITORING STATION THROUGH EXISTING CAMPUS NETWORK SYSTEM	TRANSMIT TROUBLE SIGNAL TO CENTRAL MONITORING STATION THROUGH EXISTING CAMPUS NETWORK SYSTEM	TRANSMIT SUPERVISORY SIGNAL TO CENTRAL MONITORING STATION THROUGH EXISTING CAMPUS NETWORK SYSTEM	ACTIVATE AUDIO/VISUAL THROUGHOUT THE BLDG.	ELEVATOR RECALL RECALL ELEVATORS TO DESIGNATED FLOOR AND STOP	ALTERNATE ELEVATOR RECALL RECALL ELEVATORS TO DESIGNATED FLOOR AND STOP	ELEVATOR SHUTDOWN	ELEVATOR SMOKE GUARD OR ELEVATOR ROLL—DOWN DOOR	CLOSE DOOR HOLDER	ALARM RECEIPT CAPABILITY DURING ABNORMAL CONDITIONS	NWOOTE HIS CANH
MANUAL PULL STAION	Х			Х			Х			Х							
AREA SMOKE DETECTOR	Х			Х			Х			Х							
SMOKE DETECTORS ON EITHER SIDE OF FIRE RATED DOOR ACROSS CORRIDOR	Х			Х			Х			Х					Х		
DUCT SMOKE DETECTOR (HVAC UNITS)	Х			Х			Х			Х							Х
DUCT SMOKE DETECTOR (FIRE SMOKE DAMPER)	Х			Х			Х			Х							Х
AREA SMOKE DETECTOR (DEDICATED FOR FSD	Х			Х			Х			Х							Х
,																	
ELEVATOR LOBBY - SMOKE DETECTOR " EXCEPT 1ST FLOOR"											Х			Х			
ELEVATOR LOBBY — SMOKE DETECTOR "1ST FLOOR ONLY" SMOKE DETECTOR — ELEVATOR MACHINE ROOM											X	X		X			
HEAT DETECTOR — ELEVATOR MACHINE ROOM													Х				
WATERFLOW SWITCH	Х			Х			X			Х							
VALVE TAMPER			X			X			X								
POST INDICATOR VALVE			X			X			X								
INITIATING CKT																	
STYLE C (CLASS B) OPEN WIRE		X			Х			Х									
GROUNDED WIRE		X			X			X								R	
SHORTED WIRES		X			X			X								11	
LOSS OF CARRIER		X			X			X									
NOTIFICATION CKT STYLE Y (CLASS B)																	
OPEN WIRE		Х			Х			Х									
GROUNDED WIRE		Х			Х			Х								R	
SHORTED WIRES		Х			Х			Х									
SIGNALING LINE CKT STYLE 3 (CLASS B)																	
OPEN WIRE		Х			Х			Х									
GROUNDED WIRE		Х			Х			Х								R	
WIRE TO WIRE SHORT & OPEN		Х			Х			Х									
WIRE TO WIRE SHORT & GROUND		Х			Х			Х									
OPEN & GROUND		Х			Х			Х									
LOSS OF CARRIER		Х			X			Х									
	 					-	-	-	-	-							<u> </u>

WIRING GUIDELINES

PLENUM CABLE VS. NON-PLENUM

THE NEC RECOGNIZES 3 TYPES OF POWER LIMITED FIRE ALARM CABLING:

FPL - THIS IS A GENERAL USE POWER LIMITED FIRE ALARM CABLE. IT CANNOT BE USED IN A PLENUM SPACE OR FOR RISERS (CABLING BETWEEN FLOORS), CABLE MUST BE IN CONDUIT.

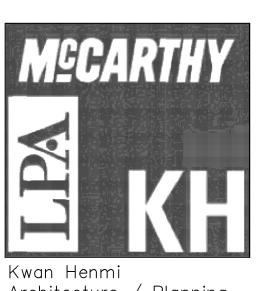
FPLR - THIS IS A POWER LIMITED RISER RATED CABLE THAT CAN BE USED FOR GENERAL PURPOSES OR BETWEEN FLOORS. IT CANNOT BE USED IN A PLENUM SPACE, CABLE MUST BE IN CONDUIT.

FPLP - THIS IS A POWER LIMITED CABLE THAT CAN BE USED IN A PLENUM, RISER, OR FOR

A PLENUM IS ANY AREA USED TO CONDUCT ENVIRONMENTAL AIR. PLENUM SPACES CAN BE DUCTWORK, THE SPACE ABOVE A DROP CEILING, OR BELOW A RAISED FLOOR. BECAUSE THESE SPACES ARE BEING USED FOR THE AIR HANDLING SYSTEM. THERE ARE STRICT RULES THAT MUST BE FOLLOWED TO REDUCE THE RISK OF INTRODUCING TOXIC FUMES IN THE EVENT OF A FIRE. SINCE FIRE ALARM CABLING IS OFTEN INSTALLED EXPOSED, WITHOUT CONDUIT, ABOVE DROP CEILINGS THE CABLING MUST BE RATED FOR USE IN A PLENUM SPACE.

WIRING REQUIREMENTS

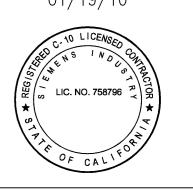
- THE DRAIN SHIELD IS A VERY IMPORTANT PART OF THE SYSTEM INSTALLATION. WE WOULD NOT SPECIFY SHIELDED CABLE IF IT WAS NOT NECESSARY. SHIELDS SHOULD BE KEPT CONTINUOUS THROUGHOUT THE CIRCUIT AND KEPT FREE FROM ANY REFERENCE TO EARTH GROUND.
- SHIELDED CABLE CAN BE FPL, FPLR, OR FPLP. SIEMENS INTELLIGENT ADDRESSABLE DEVICES REQUIRE SHIELDED CABLE.
- NOTIFICATION APPLIANCES (I.E. SPEAKER/STROBES, HORNS, ETC.) REQUIRE NON-SHIELDED
- UNDERGROUND CABLE, WHETHER OR NOT INSTALLED IN CONDUIT, SHALL BE LISTED AS UNDERGROUND BURIAL TYPE.
- WIRING IS TO BE INSTALLED POINT TO POINT WITH NO SPLICING.



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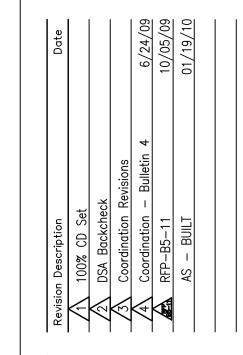
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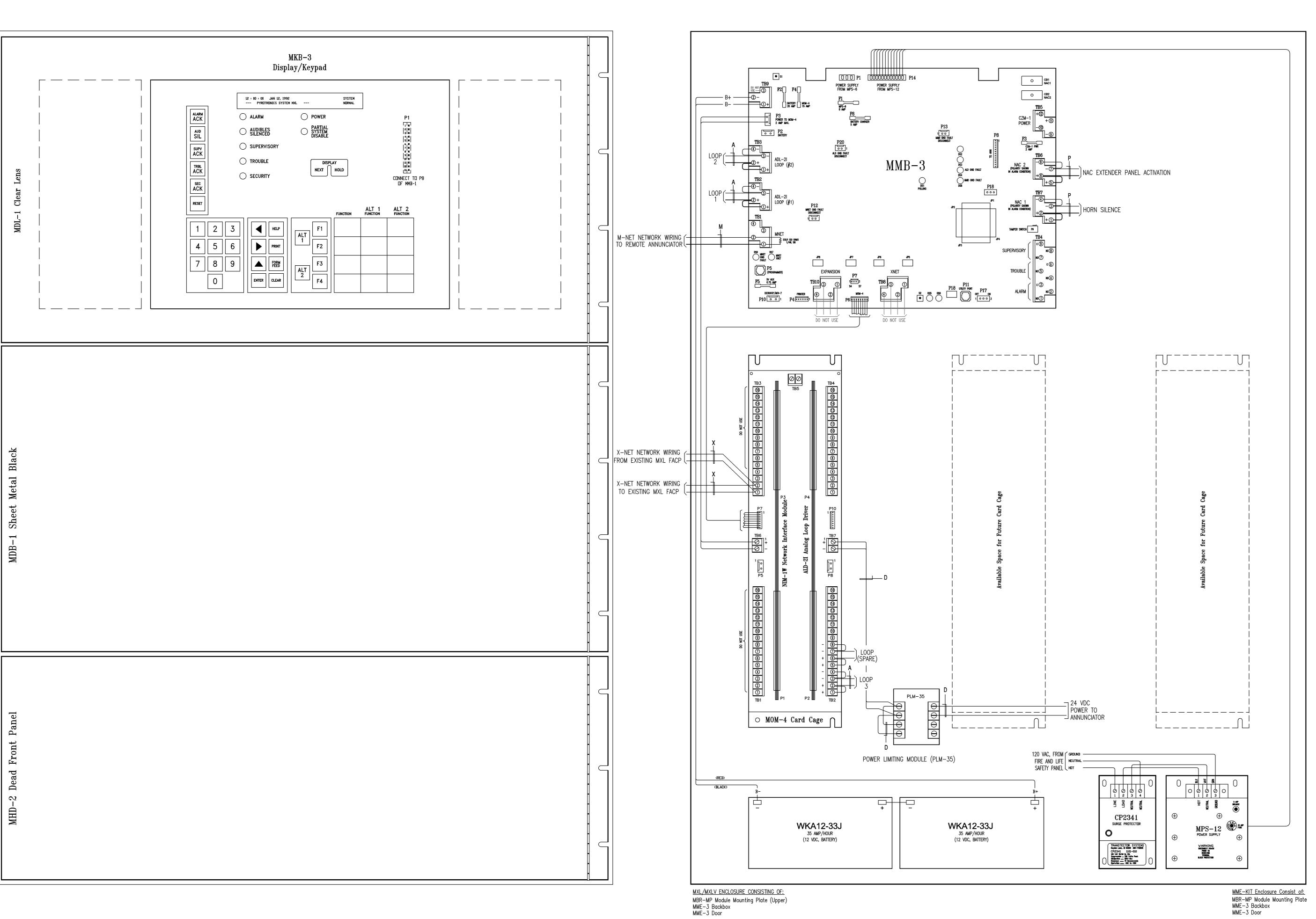


Job. No.

Not Applicable MISCELLANEOUS FIRE ALARM DETAILS

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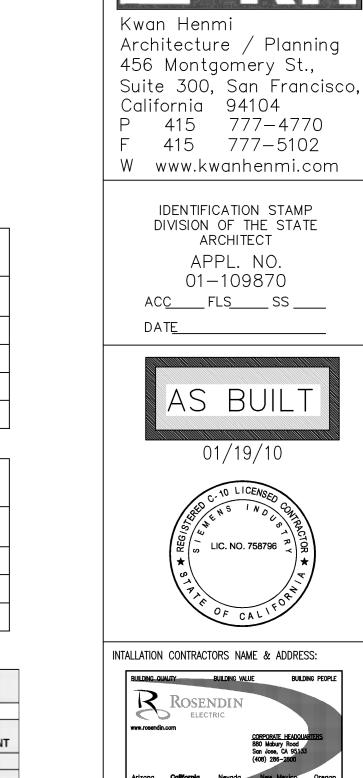


