FIRE ALARM GENERAL NOTES

NOTE# NOTE TEXT

- 1. ALL CIRCUIT POLARITY SHALL BE MAINTAINED.
- 2. SHIELD CONTINUITY SHALL BE MAINTAINED THROUGH OUT ALL SHIELDED CIRCUITS. SHIELDS SHALL BE GROUNDED AT ONLY ONE POINT (THE EQUIPMENT HEAD END UNLESS NOTED OTHERWISE).
- 3. ALL CIRCUITS SHALL BE FREE OF GROUNDS, WIRE TO WIRE SHORTS, AND
- 4. NOTIFICATION APPLIANCE CIRCUITS (NAC) & INITIATING DEVICE CIRCUITS (IDC) ARE SUPERVISED. NO PARALLEL BRANCHING (TEE-TAPPING) SHALL BE PERMITTED. NON-STYLE 6 & 7 SIGNALING LINE CIRCUITS (SLC) ALLOW PARALLEL BRANCHING (TEE-TAPPING) AT DEVICES AND RISER BOXES ONLY.
- PERMITTED. NON-STYLE 6 & 7 SIGNALING LINE CIRCUITS (SLC) ALLOW PARALLEL BRANCHING (TEE-TAPPING) AT DEVICES AND RISER BOXES ONLY

 5. ALL FIRE ALARM CONDUIT SHALL BE SIZED TO MEET OR EXCEED THE NEC MINIMUM REQUIREMENTS. ALL FIRE ALARM CONDUIT SIZE SHALL BE 3/4" MINIMUM UNLESS SHOWN OTHERWISE. STUB-UPS TO INDIVIDUAL DEVICES
- INSTALLATION MATERIALS (I.E. CONDUIT, FITTINGS, HANGERS, STANDARD
- 7. ON OPEN WIRE INSTALLATIONS CONDUIT SHALL BE PROVIDED BY OTHERS THROUGH ALL INACCESSIBLE AREAS (I.E. ABOVE HARD CEILINGS, STUB-UPS THROUGH ENCLOSED WALLS, ECT.) AND IN ALL EXPOSED AREAS (I.E.
- MECHANICAL ROOMS, ELECTRICAL ROOMS, ETC.).

 8. MANUAL PULL BOXES SHALL BE MOUNTED 48" AFF TO THE
- 9. WALL-MOUNTED AUDIBLE/VISUAL & VISUAL ONLY DEVICES SHALL BE MOUNTED 80" AFF TO THE BOTTOM OF THE DEVICE OR 6" FROM THE CEILING
- TO THE TOP OF THE DEVICE WHICHEVER IS LOWER.

 10. INSTALLATION SHALL BE IN STRICT CONFORMANCE WITH THE NATIONAL ELECTRIC CODE, NFPA CODES, LOCAL CODES, AUTHORITIES HAVING
- JURISDICTION AND ALL OF THE MANUFACTURERS REQUIREMENTS.

 11. ALL FIRE ALARM CONTROL RELAYS SHALL BE MOUNTED WITHIN 3' OF THE DEVICES THEY CONTROL. ALL RELAY CONTROL CIRCUITS SHALL BE
- 12. ALL FIRE ALARM JUNCTION BOX COVERS SHALL BE PAINTED RED OR LABELED FOR DISTINCT IDENTIFICATION.
- 3. ALL FIRE ALARM PANELS & EQUIPMENT CABINETS REQUIRE A DEDICATED 120VAC CIRCUIT FOR PRIMARY POWER. FIRE ALARM AC POWER CIRCUITS SHALL BE PERMANENTLY IDENTIFIED AT THE DISTRIBUTION PANEL AND INSIDE THE FIRE EQUIPMENT CABINETS SERVED.

CODE REFERENCES

	OODL	TILL EILENGES	
ı	#	REFERENCED CODE	YEAR
ı	1	International Building Code (IBC)	2018
ı	2	International Fire Code (IFC)	2018
ı	3	NFPA 70 National Electrical Code	2017
ı	4	NFPA 72 National Fire Alarm Code	2016
ı	5	NFPA 90A Standard on AC & Ventilating	2018
			1

AUTHORITY HAVING JURISDICTION

City of Lee's Summit, MO

PROJECT NARRATIVE

This project is a new apartment building complex including a clubhouse. All buildings are fully sprinklered per NFPA 13R. An addressible fire alarm system is being provided in each building with horn/strobe notification. Clubhouse

According to contract documents, the clubhouse building is occupancy group B and S-1 with areas of R-3 and A-3. None of the five AHUs are over 2,000 CFM to require detection and shutdown. Single-Station smoke and CO detectors for the R-3 area are provided by others. Apartment Units

According to contract documents, the apartment buildings are primary occupancy group R-2 with areas of A-3. Single-Station smoke and CO detectors for the R-2 area are provided by others. CO detection on bldg system is provided in the 1st floor corridor at communicating openings to the attached garages per IFC 915.1.5 exception #4. Wiring provisions for building notification in sleeping areas is provided and included in circuit calculations per code. None of the six AHUs are over

