



Submittal #28 31 00-28 31 00-2.0

28 31 00 - Fire Alarm

McCarthy Building Companies Inc.
7930 Santa Fe Drive Suite 200
Overland Park, Kansas 66204
Phone: (913) 202-7002

Project: 003090.002 - Saint Luke's East Summit GI
100 NE Saint Luke's Blvd,
Lees Summit, Missouri 64086

003090.002 - Summit GI : 28 31 00 Fire Alarm - Shop Drawing

SPEC SECTION:	28 31 00 - Fire Alarm	SUBMITTAL MANAGER:	Nadia Opalenik (McCarthy Building Companies Inc)
STATUS:	Open	DATE CREATED:	05/12/2025
ISSUE DATE:		REVISION:	0
RESPONSIBLE CONTRACTOR:	P1 Group Inc	RECEIVED FROM:	Dylan Elzey
RECEIVED DATE:		SUBMIT BY:	
FINAL DUE DATE:	07/31/2025	LOCATION:	
TYPE:	Shop Drawing	COST CODE:	
CRITICAL:	No		
APPROVERS:	Nadia Opalenik (McCarthy Building Companies Inc), Liz Greer (Henderson Engineers Inc), Laurie Plimpton (Henderson Engineers Inc), Brian Dostal (ACI Boland Inc)		

BALL IN COURT:
Nadia Opalenik (McCarthy Building Companies Inc)

DISTRIBUTION:
Laurie Plimpton (Henderson Engineers Inc) , Liz Greer (Henderson Engineers Inc) , Joshua Halvorsen (McCarthy Building Companies Inc) , Brian Dostal (ACI Boland Inc) , Nadia Opalenik (McCarthy Building Companies Inc) , Sean Handley (Saint Luke's Health System) , Shayna Miller (McCarthy Building Companies Inc) , Kayla Smith (ACI Boland Inc) , Andy Hess (P1 Group Inc) , David Becerra (P1 Group Inc) , Dylan Elzey (P1 Group Inc) , Jack Pickman (P1 Group Inc) , Laura Adkins (P1 Group Inc) , Mike Hutchinson (P1 Group Inc) , Shawn Quenzer (P1 Group Inc)

DESCRIPTION:
B. Shop Drawings: 1. Shop Drawings shall be prepared by persons with the following qualifications: a. Trained and certified by manufacturer in fire alarm system design. b. Fire alarm certified by NICET, minimum Level III. 2. System Operation Description: Detailed description for this Project, including method of operation and supervision of each type of circuit and sequence of operations for manually and automatically initiated system inputs and outputs. Manufacturer's standard descriptions for generic systems are not acceptable. 3. Device Address List: Coordinate with final system programming. 4. System riser diagram with device addresses, conduit sizes, and cable and wire types and sizes. 5. Wiring Diagrams: Power, signal, and control wiring. Include diagrams for equipment and for system with all terminals and interconnections identified. Show wiring color code. 6. Batteries: Size calculations. 7. Duct Smoke Detectors: Performance parameters and installation details for each detector, verifying that each detector is listed for the complete range of air velocity, temperature, and humidity possible when air-handling system is operating. 28 31 00 - 2 FIRE ALARM Date 8. Ductwork Coordination Drawings: Plans, sections, and elevations of ducts, drawn to scale and coordinating the installation of duct smoke detectors and access to them. Show critical dimensions that relate to placement and support of sampling tubes, the detector housing, and remote status and alarm indicators. Locate detectors according to manufacturer's written recommendations. 9. Floor Plans: Indicate final outlet locations showing address of each addressable device. Show size and route of cable and conduits.

ATTACHMENTS:

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

SUBMITTAL WORKFLOW

#	NAME	SUBMITTER/ APPROVER	SENT DATE	DUE DATE	RETURNED DATE	RESPONSE	ATTACHMENTS
1	Laura Adkins	Submitter	6/30/2025	5/26/2025	7/1/2025	Submitted	#005-Fire Alarm Shop Drawings-



Submittal #28 31 00-28 31 00-2.0

28 31 00 - Fire Alarm

#	NAME	SUBMITTER/ APPROVER	SENT DATE	DUE DATE	RETURNED DATE	RESPONSE	ATTACHMENTS
							202506301613 (2).pdf
COMMENTS:							
2	David Becerra	Submitter		5/26/2025		Pending	
COMMENTS:							
3	Dylan Elzey	Submitter		5/26/2025		Pending	
COMMENTS:							
4	Mike Hutchinson	Submitter		5/26/2025		Pending	
COMMENTS:							
5	Jack Pickman	Submitter		5/26/2025		Pending	
COMMENTS:							
6	Nadia Opalenik	Approver	7/1/2025	7/3/2025		Pending	
COMMENTS:							
7	Liz Greer	Approver		7/17/2025		Pending	
COMMENTS:							
8	Laurie Plimpton	Approver		7/17/2025		Pending	
COMMENTS:							
9	Brian Dostal	Approver		7/31/2025		Pending	
COMMENTS:							