	MXL	PANEL	_ L()OP S	SCHEDU	JLE —	
LOOP NUMBER	PANEL	LOOP	DESCRIPTIO	N	LOCA	TION	
L00P 1	MMB-3	INITIATIN	G DEVICES		FIRST FLOOR		
LOOP 2	MMB-3	INITIATING	G DEVICES		SECOND FL	.00R	
L00P 3	OP 3 ALD-2I INITIATING DEVICES			THIRD FLOO	OR & ROOF		
SPARE	ALD-2I	INITIATIN	G DEVICES		SPARE		
	1			<u> </u>			
	MXL	PANEL	\	IAC S	CHEDU	LE	
CIRCUIT DESIGNATION	PANEL	CIRCUIT	DESCRIPT	ON	LOCA	ATION	
PA	MMB-3	BPS ACT	IVATION	1:	ST, 2ND &	3RD FLOORS	
HS	MMB-3	HORN SI	ILENCE	1:	ST, 2ND &	3RD FLOORS	
	MXL PAN	EL BATT	ERY CAL	CHLAT	IONS		
MMB-3 MAIN CONTR ALD LOOP (1.1mA		QTY 1 2	ORY CURRENT MODULE CURRENT 0.280	EOL CURRENT	DEVICE CURRENT	0.28 0.132	
MMB-3 MAIN CONTR	ROL BOARD A per device)	QTY 1	MODULE CURRENT	IT EOL	DEVICE CURRENT	ROW CURRED	
MMB-3 MAIN CONTR ALD LOOP (1.1mA NAC CIRCUIT	ROL BOARD A per device) DR/KEYBOARD	QTY 1 2 2	MODULE CURRENT 0.280	EOL CURRENT	DEVICE CURRENT	0.28 0.132 0.024	
MMB-3 MAIN CONTR ALD LOOP (1.1mA NAC CIRCUIT MKB-3 ANNUNCIATO ALD-2I ANALOG LOO ALD LOOP (1.1mA	ROL BOARD A per device) DR/KEYBOARD DP DRIVER A per device)	QTY 1 2 2 1	0.280 0.220 0.105	EOL CURRENT	DEVICE CURRENT	0.28 0.132 0.024 0.22 0.105 0.132	
MMB-3 MAIN CONTR ALD LOOP (1.1mA NAC CIRCUIT MKB-3 ANNUNCIATO ALD-2I ANALOG LOO ALD LOOP (1.1mA NIM-1W NETWORK I	ROL BOARD A per device) DR/KEYBOARD DP DRIVER A per device) NTERFACE MODULE	QTY 1 2 2 1 1 2 1 1 2 1	0.280 0.220 0.105	EOL CURRENT	DEVICE CURRENT 0.066	0.28 0.132 0.024 0.22 0.105 0.132 0.15	
MMB-3 MAIN CONTR ALD LOOP (1.1mA NAC CIRCUIT MKB-3 ANNUNCIATO ALD-2I ANALOG LOO ALD LOOP (1.1mA	ROL BOARD A per device) DR/KEYBOARD DP DRIVER A per device) NTERFACE MODULE	QTY 1 2 2 1 1 2 1 1 2 1 1	0.280 0.220 0.105 0.075	EOL CURRENT	DEVICE CURRENT 0.066	0.28 0.132 0.024 0.22 0.105 0.132 0.15 0.075	
MMB-3 MAIN CONTR ALD LOOP (1.1mA NAC CIRCUIT MKB-3 ANNUNCIATO ALD-2I ANALOG LOO ALD LOOP (1.1mA NIM-1W NETWORK I	ROL BOARD A per device) DR/KEYBOARD DP DRIVER A per device) NTERFACE MODULE	QTY 1 2 2 1 1 2 1 1 2 1 1	0.280 0.220 0.105	EOL CURRENT	DEVICE CURRENT 0.066	0.28 0.132 0.024 0.22 0.105 0.132 0.15	
MMB-3 MAIN CONTR ALD LOOP (1.1mA NAC CIRCUIT MKB-3 ANNUNCIATO ALD-2I ANALOG LOO ALD LOOP (1.1mA NIM-1W NETWORK I RCC-1F REMOTE CO	ROL BOARD A per device) DR/KEYBOARD DP DRIVER A per device) NTERFACE MODULE	QTY 1 2 2 1 1 2 1 1 TOT	0.280 0.220 0.105 0.150 0.075 AL SUPERVIS	EOL CURRENT	DEVICE CURRENT 0.066 0.066	0.28 0.132 0.024 0.22 0.105 0.132 0.15 0.075	
MMB-3 MAIN CONTR ALD LOOP (1.1mA NAC CIRCUIT MKB-3 ANNUNCIATO ALD-2I ANALOG LOO ALD LOOP (1.1mA NIM-1W NETWORK I RCC-1F REMOTE CO	ROL BOARD A per device) DR/KEYBOARD DP DRIVER A per device) NTERFACE MODULE DMAND CENTER IXL NOTIFICAT N CONTROL BOARD -	1 2 2 1 1 2 1 1 TOT	0.280 0.220 0.105 0.150 0.075 AL SUPERVIS	EOL CURRENT	DEVICE CURRENT 0.066 0.066	0.28 0.132 0.024 0.22 0.105 0.132 0.15 0.075 1.118	
MMB-3 MAIN CONTR ALD LOOP (1.1mA NAC CIRCUIT MKB-3 ANNUNCIATO ALD-2I ANALOG LOO ALD LOOP (1.1mA NIM-1W NETWORK I RCC-1F REMOTE CO	ROL BOARD A per device) DR/KEYBOARD DP DRIVER A per device) NTERFACE MODULE DMAND CENTER	QTY	0.280 0.220 0.105 0.150 0.075 AL SUPERVISOR	EOL CURRENT 0.012	DEVICE CURRENT 0.066 0.066	0.28 0.132 0.024 0.22 0.105 0.132 0.15 0.075 1.118 TAL CKT RENT LOAD 0.007	
MMB-3 MAIN CONTR ALD LOOP (1.1mA NAC CIRCUIT MKB-3 ANNUNCIATO ALD-2I ANALOG LOO ALD LOOP (1.1mA NIM-1W NETWORK I RCC-1F REMOTE CO	ROL BOARD A per device) DR/KEYBOARD DP DRIVER A per device) NTERFACE MODULE DMAND CENTER IXL NOTIFICAT N CONTROL BOARD -	QTY 1 2 2 1 1 2 1 TOT	0.280 0.280 0.220 0.105 0.075 AL SUPERVISOR PA HS	EOL CURRENT 0.012	DEVICE CURRENT 0.066 0.066	0.28 0.132 0.024 0.22 0.105 0.132 0.15 0.075 1.118	
MMB-3 MAIN CONTR ALD LOOP (1.1mA NAC CIRCUIT MKB-3 ANNUNCIATO ALD-2I ANALOG LOO ALD LOOP (1.1mA NIM-1W NETWORK I RCC-1F REMOTE CO	ROL BOARD A per device) DR/KEYBOARD DP DRIVER A per device) NTERFACE MODULE DMAND CENTER IXL NOTIFICAT N CONTROL BOARD -	QTY 1 2 2 1 1 2 1 TOT	0.280 0.220 0.105 0.150 0.075 AL SUPERVISOR	EOL CURRENT 0.012	DEVICE CURRENT 0.066 0.066	0.28 0.132 0.024 0.22 0.105 0.132 0.15 0.075 1.118 TAL CKT RENT LOAD 0.007	
MMB-3 MAIN CONTR ALD LOOP (1.1mA NAC CIRCUIT MKB-3 ANNUNCIATO ALD-2I ANALOG LOO ALD LOOP (1.1mA NIM-1W NETWORK I RCC-1F REMOTE CO MMB-2 MAIN MMB-2 MAIN A = TOTAL SUPERV	ROL BOARD A per device) DR/KEYBOARD DP DRIVER A per device) NTERFACE MODULE DMAND CENTER IXL NOTIFICAT N CONTROL BOARD -	QTY 1 2 2 1 1 1 1 TOT FION CIRC NAC CIRCUIT NAC CIRCUIT TOTAL ALA SUI	0.280 0.280 0.220 0.105 0.075 AL SUPERVISOR PA HS	EOL CURRENT 0.012	DEVICE CURRENT 0.066 0.066	0.28 0.132 0.024 0.22 0.105 0.132 0.15 0.075 1.118 TAL CKT RENT LOAD 0.007	
MMB-3 MAIN CONTR ALD LOOP (1.1mA NAC CIRCUIT MKB-3 ANNUNCIATO ALD-2I ANALOG LOO ALD LOOP (1.1mA NIM-1W NETWORK I RCC-1F REMOTE CO MMB-2 MAIN MMB-2 MAIN A = TOTAL SUPERV x SUPER 1.118 AMPS x 2	ROL BOARD A per device) PR/KEYBOARD DP DRIVER A per device) NTERFACE MODULE DMAND CENTER IXL NOTIFICAT N CONTROL BOARD - N CONTROL BOAR	QTY 1 2 2 1 1 1 1 TOT FION CIRC NAC CIRCUIT NAC CIRCUIT TOTAL ALA SUI	ORY CURRENT MODULE CURRENT 0.280 0.220 0.105 0.150 0.075 AL SUPERVISO PA HS ARM CURRENT MMARY	EOL CURRENT 0.012 SORY CURRENT T (AMPS)	DEVICE CURRENT 0.066 0.066 ENT (AMPS) TO CURF	0.28 0.132 0.024 0.22 0.105 0.132 0.15 0.075 1.118 TAL CKT RENT LOAD 0.007 0.007 0.014	
MMB-3 MAIN CONTR ALD LOOP (1.1mA NAC CIRCUIT MKB-3 ANNUNCIATO ALD-2I ANALOG LOO ALD LOOP (1.1mA NIM-1W NETWORK I RCC-1F REMOTE CO MMB-2 MAIN MMB-2 MAIN A = TOTAL SUPERV x SUPER 1.118 AMPS x 2	ROL BOARD A per device) DR/KEYBOARD DP DRIVER A per device) NTERFACE MODULE DMAND CENTER IXL NOTIFICAT N CONTROL BOARD - N CONTROL BOARD - ISORY CURRENT VISORY TIME REQUIR	QTY 1 2 2 1 1 1 1 TOT FION CIRC NAC CIRCUIT NAC CIRCUIT TOTAL ALA SUI	ORY CURRENT MODULE CURRENT 0.280 0.220 0.105 0.150 0.075 AL SUPERVISO PA HS ARM CURRENT MMARY	EOL CURRENT 0.012 SORY CURRENT T (AMPS)	DEVICE CURRENT 0.066 0.066 ENT (AMPS) TO CURF	0.28 0.132 0.024 0.22 0.105 0.132 0.15 0.075 1.118 TAL CKT RENT LOAD 0.007 0.007 0.014	
MMB-3 MAIN CONTR ALD LOOP (1.1mA NAC CIRCUIT MKB-3 ANNUNCIATO ALD-2I ANALOG LOO ALD LOOP (1.1mA NIM-1W NETWORK I RCC-1F REMOTE CO MMB-2 MAIN MMB-2 MAIN A = TOTAL SUPERV x SUPER 1.118 AMPS x 2	ROL BOARD A per device) PRIKEYBOARD PP DRIVER A per device) NTERFACE MODULE MAND CENTER IXL NOTIFICAT N CONTROL BOARD - N CONTROL BOARD -	QTY 1 2 2 1 1 1 1 TOT FION CIRC NAC CIRCUIT NAC CIRCUIT TOTAL ALA SUI	ORY CURRENT MODULE CURRENT 0.280 0.220 0.105 0.150 0.075 AL SUPERVISO ARM CURRENT MMARY SUPERVISO ALARM TIM	EOL CURRENT 0.012 SORY CURRENT T (AMPS) DRY TIME REE REQUIRES	DEVICE CURRENT 0.066 0.066 ENT (AMPS) TO CURF	0.28 0.132 0.024 0.22 0.105 0.132 0.15 0.075 1.118 TAL CKT RENT LOAD 0.007 0.007 0.007	
MMB-3 MAIN CONTR ALD LOOP (1.1mA NAC CIRCUIT MKB-3 ANNUNCIATO ALD-2I ANALOG LOO ALD LOOP (1.1mA NIM-1W NETWORK I RCC-1F REMOTE CO MMB-2 MAIN MMB-2 MAIN A = TOTAL SUPERV x SUPER 1.118 AMPS x 2 = 26.832 B = TOTAL ALARM O	ROL BOARD A per device) PRIKEYBOARD PP DRIVER A per device) NTERFACE MODULE MAND CENTER IXL NOTIFICAT N CONTROL BOARD - N CONTROL BOARD -	QTY 1 2 2 1 1 1 1 TOT FION CIRC NAC CIRCUIT NAC CIRCUIT TOTAL ALA SUI	ORY CURRENT MODULE CURRENT 0.280 0.220 0.105 0.150 0.075 AL SUPERVISO PA HS ARM CURRENT MMARY SUPERVISO ALARM TIM BATTERY P	EOL CURRENT 0.012 SORY CURRENT T (AMPS) DRY TIME REE REQUIRES	DEVICE CURRENT 0.066 0.066 ENT (AMPS) TO CURE QUIRED D5 MINS. o	0.28 0.132 0.024 0.22 0.105 0.132 0.15 0.075 1.118 TAL CKT RENT LOAD 0.007 0.007 0.007	
MMB-3 MAIN CONTR ALD LOOP (1.1mA NAC CIRCUIT MKB-3 ANNUNCIATO ALD-2I ANALOG LOO ALD LOOP (1.1mA NIM-1W NETWORK I RCC-1F REMOTE CO MMB-2 MAIN MMB-2 MAIN MMB-2 MAIN A = TOTAL SUPERV x SUPER 1.118 AMPS x 2 = 26.832 B = TOTAL ALARM (x ALARM (0.014 AMPS x .00	ROL BOARD A per device) PR/KEYBOARD DP DRIVER A per device) NTERFACE MODULE DMAND CENTER IXL NOTIFICAT N CONTROL BOARD - N CONTROL BOAR	QTY 1 2 2 1 1 1 1 TOT FION CIRC NAC CIRCUIT NAC CIRCUIT TOTAL ALA SUI	ORY CURRENT MODULE CURRENT 0.280 0.220 0.105 0.150 0.075 AL SUPERVISO HS HS ARM CURRENT MMARY SUPERVISO ALARM TIM BATTERY P BATTERY S	DRY TIME REE REQUIRED	DEVICE CURRENT 0.066 0.066 ENT (AMPS) TO CURE CURE CURE WKA12-33J (2.35)	0.28 0.132 0.024 0.22 0.105 0.132 0.15 0.075 1.118 OTAL CKT RENT LOAD 0.007 0.007 0.007	
MMB-3 MAIN CONTR ALD LOOP (1.1mA NAC CIRCUIT MKB-3 ANNUNCIATO ALD-2I ANALOG LOO ALD LOOP (1.1mA NIM-1W NETWORK I RCC-1F REMOTE CO MMB-2 MAIN MMB-2 MAIN MMB-2 MAIN A = TOTAL SUPERV x SUPER 1.118 AMPS x 2 = 26.832 B = TOTAL ALARM (x ALARM (0.014 AMPS x .00	ROL BOARD A per device) PR/KEYBOARD P DRIVER A per device) NTERFACE MODULE DMAND CENTER IXL NOTIFICAT N CONTROL BOARD - N CONTROL BOARD	QTY 1 2 2 1 1 1 1 TOT FION CIRC NAC CIRCUIT NAC CIRCUIT TOTAL ALA SUI	ORY CURRENT MODULE CURRENT 0.280 0.220 0.105 0.150 0.075 AL SUPERVISO PA HS ARM CURRENT MMARY SUPERVISO ALARM TIM BATTERY P BATTERY S TOTAL SYS	T (AMPS) ORY TIME REE REQUIRED ROVIDED	DEVICE CURRENT 0.066 0.066 ENT (AMPS) TO CURP CURP CURP WKA12-33J (2.35)	0.28 0.132 0.024 0.22 0.105 0.132 0.15 0.075 1.118 TAL CKT RENT LOAD 0.007 0.007 0.014	

24 HOURS SUPERVISORY

& 5 MINUTES ALARM (AMP/HOUR)

= <u>8.167</u> AMP/HOUR



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PRODUCT MANUFACTURER:

Fire Safety Division

SAN FRANCISCO BRANCH 25821 Industrial Boulevard, Suite 300,

Hayward, California 94545-2991

Fax (510) 293-2100

California State C10 License No. 758796 U.L. Certificate ID No. 324787-001

on Description

Job. No. 0715.0

Date 01.19.201

Scale

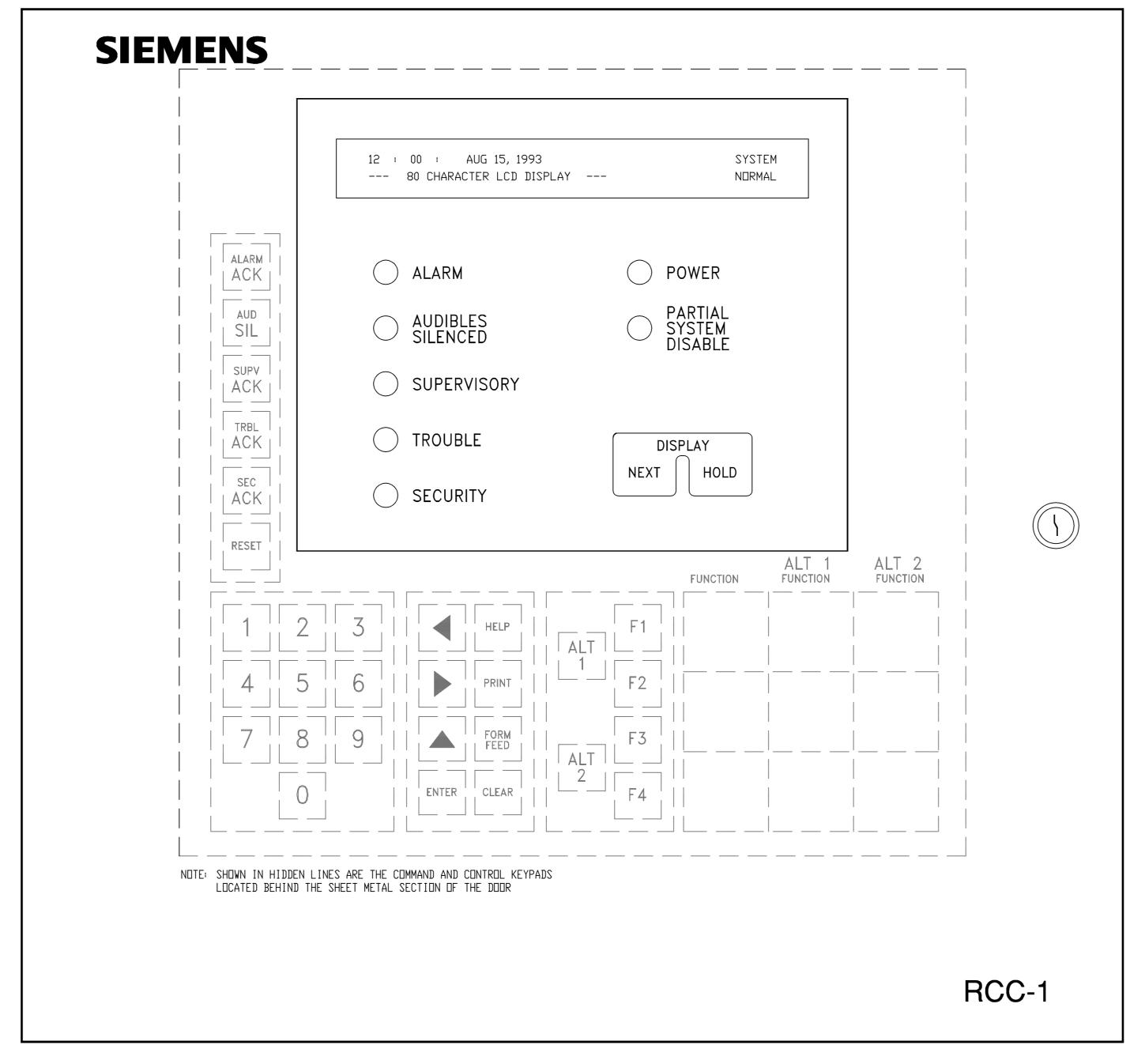
Not Applicable
FA1.00

MXL FIRE ALARM CONTROL
PANEL

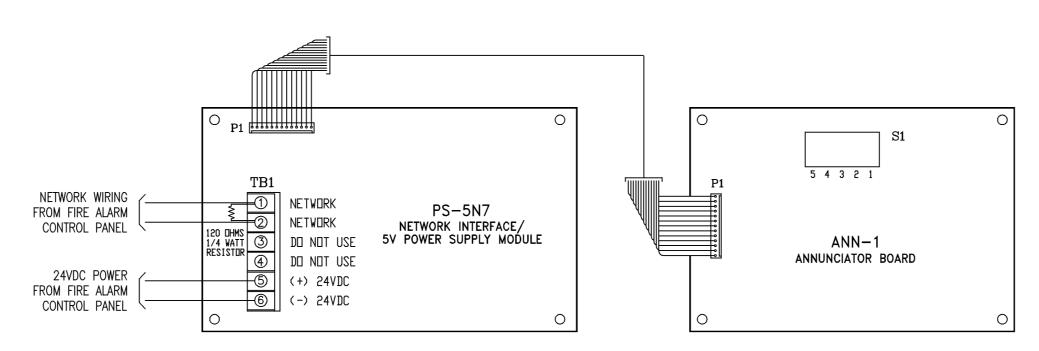
FA 1.00

MXL FIRE ALARM CONTROL PANEL

LOCATED AT FIRST FLOOR ELECTRICAL CLOSET NO. 114



RCC-1F FRONT PANEL DETAIL



PS-5N7 Network Interface/5V Power Supply Module

TYPICAL INSTALLATION OF PS-5N7 & ANN-1

Note

THE RCC-1 IS A FULL CONTROL REMOTE COMMAND AND DISPLAY CENTER FOR USE WITH THE MXL SYSTEM. IT INCLUDES A DISPLAY/KEYPAD, A PS-5N7 5V POWER SUPPLY/NETWORK INTERFACE MODULE, AND A SMALL SHEET METAL ENCLOSURE WITH A LOCKABLE DOOR. THE DOOR RESTRICTS ACCESS TO THE COMMAND AND CONTROL KEYPAD. THE PS-5N7 MODULE ACTS AS AN INTERFACE TO THE MXL NETWORK AND ALSO SUPPLIES 5 VDC POWER TO THE UNIT. AS AN OPTION, A GenBox-WD CLEAR LENS MAY BE USED INSTEAD OF THE METAL COVER SECTION OF THE ENCLOSURE DOOR. THIS PERMITS VIEWING OF THE FULL DISPLAY AND KEYPAD BUT DOES NOT ALLOW ACCESS TO ANY OF THE KEYS. THE RCC-1 IS SHIPPED WITH THE SHEET METAL SECTION IN THE DOOR.

RCC-1F REMOTE COMMAND CENTER (Flush Mount)
LOCATED AT WELLNESS RECEPTION NO. 101A

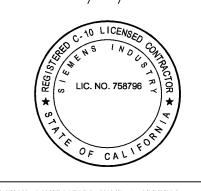


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INTALLATION CONTRACTORS NAME & ADDRESS:

BUILDING QUALITY BUILDING VALUE BUILDING PEOPLE

ROSENDIN

ELECTRIC

CORPORATE HEADQUARTERS
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San Jose, CA 95145

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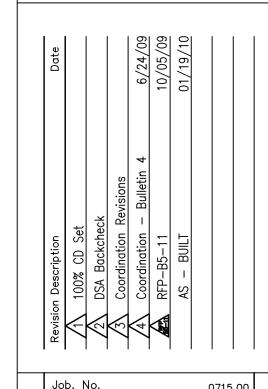
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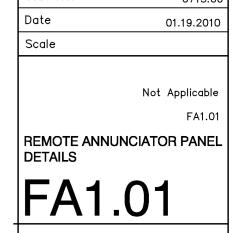
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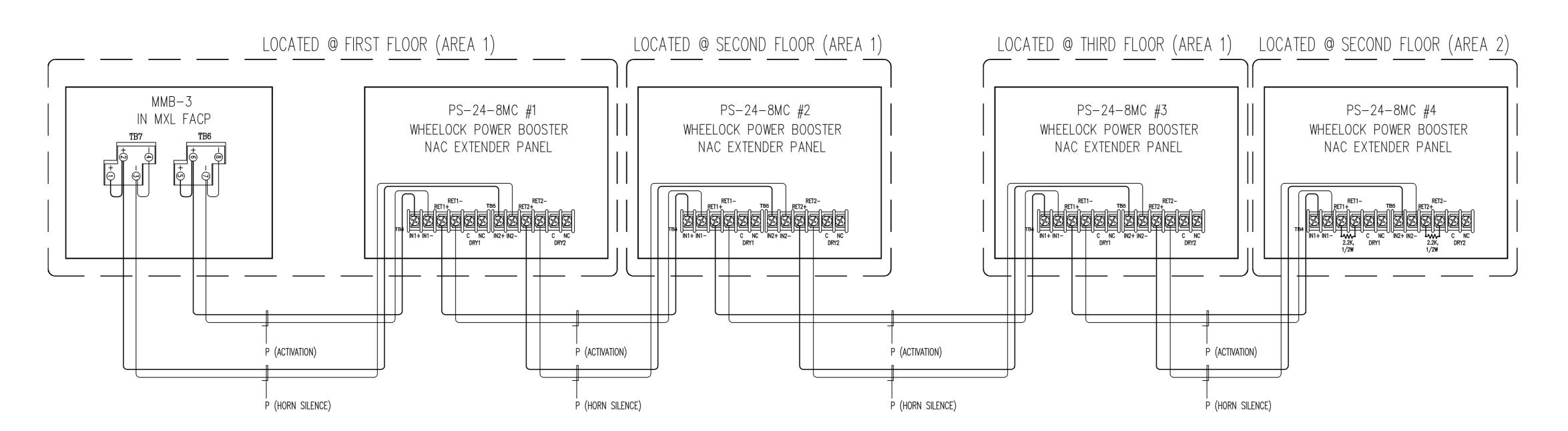
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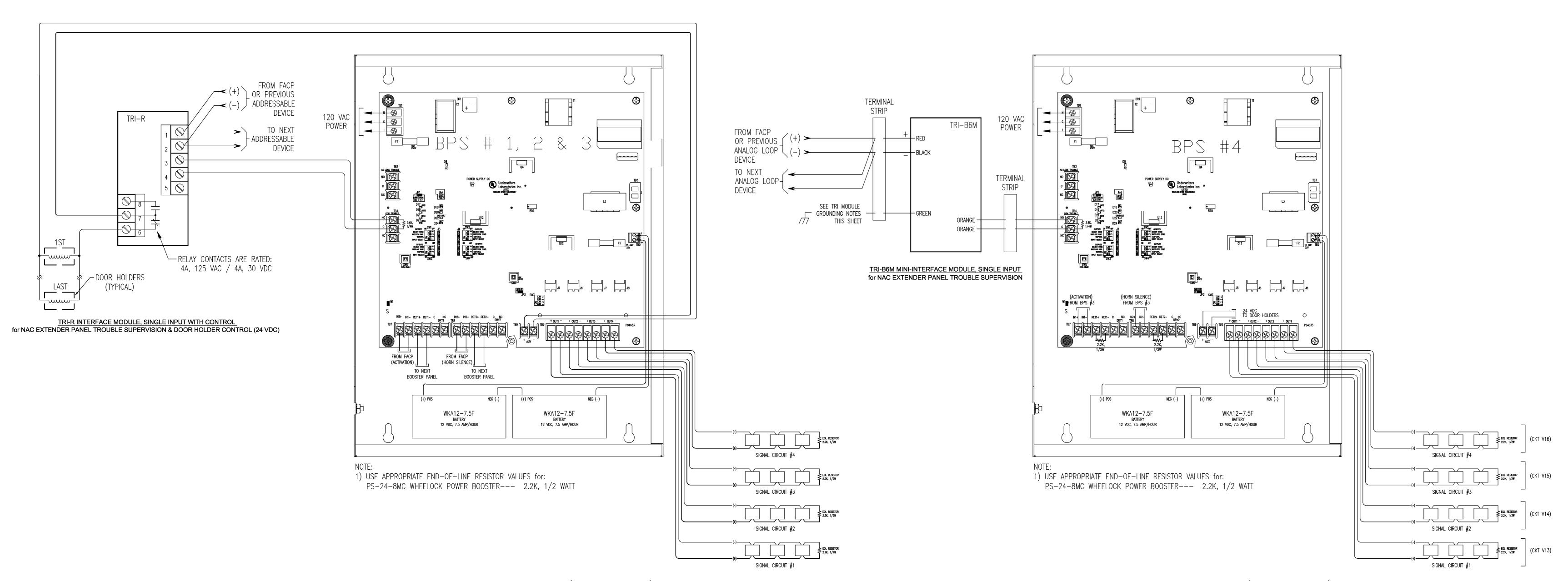






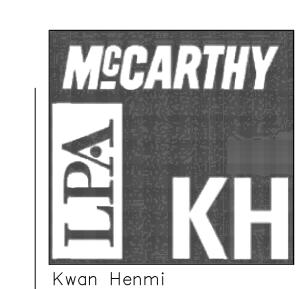
WIRING DIAGRAM - SYNC MULTIPLE WHEELOCK PANEL ACTIVATION

DETAIL SHOWN with AUDIBLE SILENCE FEATURE



NAC EXTENDER PANEL (PS-24-8MC) LOCATED IN 1ST, 2ND & 3RD FLOORS (AREA 1) ELECTRICAL CLOSET (TYPICAL OF 3)