BY

DATE

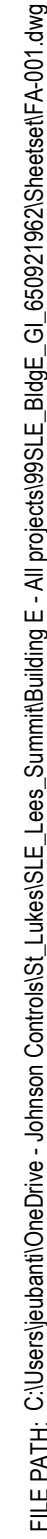
COPIES TO

Submittal item detail

#005-005-0: Fire Alarm Shop Drawings



Status	Created on	Ball in court due date
Open In Review	Jun 30, 2025	Jul 7, 2025
ID	5	
Pending action from	Mike Hutchison (P1 Construction LLC)	
Ball in court	Mike Hutchison (P1 Construction LLC)	
Manager	Laura Adkins (P1 Construction LLC)	
Responsible contractor	Mike Hutchison (P1 Construction LLC)	
Watchers	Jack Pickman (P1 Construction LLC) Mike Hutchison (P1 Construction LLC) Foreman- BT	
Spec section	005 Fire Alarm Shop Drawings	
Spec sub section		
Type	Shop Drawings	
Description		
Final Response		
Final Response Attachments		
Final Response Comments		
Package		



Johnson Controls

TRICT - 332
19 STRANG LINE ROAD
MILWAUKEE, WI 53212-1000

Sheet Number	Sheet Title
FA-001	COVER SHEET
FA-101	DEVICE PLACEMENT PLAN & DETAILS
FA-601	CALCULATIONS AND SCHEDULES

1. THESE DRAWINGS DEPict GENERAL LOCATIONS OF LIFE SAFETY EQUIPMENT & FIELD DEVICES. EXACT ROUTING OF CONDUITS IS TO BE DETERMINED IN THE FIELD BY THE INSTALLING CONTRACTOR TO SUIT CONDITIONS. ALL CHANGES SHALL BE CLEARLY INDICATED ON THE DRAWINGS.
2. SHOULD ANY CONDITIONS EXIST THAT DIFFER FROM WHAT IS INDICATED ON THESE DRAWINGS WHICH CAUSE MAJOR DEVIATIONS IN THE WORK SHOWN, THE CONTRACTOR SHALL CONTACT JOHNSON CONTROLS IN A TIMELY MANNER SO AS NOT TO IMPAIR THE CONSTRUCTION SCHEDULE.
3. THE CONTRACTOR IS RESPONSIBLE FOR MAKING AND OBTAINING APPROVAL FOR ALL NECESSARY ADJUSTMENTS IN CIRCUITING AS REQUIRED TO ACCOMMODATE THE RELOCATION OF EQUIPMENT AND/OR DEVICES WHICH ARE AFFECTED BY ANY AUTHORIZED CHANGES. ALL CHANGES SHALL BE CLEARLY INDICATED ON THE RECORD DRAWINGS.
4. THE USE OF APPROVED FIRE ALARM DEVICES SHALL BE THE RESPONSIBILITY OF THE FIRE ALARM INSTALLER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE POWER CIRCUIT TO THE FACP AND TO THE FIRE ALARM POWER SUPPLIES SHALL BE ON A DEDICATED 120V, 20 AMP BRANCH CIRCUIT BREAKER, AND SHALL HAVE A RED MARKING, LOCK OR PROVISION AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL". THE LOCATION OF THE CIRCUIT DISCONNECT MEANS (CIRCUIT BREAKER) SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL UNIT.
5. UPDATE THE AS-BUILT DRAWING SET DAILY WITH JOB PROGRESS. RETURN THE AS-BUILT DRAWING SET TO JOHNSON CONTROLS NO LATER THAN 7 DAYS AFTER FINAL SET.
6. THE CONTRACTOR WILL MAINTAIN ALL AREAS OF THE BUILDING IN A NEAT AND WORKMANLIKE MANNER.
7. DO NOT APPLY POWER EXCEPT IN THE PRESENCE OF A FACTORY TRAINED JOHNSON CONTROLS TECHNICAL REPRESENTATIVE. ANY SMOKE DETECTOR HEAD INSTALLED BEFORE THE BUILDING IS CLEANED AND ACCEPTED SHALL BE COVERED TO PROTECT FROM DAMAGE. NO ELECTRICAL POWER SHALL BE APPLIED TO ANY HEADS UNTIL THE HEADS ARE THE RESPONSIBILITY OF THE FIRE ALARM INSTALLER.
8. THE FIRE ALARM INSTALLER WILL MAINTAIN THE FIRE RESISTANCE INTEGRITY OF ALL WALL, CEILING, AND ROOF ASSEMBLIES ANY TIME THAT WORK IS NOT ACTIVELY BEING PERFORMED.
9. INSTALLATION OF DEVICES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. POWER LIMITED AND NON-POWER LIMITED FIRE ALARM CIRCUITS SHALL BE IDENTIFIED WITHIN THE FACP ENCLOSURE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND APPLICABLE ELECTRICAL CODES REFER TO APPLICABLE CODES & STANDARDS FOR SPECIFIC CODE REFERENCES.
10. ALL WIRING SHALL BE INSTALLED ACCORDING TO APPLICABLE ELECTRICAL CODES.
11. ALL FIRE ALARM CIRCUITS SHALL BE IDENTIFIED WITHIN THE ELECTRICAL CODES. MARK ALL FIRE ALARM WIRES IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODE SECTIONS FOR POWER LIMITED AND NON-POWER LIMITED WIRE.
12. FIRE ALARM CABLE INSTALLED IN DUCTS, PLenums, AND OTHER SPACES USED FOR ENVIRONMENTAL AIR SHALL BE TYPE FPLP.
13. FIRE ALARM CABLE INSTALLED IN THE VERTICAL RUNS AND PENETRATING MORE THAN ONE FLOOR OR CABLES INSTALLED IN VERTICAL RUNS SHALL BE TYPE FPLP.
14. FIRE ALARM CABLE SHALL BE IDENTIFIED WITHIN THE ELECTRICAL CODES.
15. FIRE ALARM CABLE INSTALLED IN UNDERGROUND CONDUIT OR OTHER VET LOCATIONS SHALL BE UL LISTED FOR WET LOCATIONS.
16. FIRE ALARM CIRCUITS EXTENDING BEYOND ONE BUILDING AND RUN OUTDOORS SHALL BE INSTALLED IN ACCORDANCE APPLICABLE ELECTRICAL CODES, WHERE APPLICABLE.
17. ALL WIRING, INCLUDING SHELDS MUST BE DRY AND FREE OF SHORTS AND GROUNDS.
18. ALL SHELDED WIRE MUST HAVE SHELDS CONTINUITY AT FULL LENGTH OF THE WIRE.
19. WIRING SYSTEM WIRING CAN BE RUN IN THE SAME CONDUIT.
20. 120VAC IS NOT PERMITTED IN THE SAME CONDUIT WITH LOW VOLTAGE WIRING.
21. MAINTAIN MAXIMUM CONDUIT FILL RATIO AS PER APPLICABLE ELECTRICAL CODES REQUIREMENTS.
22. EXISTING CONDUITS MAY BE USED BY THE INSTALLATION CONTRACTOR AS DEEMED NECESSARY; HOWEVER, ANY EXISTING CONDUIT USED MUST ONLY CONTAIN CONDUITS THAT MEET ALL STANDARDS AND CODES. JOHNSON CONTROLS' WEMES NO STATEMENTS WRITTEN OR VERBAL AS TO THE CONDITION OF EXISTING CONDUITS.