NAC EXTENDER PANEL (PS-24-8MC) LOCATED IN 2ND FLOOR (AREA 2) ELECTRICAL CLOSET (TYPICAL OF 1)

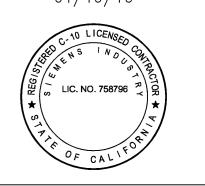


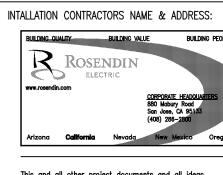
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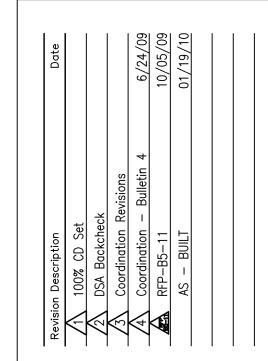
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NAC EXTENDER PANEL WIRING DETAILS

FA1.02

	BPS		No. 1	BATTER	RY CALCU	LATIONS	
		SUPERVI	SORY CURRENT				
	B E C C B I B T I C V		A.T.V	DEVICE	STAND BY	ALARM	
	DESCRIPTION		QTY	CURRENT	CURRENT	CURRENT	
3PS			1		0.075	0.075	
					0		
***************************************	TOTAL CURRENT				0.075		
	TOTAL CORRENT	ΔΙΔΡ	M CURRENT		0.075		
		I	IN CONNEIN		TO1	AL CKT	
CKT	DEVICE DESCRIPTION	QTY	DEVICE CURI	RENT RATING		ENT LOAD	
V 1	STROBE 15 CANDELA	<u> </u>	0,1	 06		0.18	
0.955	STROBE 30 CANDELA	2	0,0)92		 D.184	
	STROBE 75 CANDELA	4:	0.1	65		0.165	
	HORN/STROBE 15 CANDELA	*	0.0)74		0.074	
	HORN/STROBE 75 CANDELA	4	0.1	84	111	0.184	
	HORN/STROBE (WEATHERPROOF)	4		68		0.168	
V2	STROBE 15 CANDELA	<u> </u>	0,1			0.18	
	STROBE 30 CANDELA			92		0.092	
. e tracrad	STROBE 15 CANDELA (CEILING)	3 1)65		0.195	
	HORN/STROBE 15 CANDELA	2)74		0.148	
	HORN/STROBE 30 CANDELA	<u> </u>		07		0.107	
	STROBE (WEATHERPROOF)	2		38		0.276	
	STROBE-CEILING (WEATHERPROOF)	4		38		0.138	
V 3	STROBE 15 CANDELA	1 3		 06		Λ 18	
	STROBE 13 CANDELA	3)92	0.18		
U+U U	STROBE 35 CANDELA (CEILING))65		0.065	
	HORN/STROBE 15 CANDELA	2		774		0.148	
	HORN/STROBE 110 CANDELA	4	0.2			0.244	
V 4						0	
	STROBE 15 CANDELA STROBE 30 CANDELA	0 2		06)92	,	 0.184	
1.102	STROBE 30 CANDELA	3		22		0.66	
	HORN/STROBE 15 CANDELA	*		<u> </u>		0.074	
	HORN/STROBE 110 CANDELA	***************************************	0.2			0.244	
	HOMMY STROBE TTO GARDELA	<u> </u>		ALARM CURR			
		S	UMMARY		(***** 2)		
	= TOTAL SUPERVISORY CURRENT x		SUPER	RVISORY TIME R	EQUIRED	24 HR	
	SUPERVISORY TIME REQUIRED		ALARM	M TIME RQED-	5 MIN	S. or .083 HR	
AAAA	0.075 AMPS × 24 HR						
***************************************	1.800 (AMP/HR)		BATTE	RY PROVIDED	WKA12-7.5F		
			BATTE	7.	5 (AMP/HR)		
B =	= TOTAL ALARM CURRENT x						
	ALARM TIME REQUIRED		TOTAL	. SYSTEM REQU	IRED (A/H)		
98888111	4.166 AMPS + .075 AMPS x .0	83 HR	:sums		AMP/HOUR		
********	0.352 (AMP/HR)				•		
			BATTE	RY RESERVE AF	TER		
C =	= A + B		24 H(DURS SUPERVISO	ORY		
20000111:	2.152 (AMP/HR)			MINUTES ALARM			
	* *			5.348	AMP/HOUR		

	BPS		No. 2	BATTER	Y CALCUI	ATIONS
	1	SUPERVIS	SORY CURRENT	s:		
				DEVICE	STAND BY	ALARM
P	DESCRIPTION		QTY	CURRENT	CURRENT	CURRENT
BPS			1		0.075	0.075
					0	
	TOTAL OURSENIT				0	
	TOTAL CURRENT		OHDDENT		0.075	
I		ALARI	M CURRENT		TOT	AL OUT
CKT	T DEVICE DESCRIPTION		DEVICE CLIP	RENT RATING		AL CKT NT LOAD
		QTY				
-	STROBE 15 CANDELA	4		06	14000).24
ļ	STROBE 30 CANDELA	0		092		0
	STROBE 75 CANDELA	1		1 65		.165
<u> </u>	STROBE 110 CANDELA			22).22
-	STROBE 15 CANDELA (CEILING)	1		065		.065
	HORN/STROBE 75 CANDELA	7		184		.184
	HORN/STROBE 110 CANDELA	2]	0.1	244		.488
V6 S	STROBE 15 CANDELA	2	0.	06	().12
1.153 🖺	STROBE 30 CANDELA	0	0.4)92		0
<	STROBE 75 CANDELA	3	0.	165	0	.495
Kangaran Pangaran Pan	STROBE 110 CANDELA	1	0.	22	A PARTIE).22
-	HORN/STROBE 15 CANDELA		() .)74	0	.074
1	HORN/STROBE 110 CANDELA	7	in the second	244	O	.244
V7 S	STROBE 15 CANDELA	5		06		0.3
	STROBE 30 CANDELA				0	
 	STROBE 75 CANDELA	1		165		.165
-	STROBE 110 CANDELA			22		0
<u></u>	STROBE 15 CANDELA (CEILING)	2		 065	14.).13
	HORN/STROBE 15 CANDELA	1) 74		.074
	HORN/STROBE 75 CANDELA (CEILING)	7		209		.209
		<u> </u>				
` -	STROBE 15 CANDELA			06		0
0 <u>L</u> S	STROBE 30 CANDELA	Control		092		0
				_ ALARM CURR	ENI (AMPS)	3.393
<u>.</u>	TOTAL CURESTIONS OF STREET	S	UMMARY	DOMANO TO THE	- Alliono	0.4 115
	TOTAL SUPERVISORY CURRENT x			RVISORY TIME RE		
	SUPERVISORY TIME REQUIRED		ALARI	и TIME RQED-	5 MINS	. or .083 HR
	0.075 AMPS × 24 HR					
***************************************	1.800 (AMP/HR)			RY PROVIDED		
			BATTE	7.5	(AMP/HR)	
	TOTAL ALARM CURRENT X					
	ALARM TIME REQUIRED		TOTAL	SYSTEM REQUI		
	3.393 AMPS + .075 AMPS × .083	3 HR	=	2.088	AMP/HOUR	
	0.288 (AMP/HR)					
			BATTE	RY RESERVE AF	TER	
C =	A + B		24 H	OURS SUPERVISC	RY	
	2.088 (AMP/HR)	дения	& 5	MINUTES ALARM		
			3111111 1111111	<u>5.412</u>	AMP/HOUR	

	BPS		No. 3	BATTER	Y CALCUI	LATIONS	
		SUPERV	ISORY CURRENT				
				DEVICE	STAND BY	ALARM	
	DESCRIPTION		QTY	CURRENT	CURRENT	CURREN	
BPS			1		0.075	0.075	
					0		
					0		
	TOTAL CURRENT				0.075		
	T	ALAH	RM CURRENT T		TAT	AL CKT	
CKT	DEVICE DESCRIPTION	QTY	DEVICE CURI	RENT RATING		ENT LOAD	
V9	STROBE 15 CANDELA	3	0.4			0.18	
1.581	STROBE 30 CANDELA	1 1)92		0.092	
	STROBE 95 CANDELA (CEILING)	3		249).747	
	HORN/STROBE 15 CANDELA		0.0			0.074	
	HORN/STROBE 110 CANDELA	2	0.2			.488	
V10	STROBE 15 CANDELA	7	0.0			0.42	
0.99	STROBE 30 CANDELA	3)92).276	
	STROBE 110 CANDELA	1	0.3			0.22	
	HORN/STROBE 15 CANDELA	7,	0.0)74	0).074	
V11	STROBE 15 CANDELA	7	0.06		0.18		
1.282	STROBE 30 CANDELA	2	0.0	92	0.184		
	STROBE 75 CANDELA	7	0.1	65	, in the second	.165	
	STROBE 95 CANDELA (CEILING)	2	0.2	249	0.498		
	HORN/STROBE 15 CANDELA	2	0.0	74	0.148		
	HORN/STROBE 30 CANDELA	7	0.1	07	0).107	
V12	STROBE 15 CANDELA	4	0.1	06	THE STATE OF THE S	0.24	
0.848	STROBE 30 CANDELA	0	0.0	92		0	
	STROBE 75 CANDELA	2	0.1	65	Tiggir	0.33	
	STROBE 15 CANDELA (CEILING)	2	0.0	65	0.13		
	HORN/STROBE 15 CANDELA	2	0.0	74	0	1.148	
			TOTAL	. ALARM CURRE	NT (AMPS)	4.701	
		Ş	SUMMARY				
Α =	TOTAL SUPERVISORY CURRENT x			RVISORY TIME RE			
	SUPERVISORY TIME REQUIRED		ALARM	M TIME RQED	5 MINS	or .083	
	0.075 AMPS x 24 HR						
_	1.800 (AMP/HR)			RY PROVIDED			
			BATTE	7.5	(AMP/HR)		
B =	TOTAL ALARM CURRENT X						
	ALARM TIME REQUIRED			. SYSTEM REQUIR			
	4.701 AMPS + .075 AMPS x .0	083 HR	=	2.196	AMP/HOUR		
=	0.396 (AMP/HR)						
				RY RESERVE AFT			
C =	= A + B			DURS SUPERVISOI			
VOLUMENT	<u>2.196</u> (AMP/HR)		& 5 1	MINUTES ALARM			

= <u>5.304</u> AMP/HOUR

	BPS		No. 4	BATTER	RY CALCU	LATIONS
		SUPERVI	ISORY CURRENT		LOTAND BY I	
	DESCRIPTION		QTY	DEVICE CURRENT	STAND BY CURRENT	ALARM CURRENT
PS			1		0.075	0.075
					0	
					0	
	TOTAL CURRENT				0.075	
		ALAR	RM CURRENT			
CKT	DEVICE DESCRIPTION	QTY	DEVICE CURF	RENT RATING		AL CKT ENT LOAD
V13	STROBE 15 CANDELA	4	0.4	06		0.06
.291	STROBE 30 CANDELA	0	0.0	92		0
	STROBE 75 CANDELA	7	O.	65	().165
	STROBE 110 CANDELA	2	0.2	22		0.44
	HORN/STROBE 110 CANDELA	2	0.2	44	().488
	STROBE (WEATHERPROOF)	THE STATE OF THE S	0.1	38	().138
V 1 4	STROBE 15 CANDELA	3	0.0	06		0.18
.244	STROBE 30 CANDELA	Ō	0.0	92		0
	STROBE 75 CANDELA	4	0.1	65	().165
	STROBE 15 CANDELA (CEILING)	4	0.0	65	(0.065
	STROBE 75 CANDELA (CEILING)	2	0.1	89	().378
	HORN/STROBE 15 CANDELA	7	0.0	74	(0.074
	HORN/STROBE 110 CANDELA	7	0.2	44	().244
	STROBE (WEATHERPROOF)	4	0.1	38	().138
V15	STROBE 15 CANDELA	2	0.	06		0.12
.011	STROBE 30 CANDELA	1	0.0	92).092
	STROBE 75 CANDELA	4	0.1	65		0.66
	STROBE 15 CANDELA (CEILING)	- d	0.0	65	(0.065
	HORN/STROBE 15 CANDELA	1	0.0	74	(0.074
/16	STROBE 15 CANDELA	1	0.0	 D6		0.06
	STROBE 30 CANDELA	1	0.0	92		0.092
	STROBE 75 CANDELA	7	0.1	65).165
	STROBE 95 CANDELA (CEILING)	2	0.2	49	().498
	HORN/STROBE 15 CANDELA	1	0.0	74).074
	HORN/STROBE 30 CANDELA	1	0.1	07	().107
	HORN/STROBE 75 CANDELA	1	0.1	84	().184
		,	TOTAL	ALARM CURR	ENT (AMPS)	4.726
		S	UMMARY			
Α =	TOTAL SUPERVISORY CURRENT x		SUPER	VISORY TIME R	EQUIRED	- 24 HR
	SUPERVISORY TIME REQUIRED		ALARM	I TIME RQED-	5 MINS	S. or .083 HR
=	0.075 AMPS x 24 HR					
=	1.800 (AMP/HR)		BATTE	RY PROVIDED	WKA12-7.5F	
			BATTE	7.5	5 (AMP/HR)	
B =	TOTAL ALARM CURRENT X				_	
	ALARM TIME REQUIRED		TOTAL	SYSTEM REQU		
_	4.726 AMPS + .075 AMPS × .08 0.398 (AMP/HR)	33 HR	=	2.198	AMP/HOUR	
			BATTE	RY RESERVE AF	TER	
C =	= A + B		24 HC	DURS SUPERVISO	ORY	
*******	2.198 (AMP/HR)		& 5 1	MINUTES ALARM		
			=	<u>5.302</u>	AMP/HOUR	

VOLTAGE DROP CALCULATIONS

	DISTANCE	CURRENT	VOLTAGE
CKT	(ft.)	LOAD (amps)	DROP (%)
V1	260	0.955	3.422
V2	325	1.136	5.089
V3	395	0.913	4.970
V4	295	1.162	4.725
V5	295	1.362	5.538
V6	225	1.153	3.576
V7	210	0.878	2.541
Spare	0	0	0.000
V9	220	1.581	4.794
V10	300	0.99	4.093
V11	295	1.282	5.212
V12	314	0.848	3.670
V13	185	1.291	3.292
V14	230	1.244	3.943
V15	325	1.011	4.529
V16	230	1.18	3.741

VOLTAGE	DROP	CALC	ULATIC)
(WOR	ST CA	SE SH	(NWO	

VOLTAGE DROP CALCULATIONS = <u>IXDX21.6</u> FORMULA: (FOR A GIVEN LENGTH OF CONDUCTOR) C.M.

I = AMPERES PER TERMINAL LOAD

D = ONE WAY DISTANCE OF CONDUCTOR (IN FEET) MEASURED FROM SOURCE OF SUPPLY TO LOAD

SIZE MILS (C.M.) 12 AWG 6530 21.6 = CONSTANT (RESISTANCE OF CONDUCTORS AT 10.8 OHMS PER L.M. FOR TWICE THE LENGTH) 14 AWG 4110 16 AWG 2580 18 AWG 1620 20 AWG 1020

WIRE CIRCULAR

C.M. = CROSS SECTIONAL AREA IN CIRCULAR MILS (SEE TABLE AT RIGHT)

GIVEN: CIRCUIT DESIGNATION = V11[™] APPROX LENGTH OF CONDUCTOR = 295 FEET

= 1.282 CURRENT LOAD = 12 [™]AWG WIRE SIZE USED

VOLTAGE DROP = $\frac{1.282 \times 295 \times 21.6}{6530} = \frac{8168.904}{6530} = 1.251$ VOLTS

% OF VOLTAGE DROP = $\frac{1.251 \text{ VOLTS}}{24 \text{ VOLTS}} = 0.052124$ or $\frac{5.212}{2}$ %

NOTES: 1. THE OPERATING VOLTAGE OF DEVICE USED IS 18 TO 31 VDC. THE RESULTING VOLTAGE DROP IS WITHIN THIS OPERATING RANGE.

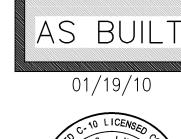
2. PERMISSIBLE VOLTAGE DROP IS 10% OR LESS

CIRCUIT NO:	PANEL NO:	LOCATION
CKT V1	PAD-3 #1	FIRST FLOOR (AREA 1)
CKT V2	PAD-3 #1	FIRST FLOOR (AREA 1)
CKT V3	PAD-3 #1	FIRST FLOOR (AREA 1)
CKT V4	PAD-3 #1	FIRST FLOOR (AREA 1)
CKT V5	PAD-3 #2	SECOND FLOOR (AREA 1)
CKT V6	PAD-3 #2	SECOND FLOOR (AREA 1)
CKT V7	PAD-3 #2	SECOND FLOOR (AREA 1)
SPARE	PAD-3 #2	SECOND FLOOR (AREA 1)
CKT V9	PAD-3 #3	THIRD FLOOR (AREA 1)
CKT V10	PAD-3 #3	THIRD FLOOR (AREA 1)
CKT V11	PAD-3 #3	THIRD FLOOR (AREA 1)
CKT V12	PAD-3 #3	THIRD FLOOR (AREA 1)
CKT V13	PAD-3 #4	FIRST FLOOR (AREA 2)
CKT V14	PAD-3 #4	SECOND FLOOR (AREA 2)
CKT V15	PAD-3 #4	SECOND FLOOR (AREA 2)
CKT V16	PAD-3 #4	THIRD FLOOR (AREA 2)



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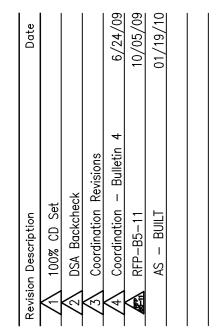
College of San 5N DB Project DSA Backcheck San Mateo, CA Developed for San Mateo County Com

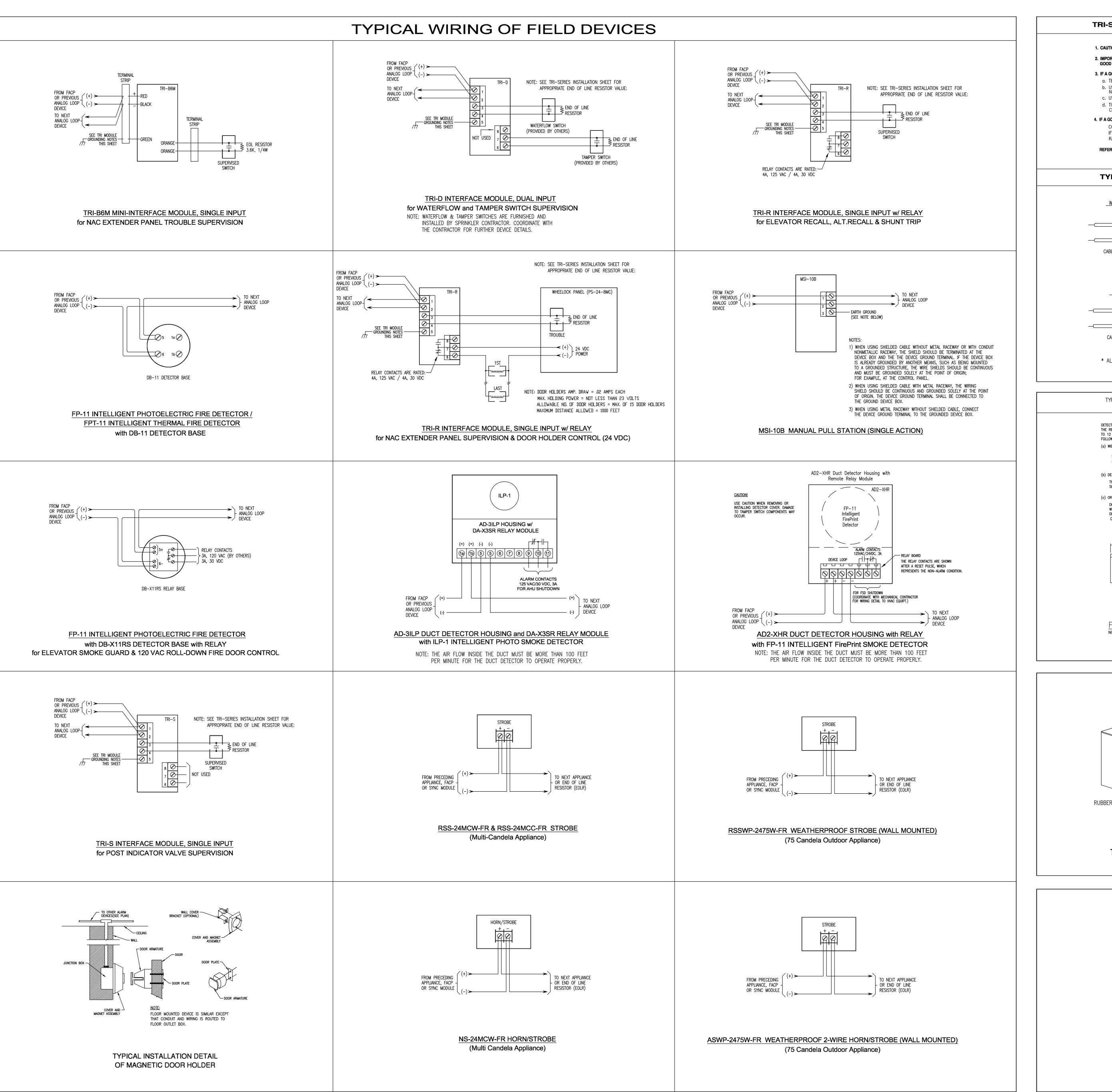
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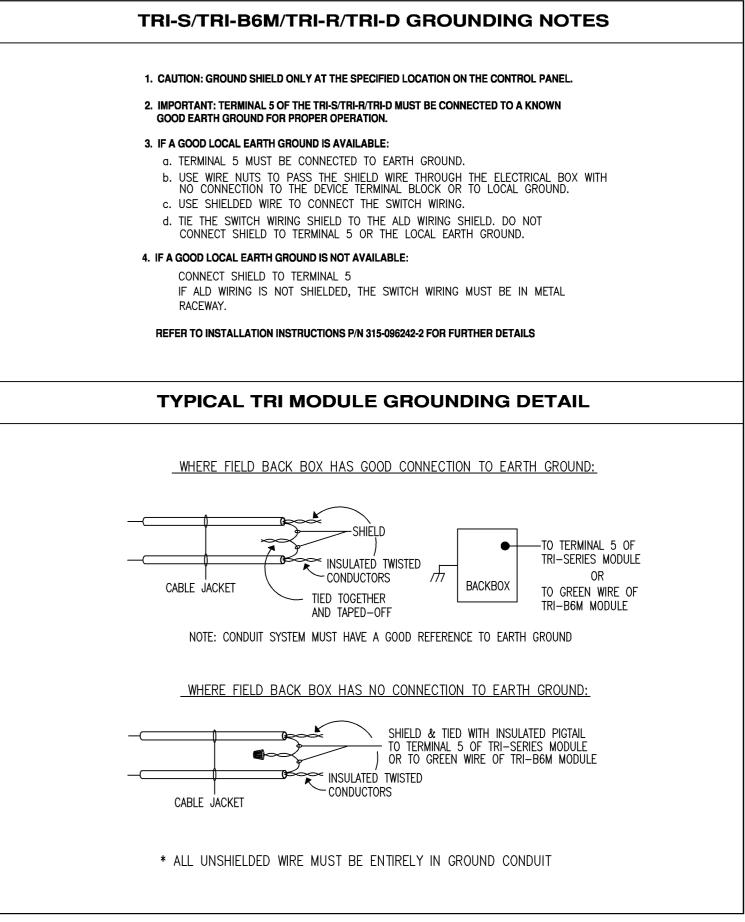
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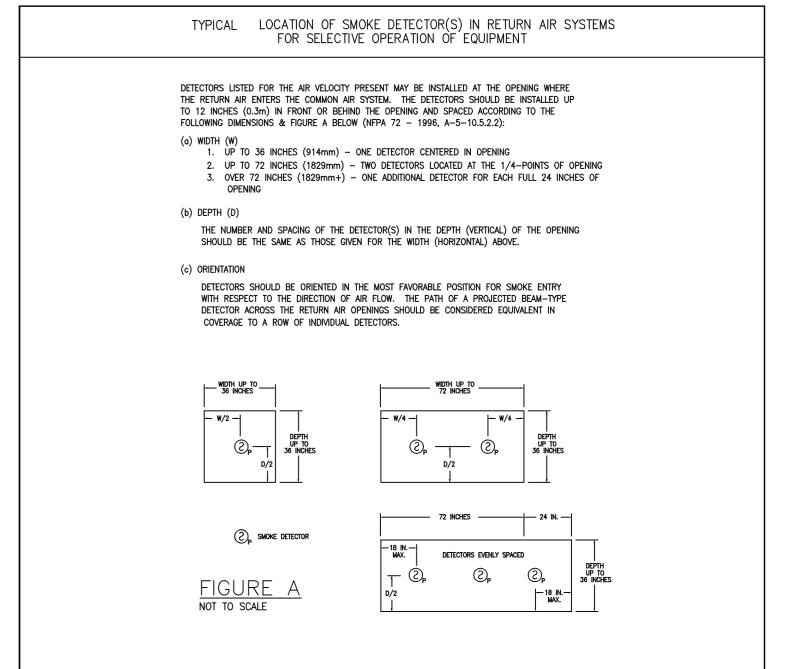
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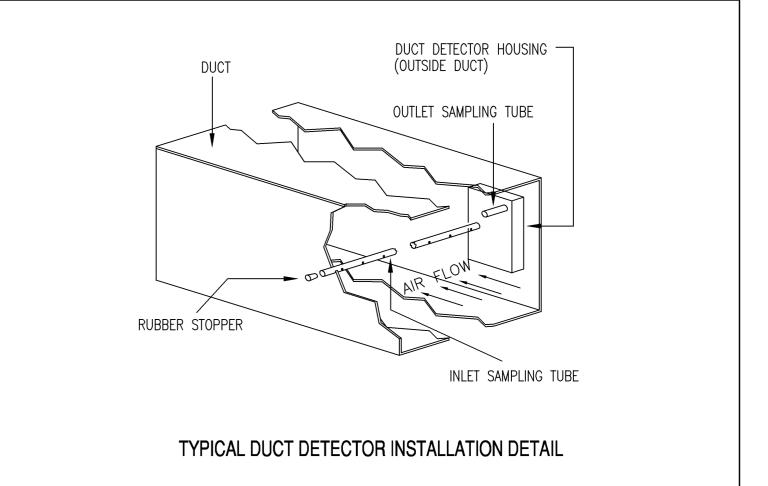
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FA1.04