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SYMBOL DESCRIPTION		BRAND / MODEL	BACKBOX	WIRE TYPE(S)
INITIATING DEVICES				
	SMOKE SENSOR, ADDRESSABLE, PHOTOELECTRIC W/ STANDARD BASE, ADDRESSABLE	4098-9714 HEAD 4098-9722 BASE	4" OCT, 1-1/2" D	M
	DOUBLE ACTION MANUAL PUSH/PULL STATION, ADDRESSABLE	4099-9006	4" SQ, 2-1/8" D W/ 3/4" SINGLE GANG COVER EXTENSION	M
MODULES AND RELAYS				
	IDNET RELAY IAM, ADDRESSABLE	4090-9002	4" SQ, 2-1/8" D W/ COVER	M/R
	TRIM PLATE FOR SURFACE MOUNTING	4090-9802		
NOTIFICATION APPLIANCES				
#W	HIGH FIDELITY SPEAKER, ADDRESSABLE, WALL MOUNT, APPLIANCE ONLY	49HF-APPLW	4" SQ, 2-1/8" D	A,S
	APPLIANCE COVER, RED, FIRE LETTERING	45QC/VWR/FR		
	MOUNTING PLATE, RED	49MP-SQWR		
#W	HIGH FIDELITY SPEAKER/STROBE, ADDRESSABLE, WALL MOUNT, WALL CANDLE, CLEAR LENS, APPLIANCE ONLY	49HFV-APPLW	4" SQ, 2-1/8" D	A,S
	APPLIANCE COVER, RED, FIRE LETTERING	45VC/VWR/FR		
	MOUNTING PLATE, RED	49MP-SVWR		
MISCELLANEOUS DEVICES				
	FIRE/SMOKE DAMPER	BY OTHERS FIRE/SMOKE DAMPER		
10k	END-OF-LINE RESISTOR 10kΩ, 1/2W (EOL)	4081-9008		