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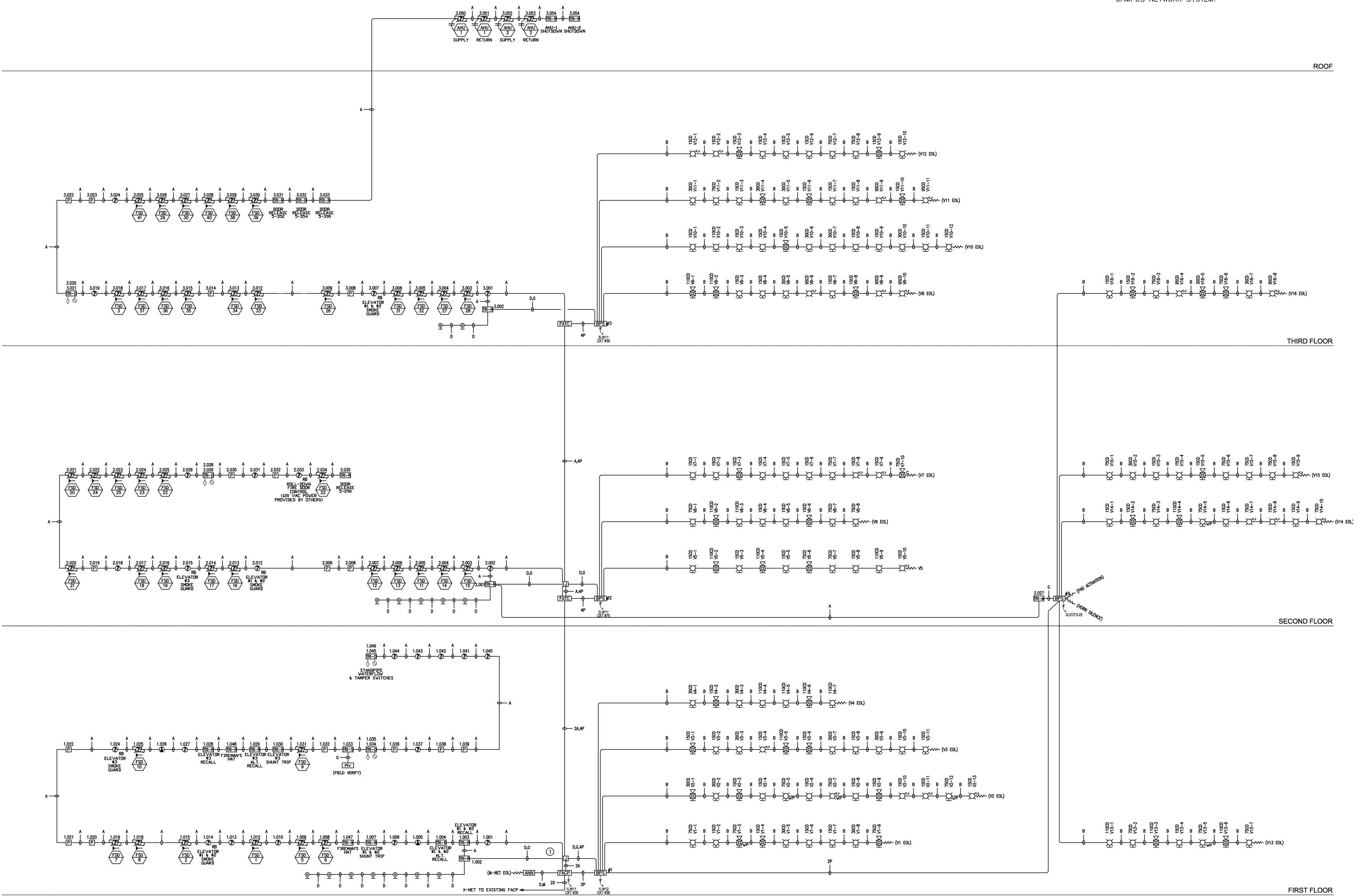
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① NEW FACP TO TRANSMIT ALARM, TROUBLE AND SUPERVISORY SIGNALS TO CENTRAL MONITORING STATION THROUGH EXISTING CAMPUS NETWORK SYSTEM.



AREA 1 AREA 2

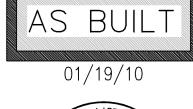
FIRE ALARM RISER DIAGRAM

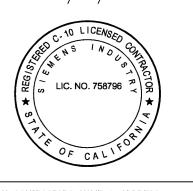


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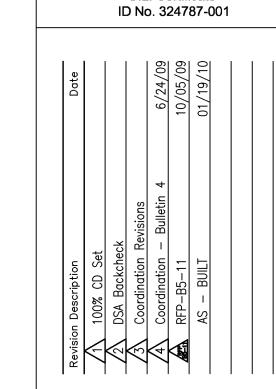
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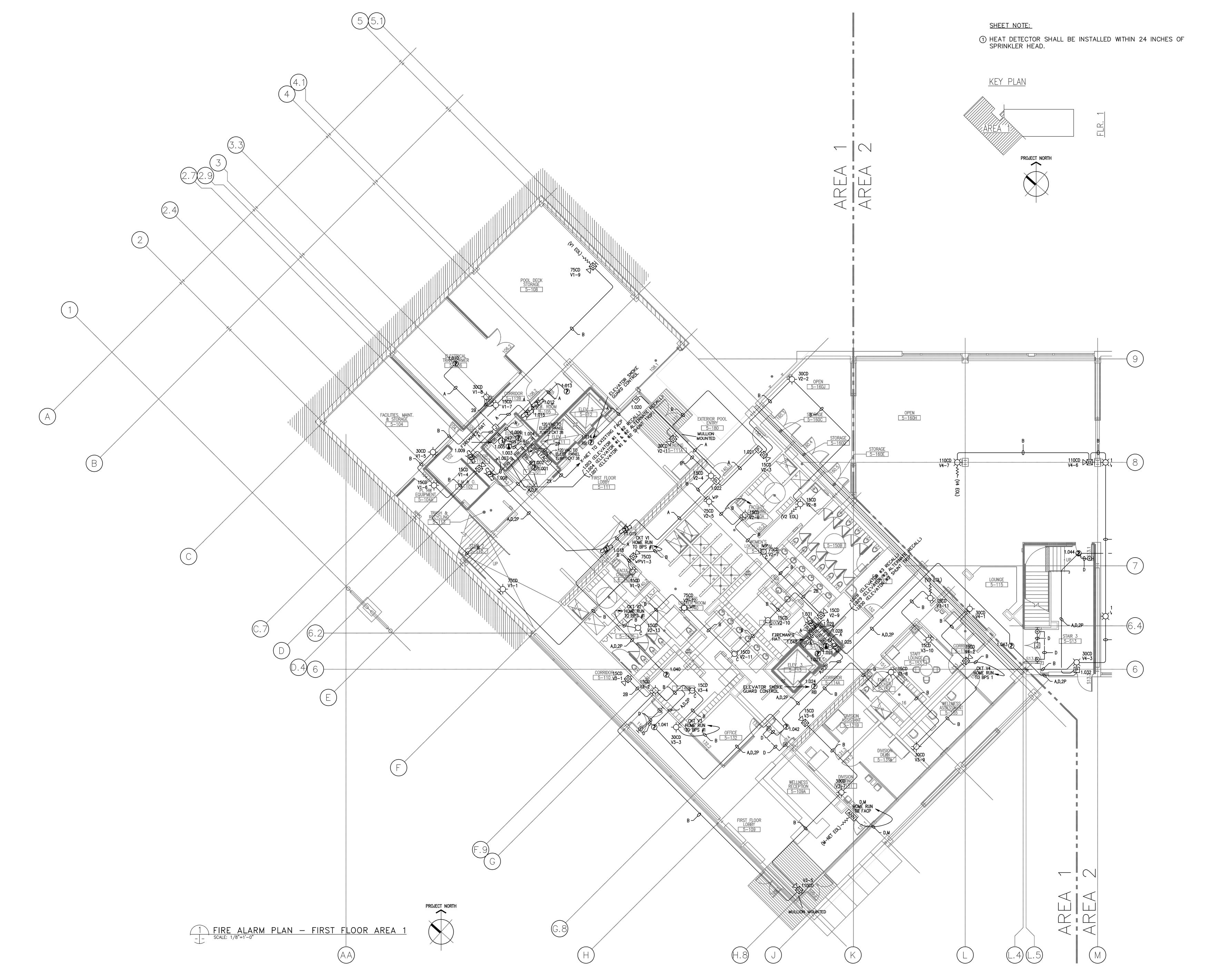
Date 01.19.2010

Scale

Not Applicable FA2.00

FIRE ALARM RISER DIAGRAM

FA2.00

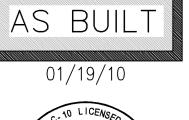


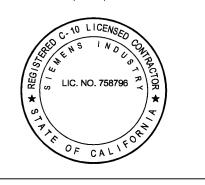


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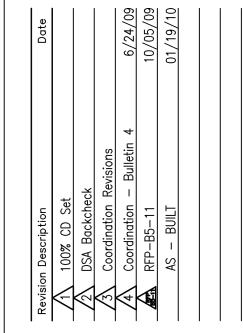
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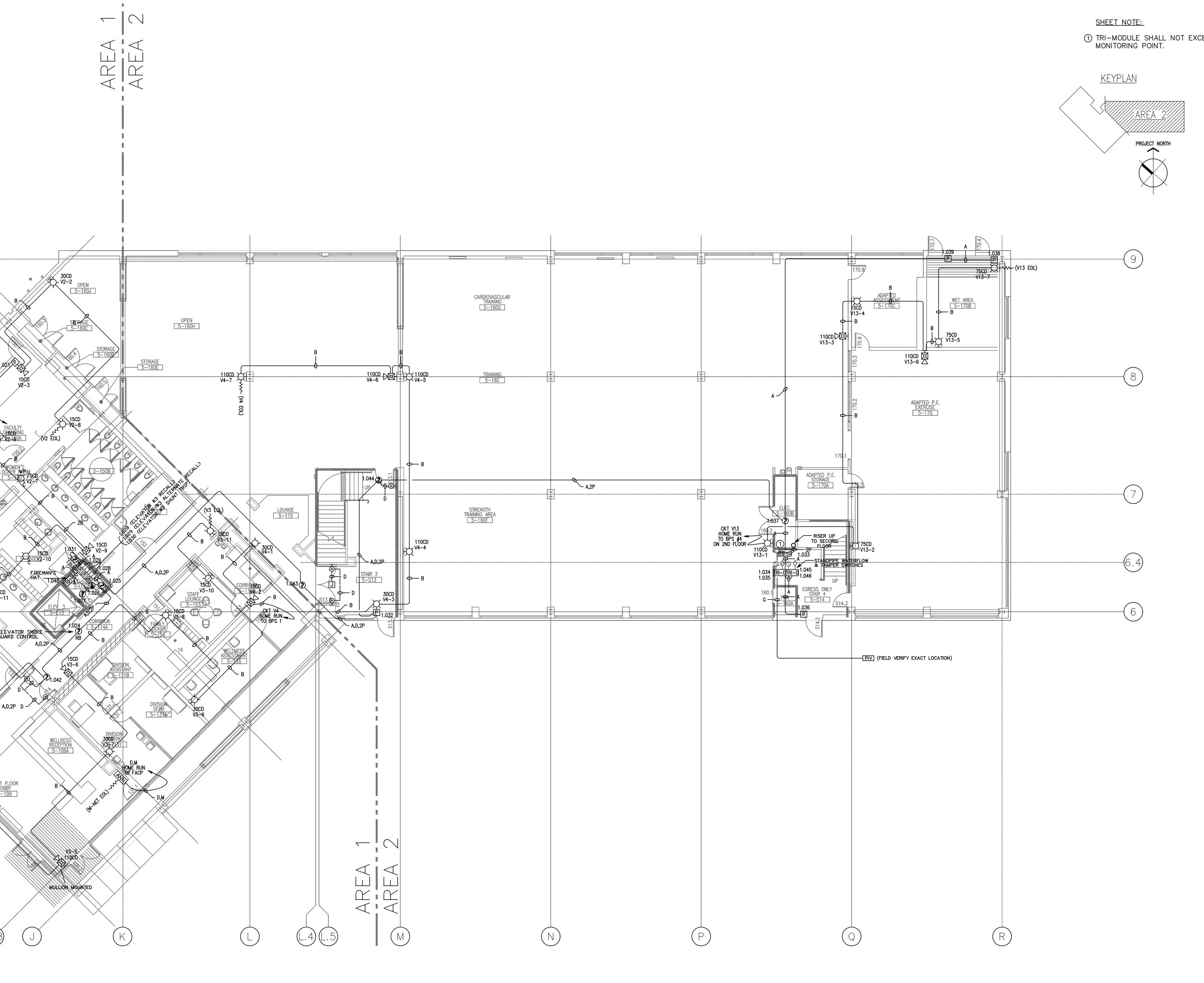
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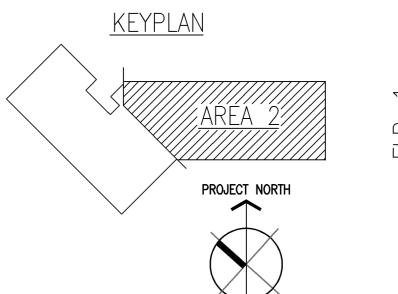
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See Drawii FA3.0

FIRE ALARM PLAN-FIRST FLOOR AREA 1



1 TRI-MODULE SHALL NOT EXCEED MORE THAN 200 FEET FROM MONITORING POINT.

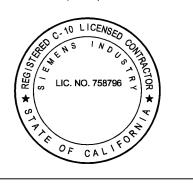


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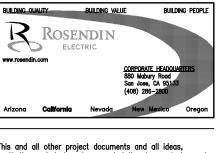
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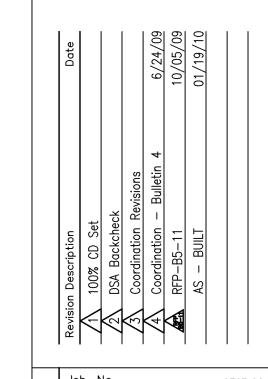
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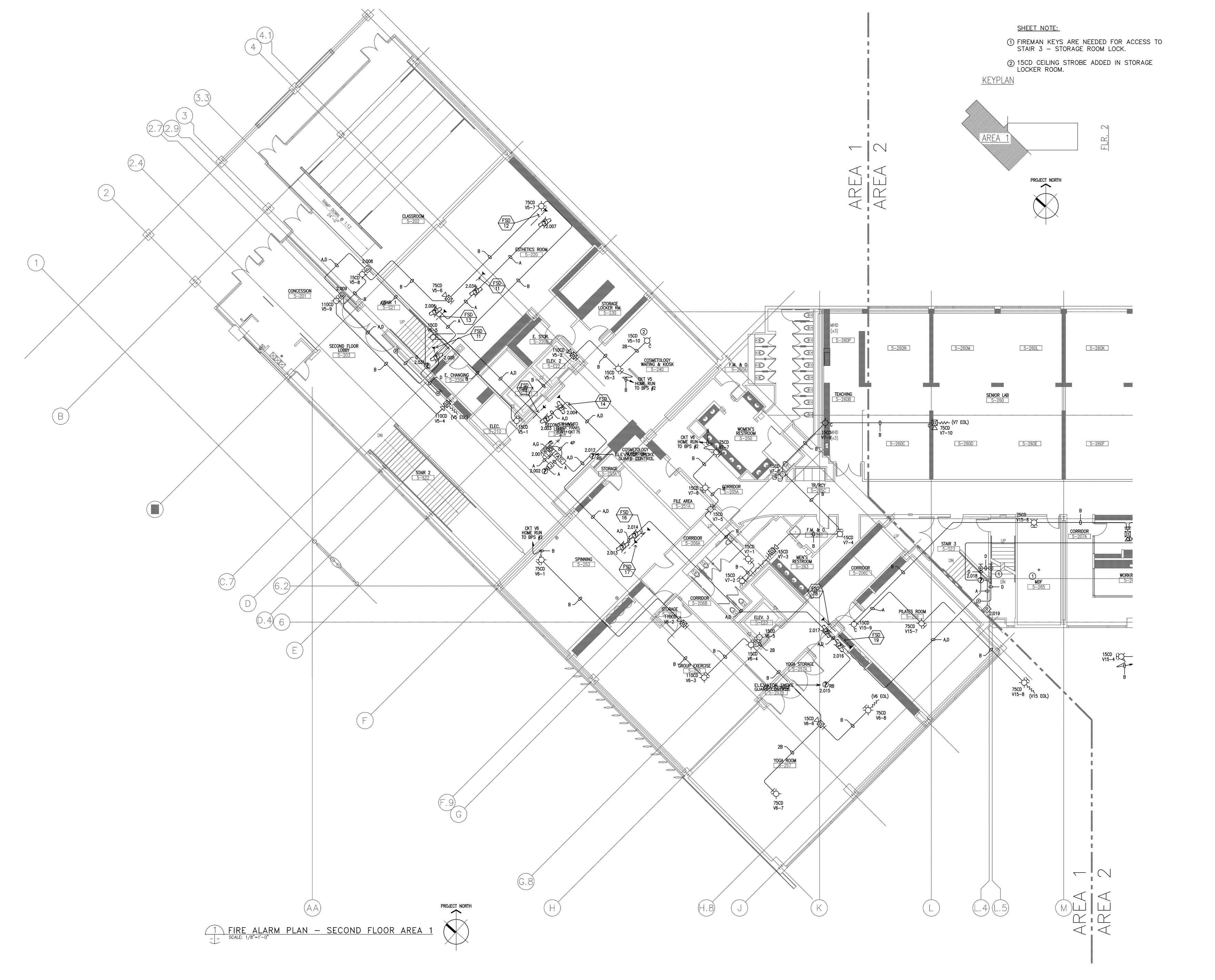
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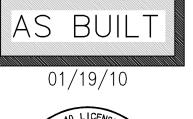
FIRE ALARM PLAN -FIRST FLOOR AREA 2 FA3.01

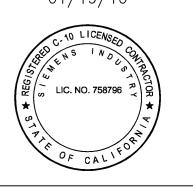




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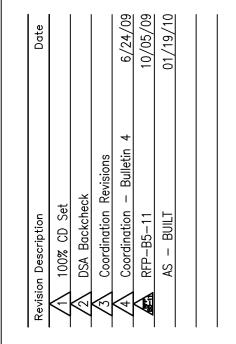
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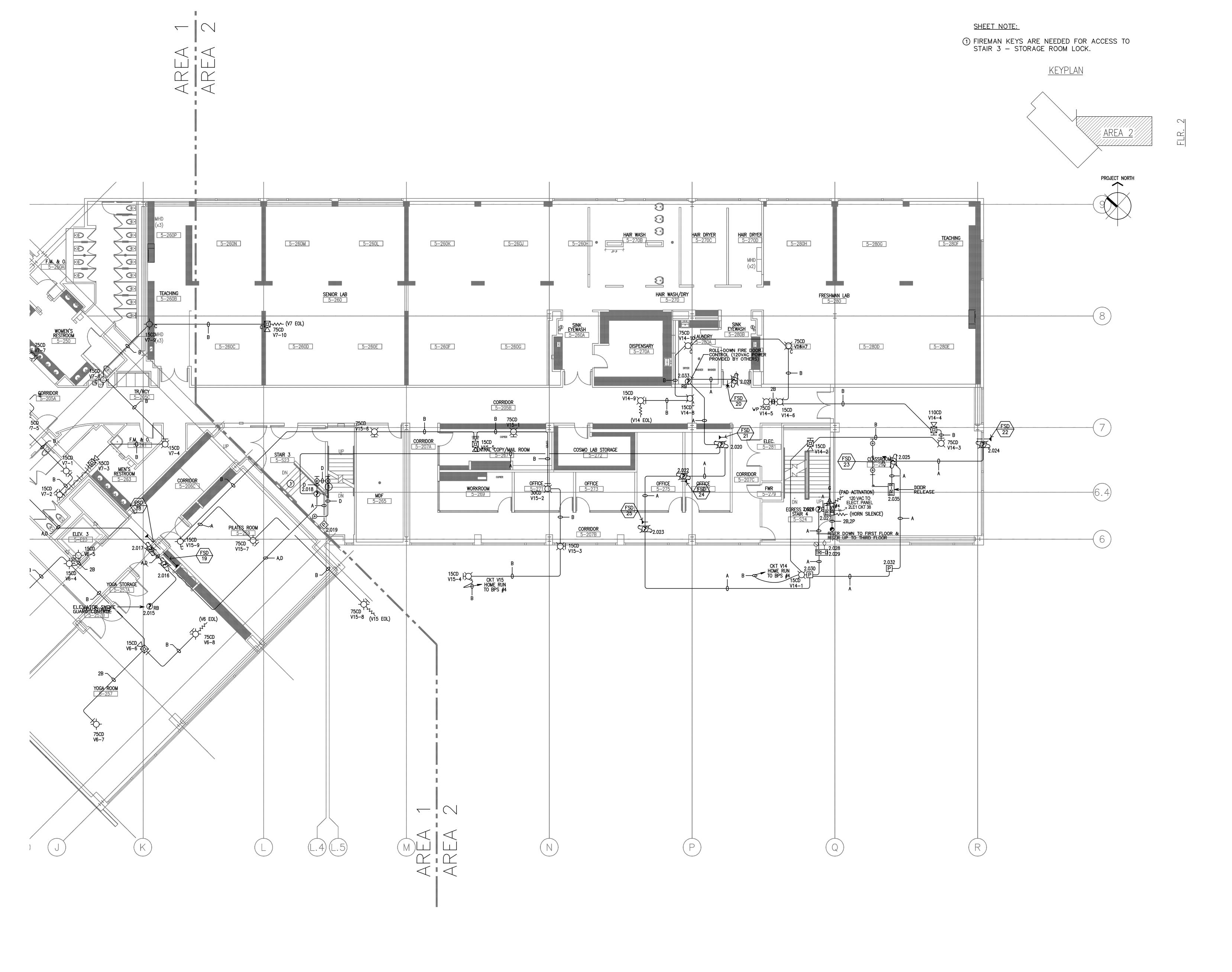
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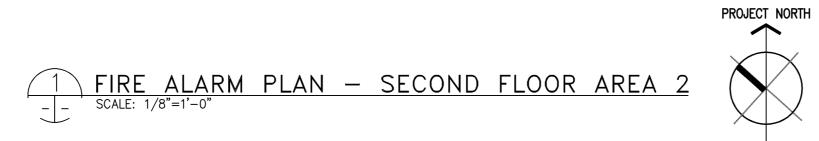
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FIRE ALARM PLAN -SECOND FLOOR AREA 1 FA3.02



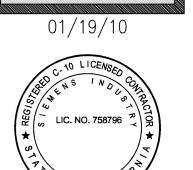




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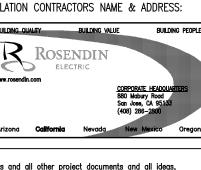
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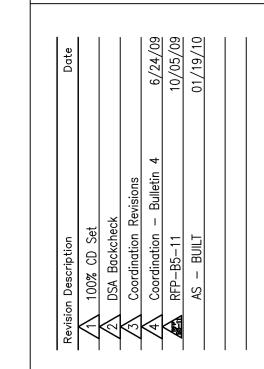
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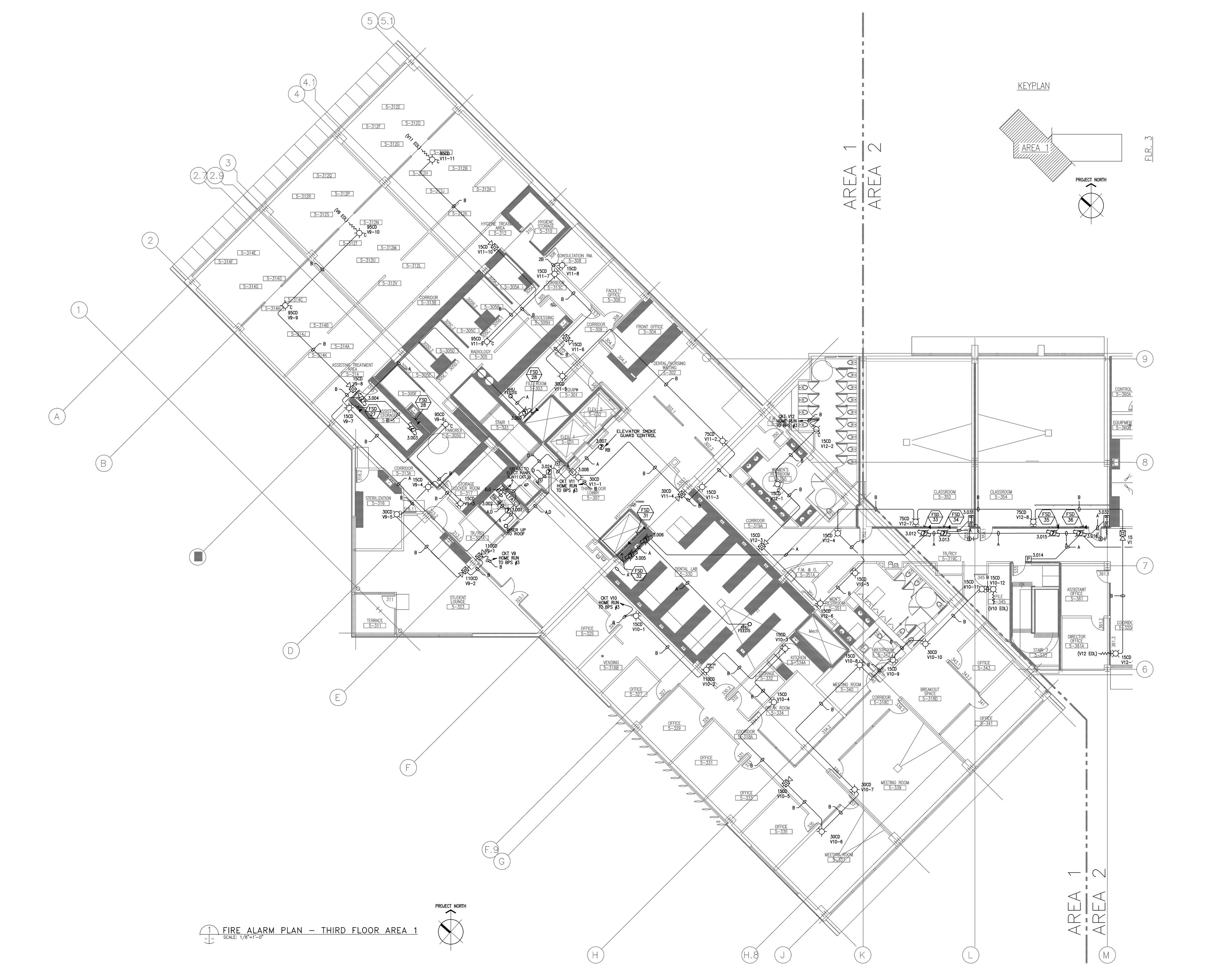
Date 01.19.2010