CIRCUIT DESCRIPTION		CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	FFLR	FFPL	THIN	THFN	OUTPUT	C.L.
A	ADDRESSABLE NOTIFICATION	UTP SOLID	14 AWG	60pfr MAX CAPACITANCE; 3 watt/ft. MINIMUM	X	X				
M	IDNET	UTP SOLID	18 AWG	0.60uF MAX TOTAL LINE CAPACITANCE	X	X				
R	RELAY	2 COND. SOLID	18 AWG		X	X	X	X		
S	AUDIO - SPEAKER	UTP SOLID	18 AWG	30pfr MAX CAPACITANCE RECOMMENDED	X	X				
CONDUIT SIZE		MAX CONDUCTOR AREA		CONDUIT SIZE		MAX CONDUCTOR AREA				
1/2"		0.122 SQ. INCH"		1-1/4"		0.598 SQ. INCH"				
3/4"		0.213 SQ. INCH"		1-1/2"		0.814 SQ. INCH"				
1"		0.346 SQ. INCH"		2"		1.342 SQ. INCH"				
- 40% CONDUIT FILL PER N.E.C.										
STP = SHIELDED TWISTED PAIR										
UTP = UNSHIELDED TWISTED PAIR										
ITEMS SUCH AS CAPACITANCE BETWEEN CONDUCTORS AND WIRE GAUGE CAN BE CRUCIAL TO THE CIRCUIT DESIGN OF THIS SYSTEM INSTALLATION. THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR SELECTING AND INSTALLING CABLE MANUFACTURERS AND MODEL THAT MEETS OR EXCEEDS THE ABOVE REQUIREMENTS. RECOMMENDED CABLE MANUFACTURERS AND MODEL NUMBERS ARE AVAILABLE UPON REQUEST.										

INTERNATIONAL BUILDING CODE (IBC), 2018 EDITION
INTERNATIONAL FIRE CODE (IFC), 2018 EDITION
NATIONAL ELECTRIC CODE (NFPA 70), 2017 EDITION
NATIONAL FIRE ALARM AND SIGNALING CODE (NFPA 72), 2016 EDITION

OCCUPANCY TYPE(S):
B BUSINESS GROUP

SPRINKLER PROTECTION:
BUILDING IS FULLY SPRINKLERED

MODIFY EXISTING FIRE ALARM SYSTEM: PROVIDE NEW DEVICES AS SHOWN ON DRAWINGS

ALL NEW WIRING TO BE CLASS B

THE EXISTING FIRE ALARM SYSTEM SHALL NOT BE DISCONNECTED OR TAKEN OUT OF SERVICE WITHOUT WRITTEN PERMISSION FROM THE OWNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE OWNER THE TIMING OF ANY EXISTING FIRE ALARM SYSTEM DEMOLITION WORK.

THIS PROJECT'S DESIGN IS BASED ON THE ENGINEERED PLANS AND SPECIFICATIONS PREPARED BY: HENDERSON ENGINEERS

ARCHITECTURAL PLANS DATED: 04/07/2025

AF = ABOVE CEILING	NEC = NATIONAL ELECTRIC CODE
AFB = ABOVE FINISHED FLOOR	NFPA = NATIONAL FIRE PROTECTION ASSOCIATION
AFJ = AUTHORITY HAVING JURISDICTION	NO = NOT IN CONTRACT
ALM = ALARM	NPS = NETWORK MANAGEMENT SYSTEM
ANN = ANNUNCIATOR	NTS = NOT TO SCALE
BAS = BUILDING MANAGEMENT SYSTEM	RC = REMOTE ACTION PANEL
C = CEILING HUNG	RC = EXISTING TO REMOVE AND COVER
CD = CABLE ROUTING	RO = EXISTING DEVICE TO BE RELOCATED
CE = CEILING	RL = RELOCATED DEVICE
DGP = DATA GATHERING PANEL	RR = EXISTING TO REPLACE WITH NEW
E = EXISTING TO REMAIN	SC = STATUS COMMAND CENTER
EDL = END OF LINE	SC = SIGNALING LINE CIRCUIT
EPO = EXISTING POWER OFFER	SMK = SMOKE
ER = ELEVATOR RECALL	SUPV = SUPERVISORY
FAC = FIRE ALARM CONTROL PANEL	TB = TRIBLEST ADDRESSABLE CONTROLLER
FACP = FIRE ALARM CONTROL PANEL	TO = TYPE OF SHIFT
FATO = FIRE ALARM TERMINAL, CABINET	TRBL = TROUBLE
FBD = FURNISHED BY OTHERS	TS = TAMPERS SWITCH
FC = FIRE COMMAND CENTER	TY = TYPICAL
FDC = FIRE DAMPER	UN = UNLESS OTHERWISE NOTED
FTB = FIRE ALARM TRANSMITTER	VC = VOICE COMMAND CENTER
H = HIGH	VF = VALVE TAMPER
H = HIGH	W = WATAGE
HVAC = HEATING VENTILATION & AIR CONDITIONING	WI = WITH
IMS = INFORMATION MANAGEMENT SYSTEM	WO = WITHOUT
MAX = MAXIMUM	WU = WATER-UN
MIN = MINIMUM	WG = WIRE GUARD
NA = NOT APPLICABLE	WE = WEATHERPROOF
NAC = NOTIFICATION APPLIANCE CIRCUIT	XP = EXPLOSION PROOF
NDS = NETWORK DISPLAY	

<u>Sales Representative</u>	<u>Scheduling</u>	<u>Drawings Prepared By</u>	<u>Drawings Reviewed By</u>
TODD WHALEN DONALD.TODD.WHALEN@JCI.COM PHONE: 786-249-2200	CARLA FRATZEL CARLA.FRATZEL@JCI.COM PHONE: 816-450-5229	BEATRICE LOSTRACCO BEATRICE.LOSTRACCO@JCI.COM	TIM EUBANKS TIMOTHY.EUBANKS@JCI.COM

<u>Site</u>	<u>Installer</u>	<u>Johnson Controls District - 33</u>
SAINT LUKE'S EAST HOSPITAL 100 NORTHEAST ST. LUKE'S BLVD LEE'S SUMMIT, MO 64086	P1 CONSTRUCTION 13605 W. 96TH TERRACE LEXANA, KS 66215	11019 STRANG LINE ROAD LENEXA, KS 66215 PHONE: 913-894-0010 FAX: 913-894-0020 SERVICE: 913-894-0010

PANEL DESIGNATOR

- # FA = FACP (NON-NETWORK)
- # F = NODE NUMBER
- # T# = TRANSDUCER NUMBER
- # T#F = NODE, TRANSDUCER NUMBER
- N# = MAC EXTENDER NUMBER

CIRCUIT DESIGNATOR

- # AF = INAC CIRCUIT NUMBER
- # DF = DOOR HOLDER CIRCUIT NUMBER
- # F# = FIRE PHONE CIRCUIT
- # F# = AUDIBLE (HORN) CIRCUIT NUMBER
- # M# = INLET LOOP NUMBER
- # P# = POWER CIRCUIT NUMBER
- # S# = SPEAKER CIRCUIT NUMBER
- # V# = VISUAL CIRCUIT NUMBER
- # Z# = ZONE NUMBER

DEVICE NUMBER

BRANCH / ISOLATED LOOP DESIGNATOR:

- (L#) = ISOLATED LOOP NUMBER
- (#) = INAC BRANCH NUMBER
- (E#) = ENP# NUMBER BRANCH NUMBER
- (A#) = ADDRESSABLE BRANCH NUMBER
- (ER#) = ENHANCED POWER REPEATER

EXISTING SYSTEM SEQUENCE OF OPERATIONS

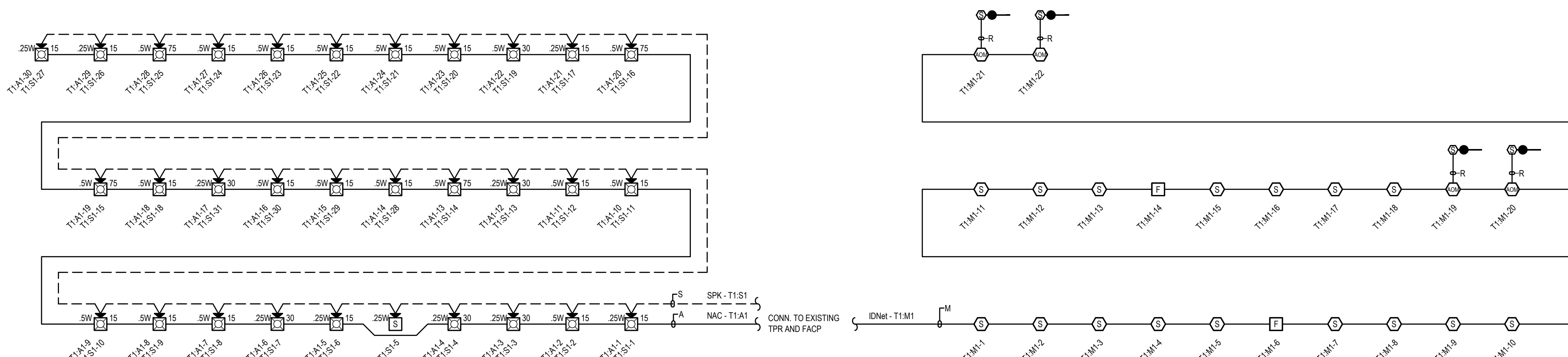
As Noted on Plan Review

Lee's Summit Fire Department
Lee's Summit, Missouri

09/18/2025

RISER NOTES

1. RISER IS A DIAGRAMMATICAL REPRESENTATION OF THE SYSTEM ARCHITECTURE IN BUILDING CROSS SECTION. IT IS NOT INTENDED TO REPRESENT ACTUAL WIRE RUNS, PANEL CONFIGURATIONS OR PENETRATIONS. REFER TO FLOOR PLANS AND PANEL DETAILS FOR CIRCUIT ROUTING AND CONFIGURATION INFORMATION.
2. ALL WIRING SHALL COMPLY WITH APPLICABLE ELECTRICAL CODES. REFER TO 'APPLICABLE CODES & STANDARDS' ON SHEET FA-001 FOR SPECIFIC CODE REFERENCES.