Scale

See Drawing FA3.03

FIRE ALARM PLAN - SECOND FLOOR AREA 2

FA3.03

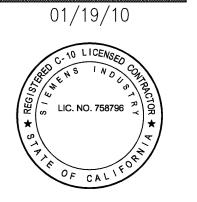


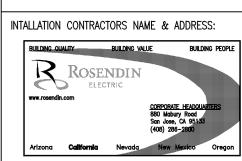


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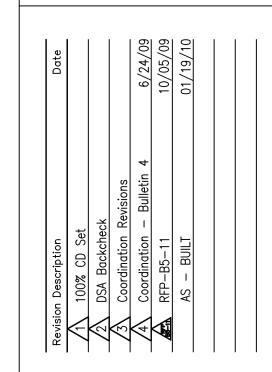
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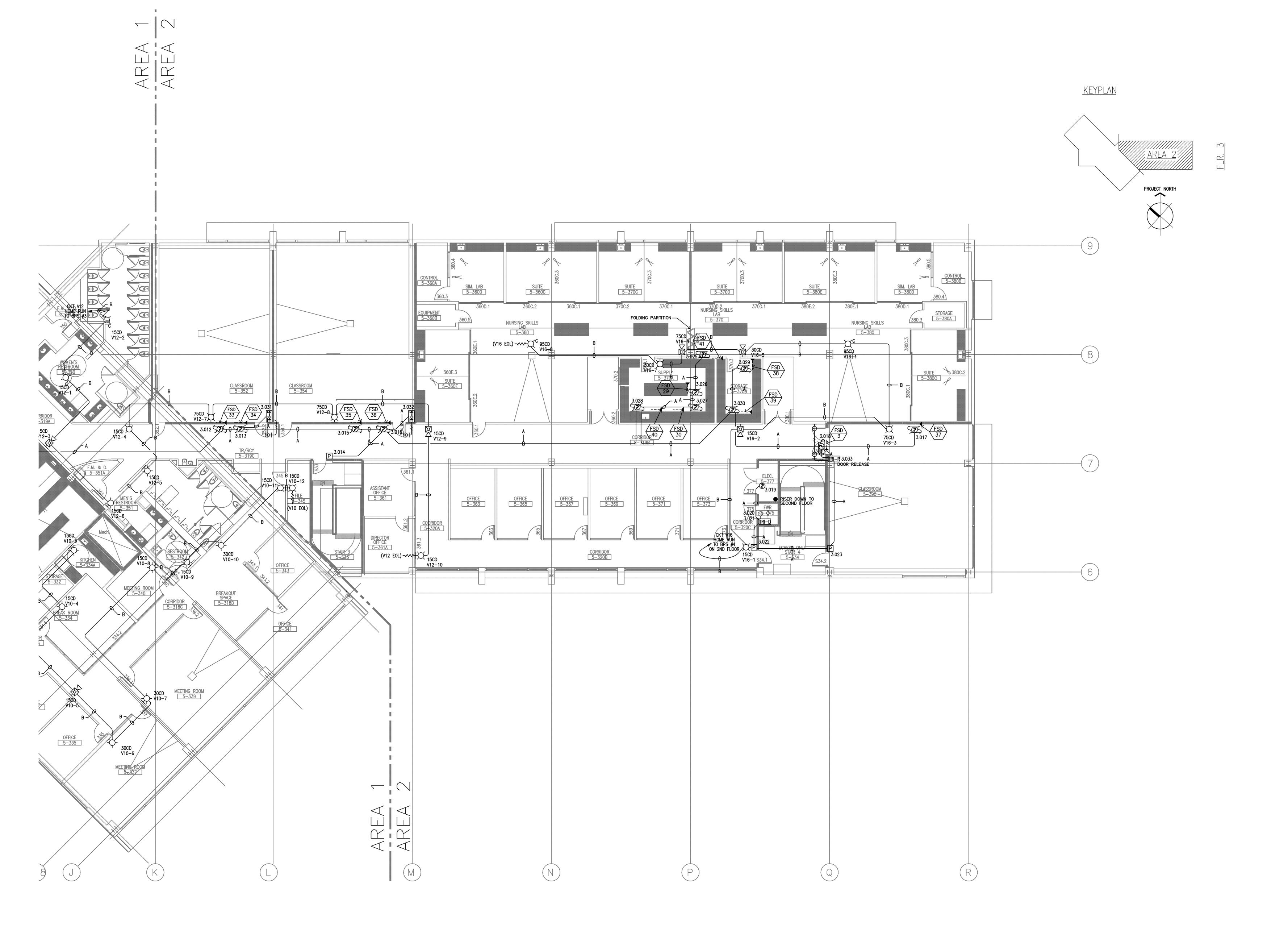
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 0715.00

 Date
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 Scale
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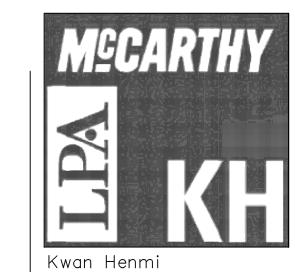
FA3.04 ALARM PLAN -D FLOOR AREA 1

FIRE ALARM PLAN - THIRD FLOOR AREA 1



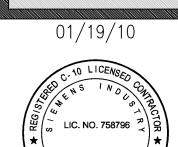


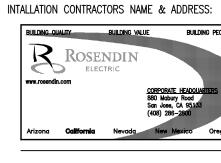




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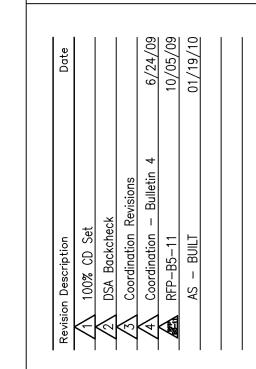
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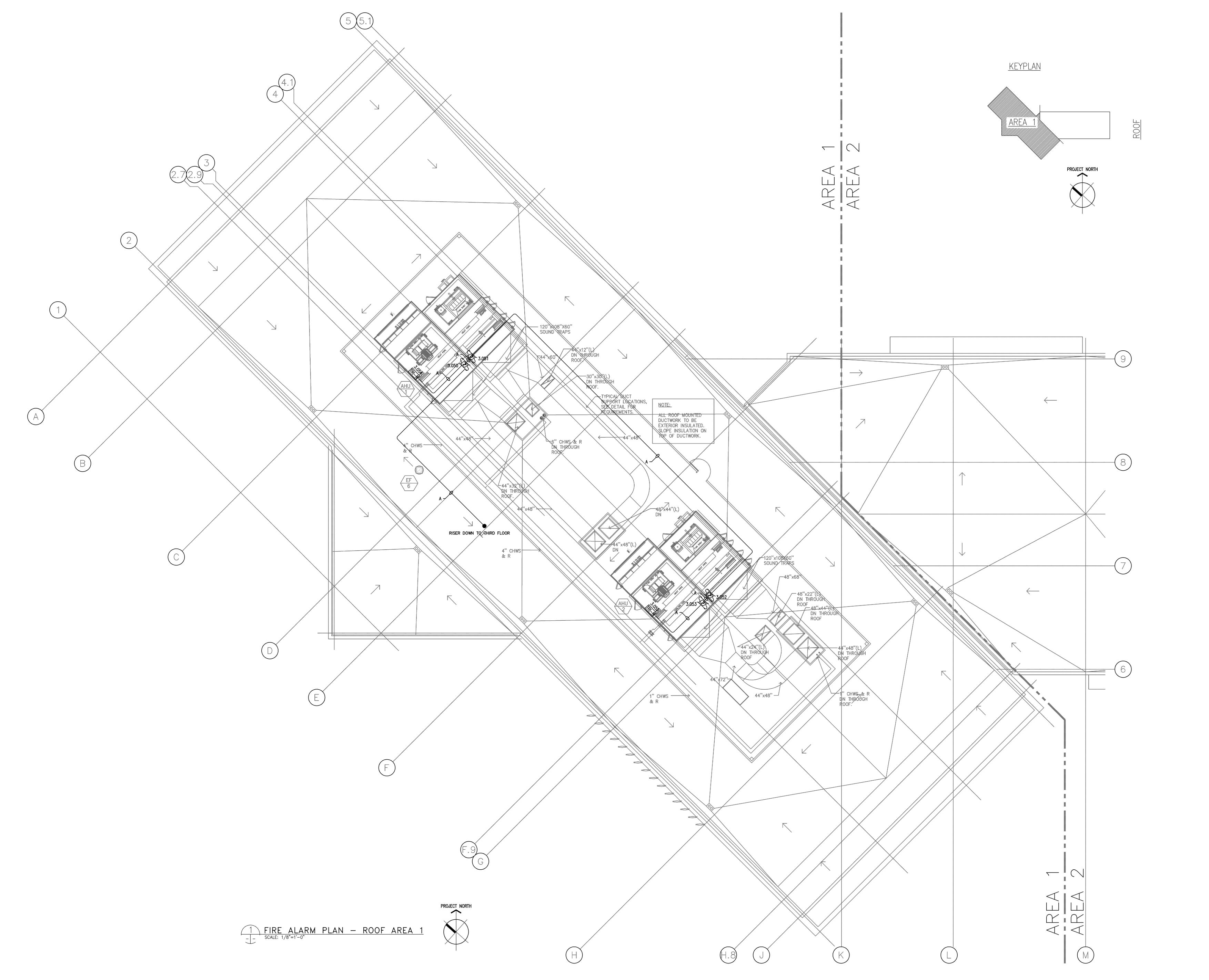
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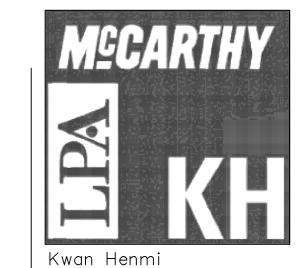
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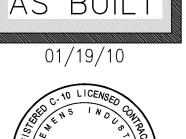




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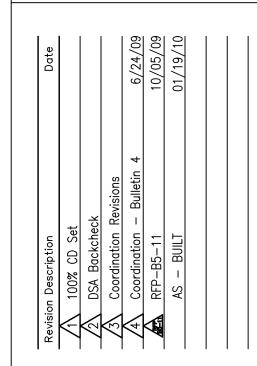
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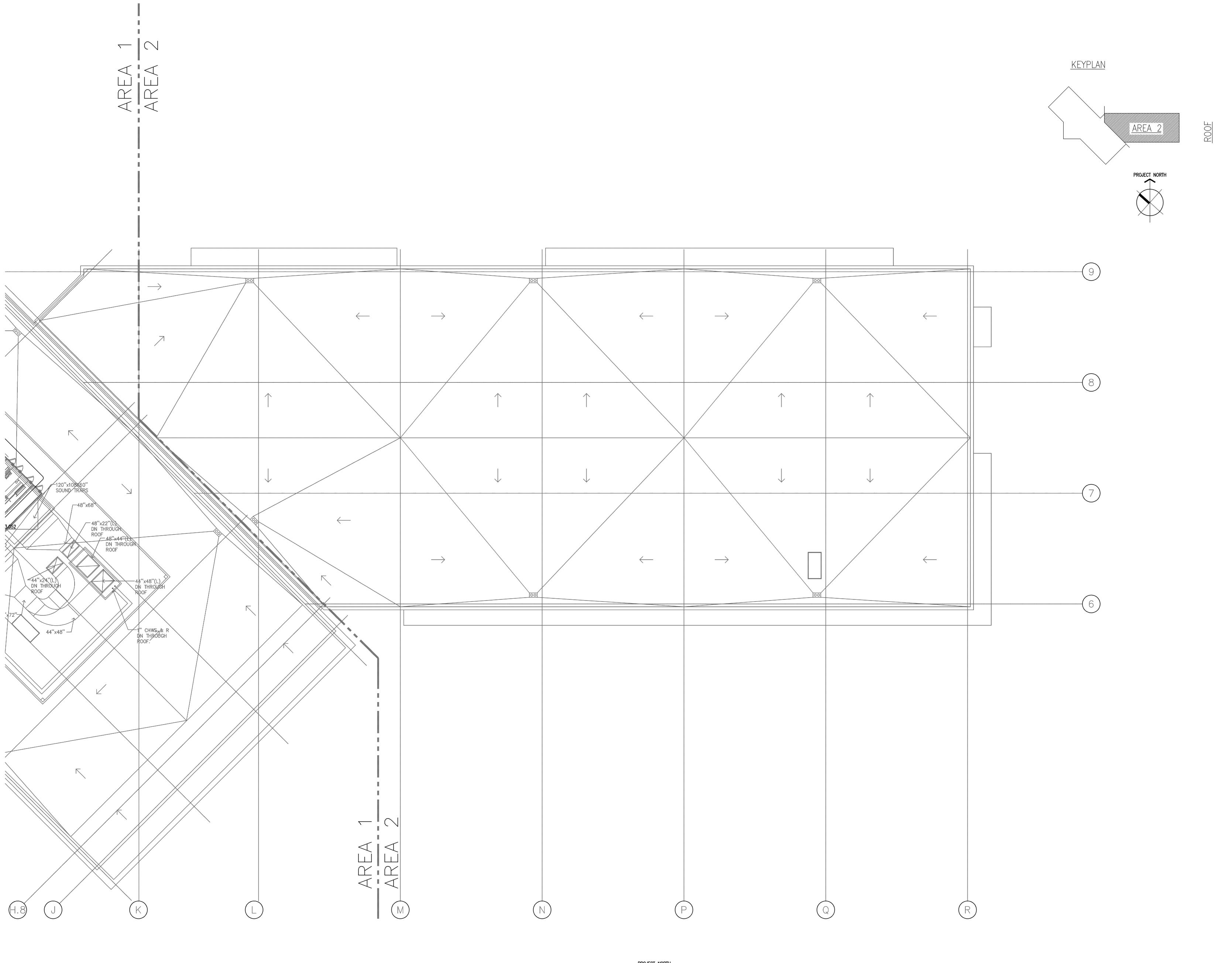
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See Drawing
FA3.06

FIRE ALARM PLAN ROOF AREA 1

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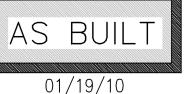
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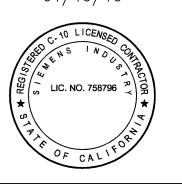
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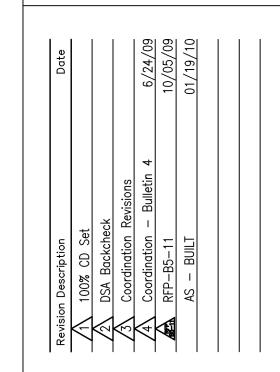
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Scale

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FIRE ALARM PLAN ROOF AREA 2

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