		SYSTEM INPUTS																SYSTEM OUTPUTS																						
		CTRL UNIT ANNUNCIATION																NOTIFICATION								FIRE SAFETY CONTROL														
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	ACTUATE COMMON ALARM SIGNAL INDICATOR	ACTUATE COMMON ALARM SIGNAL	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTUATE COMMON SUPERVISORY SIGNAL	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE COMMON TROUBLE SIGNAL	ACTUATE APPROPRIATE DOCTRON INDICATOR	ACTUATE ALL AUDIBLE EVACUATION SIGNALS	ACTUATE ALL VISIBLE EVACUATION SIGNALS	DISPLAY CHANGE OF STATUS	TRANSMIT ALARM SIGNAL TO SUPERVISING STATION	TRANSMIT SUPERVISORY SIGNAL TO SUPERVISING STATION	TRANSMIT TROUBLE SIGNAL TO SUPERVISING STATION	MAIN FLOOR ELEVATOR RECALL	ALTERNATE FLOOR ELEVATOR RECALL	ELEVATOR WAT FLASH	ELEVATOR SHUNT TRIP	DAMPEN SHUTDOWN
1	SMOKE SENSOR/DETECTOR	X	X						X	X	X	X	X																										X	
2	SMOKE/HEAT SENSOR W/ SOUNDER BASE													X	X																									
3	MANUAL PULL STATION	X	X		X				X	X	X	X	X		X																									
4	HEAT SENSOR/DETECTOR	X	X						X	X	X	X	X																											
5	DUCT SENSOR/DETECTOR - SUPERVISORY				X	X			X					X																								X		
6	MAIN F.LR. ELEV LOBBY SMOKE DETECTOR		X	X					X	X	X	X	X	X																				X	X	X				
7	ELEVATOR LOBBY SMOKE DETECTORS (EXC. MAIN F.LR.)		X	X					X	X	X	X	X	X																				X	X	X				
8	ELEVATOR MECH. ROOM HEAT DETECTOR		X	X					X	X	X	X	X																								X			
9	ELEVATOR MECH. ROOM SMOKE DETECTOR		X	X					X	X	X	X	X																					X	X	X				
10	ELEVATOR SHAFT HEAT DETECTOR		X	X					X	X	X	X	X																											
11	ELEVATOR SHAFT SMOKE DETECTOR		X	X					X	X	X	X	X																					X	X	X				
12	ELEVATOR POWER MONITOR				X	X																																		
13	WATERFLOW SWITCH		X	X					X	X	X	X	X		X																									
14	TAMPER SWITCH								X	X				X																										
15	FIRE ALARM AC POWER FAILURE								X	X				X		X																	X	X						
16	FIRE ALARM SYSTEM LOW BATTERY								X	X				X		X																		X	X					
17	OPEN CIRCUIT OR GROUND FAULT								X	X				X		X																			X	X				
18	CLASS B NOTIFICATION CIRCUIT (NAC) - SHORT								X	X				X		X																			X	X				

NOTE: SYSTEM OPERATION SHALL REMAIN UNCHANGED, MATRIX SHOWN FOR REFERENCE. NOTE ANY DISCREPANCY

[illegible]

DRAWN BY:	BEATRICE LOSTRACCO
DATE: 01/01/2011	TIME: 10:00:00

CHECKED BY:	TIM EUBANKS
ISSUE DATE:	6/26/25

JOB #:	
PROJECT #:	232-650921062

JOHNSON CONTROLS © 2025

SYSTEM:
FIRE ALARM SYSTEM

SHEET:

SHEET:

COVER SHEET

COVER SHEET

EA-001

1A-001

Battery Set #1 (Cabinet/Charger #1)		Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:					
ESPS-1			0.3474		7.1560
ESPS-2			0.1530		2.3470
			Sub Total	0.5004	9.5030
Additional Current Draws:					
RUI Connected Peripheral Devices	0	x 0.0035	= 0.0000	x 0.0035	= 0.0000
MAPNET/IDNet Device Address Communication Current	22	x 0.000800	= 0.0176	x 0.001000	= 0.0220
			Sub Total	0.5180	13.3436
Spare addressable point capacity	0%	0	x 0.0008	= 0.0000	x 0.001 = 0.0000
			Total	0.5180	13.3436
Standby Time =	24 Hrs	x 0.5180	= 12.4320	Standby Ah	
Alarm Time =	15 Min	0.25 x 13.3436	= 3.3359	Alarm Ah	
Additional Spare Battery Capacity =	0%		15.7679		0.0000
			15.7679		
Battery Discharge Factor =	20%		+	3.1536	
Minimum Battery Required	2061-9287 25AH (2x)			18.9215	
Battery Required	2061-9287 25AH (2x)				

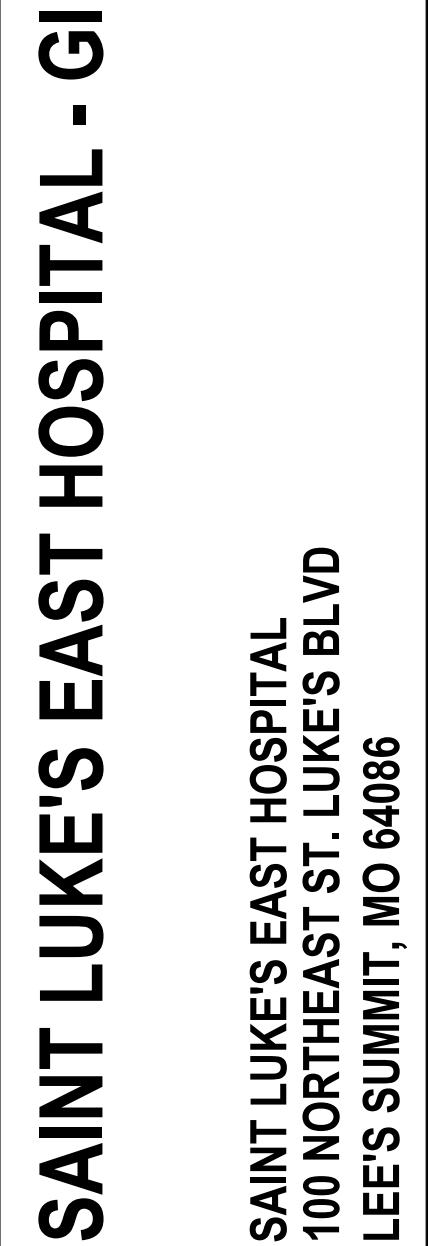
ESPS-1 Configuration	ESPS-2 Configuration
Capacity: 9.500A	Capacity: 9.500A
Ckt. Capacity: 3.000A	Ckt. Capacity: 3.000A
Aux. Capacity: 2.000A	Aux. Capacity: 2.000A

POWER SUPPLY 2 - IDNAC CARD 1 - CIRCUIT T1-1					SWITCH SETTINGS							
IDNAC Address	Device Type	PLID	Setting	Custom Label (Max 40 Characters)	1	2	3	4	5	6	7	8
T1-A1-1	SV	49HFV-APPLW	15cd	FL2 NP OFFICE 02 ZE535	27	X						ON
T1-A1-2	SV	49HFV-APPLW	15cd	FL2 CORR. BY DOCTORS OFC. 02 ZE537	12	X						ON
T1-A1-3	SV	49HFV-APPLW	30cd	FL2 DOCTORS OFFICE 02 ZE537	17	X	X					ON
T1-A1-4	SV	49HFV-APPLW	30cd	FL2 STAFF LOUNGE 02 ZE536	32							ON
T1-A1-5	SV	49HFV-APPLW	15cd	FL2 STAFF TLT 02 ZE532	37	X						ON
T1-A1-6	SV	49HFV-APPLW	30cd	FL2 SCHEDULER OFFICE 02 ZE531	26	X	X					ON
T1-A1-7	SV	49HFV-APPLW	15cd	FL2 CORR. BY SCHE. OFFICE 02 ZE531	22	X	X					ON
T1-A1-8	SV	49HFV-APPLW	15cd	FL2 CORR. BY CHECK OUT 02 ZE526	34	X						ON
T1-A1-9	SV	49HFV-APPLW	15cd	FL2 CORR. BY CHECK OUT 02 ZE529	46	X						ON
T1-A1-10	SV	49HFV-APPLW	15cd	FL2 CORR. BY ELEVATOR LOBBY 02 ZE500	33	X	X					ON
T1-A1-11	SV	49HFV-APPLW	15cd	FL2 STAFF TLT 02 ZE538	23	X	X					ON
T1-A1-12	SV	49HFV-APPLW	30cd	FL2 NURSE'S OFFICE 02 ZE540	40	X	X					ON
T1-A1-13	SV	49HFV-APPLW	75cd	FL2 NURSE'S OFFICE 02 ZE540	38	X						ON
T1-A1-14	SV	49HFV-APPLW	15cd	FL2 CORR. BY EXAM 02 ZE524	84	X	X	X				ON
T1-A1-15	SV	49HFV-APPLW	15cd	FL2 CORR. BY EXAM 02 ZE518	57	X	X	X				ON
T1-A1-16	SV	49HFV-APPLW	15cd	FL2 CORR. BY	31	X						ON
T1-A1-17	SV	49HFV-APPLW	30cd	FL2 CORR. BY 02 ZE600A	14	X						ON
T1-A1-18	SV	49HFV-APPLW	15cd	FL2 CHECK IN 02 ZE502B	83	X						ON
T1-A1-19	SV	49HFV-APPLW	75cd	FL2 WAITING ROOM 02 ZE502A	40	X	X					ON
T1-A1-20	SV	49HFV-APPLW	75cd	FL2 UNOCCUPIED SPACE 02 ZE601	10	X						ON
T1-A1-21	SV	49HFV-APPLW	15cd	FL2 PAT ENT LT 02 ZE503	25	X		X				ON
T1-A1-22	SV	49HFV-APPLW	30cd	FL2 MA 02 ZE530	42	X	X					ON
T1-A1-23	SV	49HFV-APPLW	15cd	FL2 CORR. BY VITALS 02 ZE503A	25	X	X					ON
T1-A1-24	SV	49HFV-APPLW	15cd	FL2 CORR. BY EXAM 02 ZE507	24		X	X				ON
T1-A1-25	SV	49HFV-APPLW	15cd	FL2 PAT ENT TLT 02 ZE505	21	X		X				ON
T1-A1-26	SV	49HFV-APPLW	15cd	FL2 PAT ENT LT 02 ZE506	18	X		X				ON
T1-A1-27	SV	49HFV-APPLW	15cd	FL2 CORR. BY STAFF TLT 02 ZE513	38	X	X					ON
T1-A1-28	SV	49HFV-APPLW	75cd	FL2 STORAGE 02 ZE511	27							ON
T1-A1-29	SV	49HFV-APPLW	15cd	FL2 STAFF TLT 02 ZE513	20	X						ON
T1-A1-30	SV	49HFV-APPLW	15cd	FL2 TRAINING 02 ZE512	19	X	X	X				ON

NOTE: THE LABELS SHOWN ABOVE WILL BE USED FOR PROGRAMMING PURPOSES.
THE LABELS ARE BASED UPON INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS.
ANY CHANGES TO THESE LABELS MUST BE NOTED ON THE SUBMITTAL REVIEW, PRIOR TO PROGRAMMING.

TPR6 FL2 4100es XPDR BATTERY CALCULATION Speaker Db Loss Calculations														MAXIMUM -3 dB DROP			
*Circuit Voltage = 70vrms [E]																	
SPEAKER CIRCUIT DESCRIPTION	Amp #	Plan Circuit Number	Speaker Tap .25 Watt	Speaker Tap .5 Watt	Total Spkrs per Circuit	Total Watts [P]	Wire Gauge	Ect. Ckt. Length [D] in Feet	Wire Res. Per Foot [Rw]	Circuit Resistance [Rt=2D/Rs]	Speaker Current [I=P/E]	Speaker Resistance [Rs=EU]	Voltage At End [Es=41Rs/ [Rt+Rs]]	Watts At End [Pe=(Es) ^2/Rs]	Actual dB Loss [dB=Log10 (P/Pa)]	Max Allowable Ckt. Length [ML=(.414*Rs) [Rw]]	
SPK-1	Amp-1	S1			3	12.75 Watts	18ga		917	0.0078	14.250	0.182	384.314	67.497	11.855	-32 db	10238 Ft.

MAXIMUM -3 dB DROP															
Amp #	Plan Circuit Number	Speaker Tap	Speaker Tap	Total Spkrs per Circuit	Total Watts [P]	Wire Gauge	Ext. Ckt. Length [D] in Feet	Wire Res. Per Foot	Circuit Resistance [R]=2*P*W	Speaker Current [I]=P/E	Speaker Resistance [Rs=E/I]	Voltage At End [E]=I*Rs	Watts At End [P]=E*I	Actual dB Loss [ML=10*log10(Pe/P)]	Max Allowable Ckt. Length [ML=(.414*Rs)/(2*W)]
1	S1	.25 Watt	.5 Watt	20	12.75 Watts	18ga	917	0.0078	14.250	0.182	384.314	67.497	11.855	-32 db	10238 Ft.



DRAWN BY:	BEATRICE LOSTRACCO
CHECKED BY:	TIM EUBANKS
ISSUE DATE:	6/26/25
JOB #:	
PROJECT #:	332-650921962
JOHNSON CONTROLS © 2025	
SYSTEM:	FIRE ALARM SYSTEM
SHEET:	

FA-601