RESIDENCES AT BLACKWELL

US 50 Hwy at Blackwell Lee's Summit, MO 64063 Fire Alarm System 28300

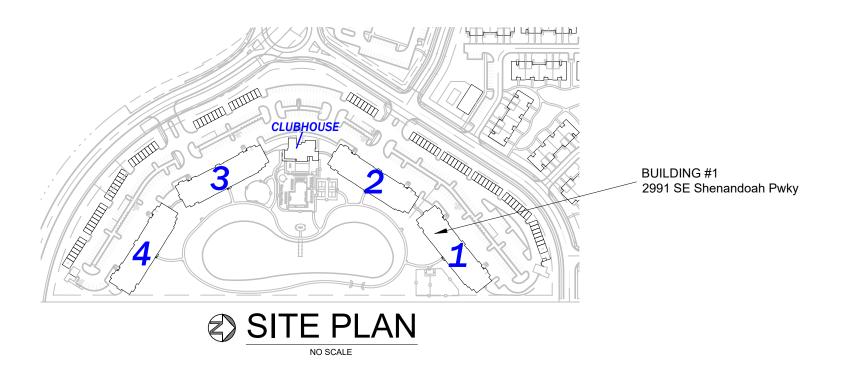
Apartment Bldg #1 - 2991 SE Shenandoah Pwky

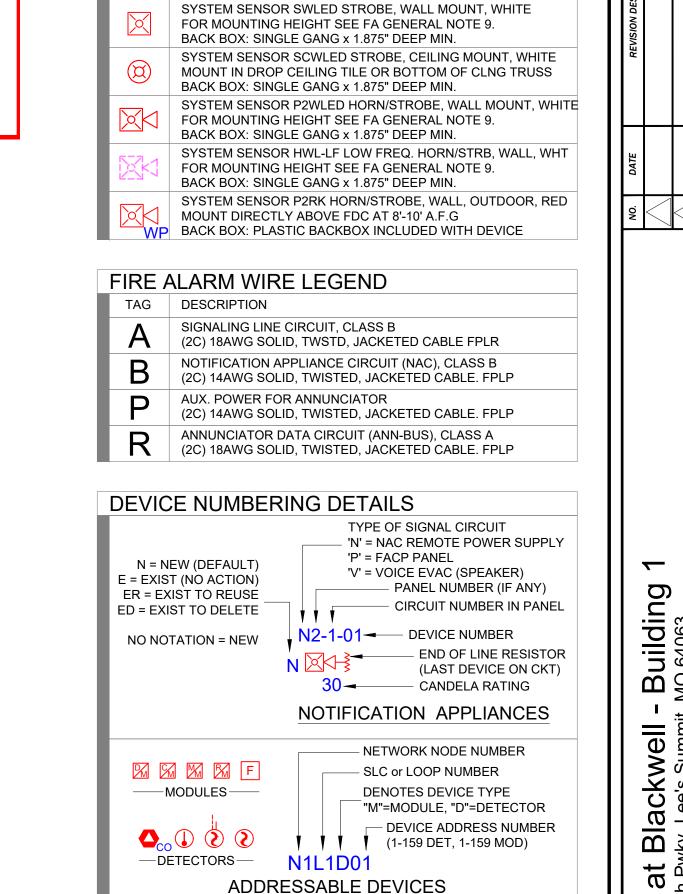
DRAWING INDEX:

Sheet:	Title:	Revision #:	Date Issued:
FA-0	COVER SHEET, NOTES, CALCULATIONS FOR CLUBHOUSE		05.30.2024
FA-101	FIRE ALARM FLOOR PLAN - CLUBHOUSE		05.30.2024
FA-102	DEVICE MOUNTING & WIRING DETAILS		05.30.2024
FA-103	PANEL MOUNTING & WIRING, RISER DIAGRAM - CLUBHSE		05.30.2024
FA-201	FIRE ALARM FLOOR PLAN - APARTMENT LL, 1ST LEVEL		12.09.2024
FA-202	FIRE ALARM FLOOR PLAN - APARTMENT 2ND & 3RD LEVEL		12.09.2024
FA-203	FIRE ALARM FLOOR PLAN - APT. 4TH LVL, RISER		12.09.2024
FA-204	CALCULATIONS & PANEL MOUNTING - APARTMENT		01.17.2025

RELEASED FOR CONSTRUCTION
As Noted on Plan Review

Lee's Summit Fire Department Lee's Summit, Missouri 04/28/2025





FIRE ALARM SYMBOLS LEGEND

BACK BOX: INCLUDED.

BACK BOX: SINGLE GANG

NOTIFIER NFS-320 FIRE ALARM PANEL

MOUNT AS SHOWN ON SHEET FA-102

BACK BOX: SINGLE GANG 1.875" DEEP MIN

MOUNT ON B300-6 BASE, AS INDICATED

SINGLE-STATION SMOKE ALARM

NOTIFIER FSP-951 SMOKE DETECTOR (PHOTO)

SINGLE-STATION COMBO CO/SMOKE ALARM

NOTIFIER FST-951 HEAT DETECTOR, 135F

MOUNT ON B300-6 BASE, AS INDICATED

MOUNT AS SHOWN ON PLANS

MOUNT AS SHOWN ON PLANS

BACK BOX: 4" SQUARE x 2-1/8" DEEP

MOUNT PANEL AS SHOWN AT 72" AFF TO TOP OF BOX

NOTIFIER NBG-12LX ADDRESSABLE MANUAL PULL STATION

BACK BOX: 4" SQUARE OR 3.5" OCTAGONAL x 1-1/2" DEEP

PROVIDED BY OTHERS, SHOWN FOR REFERENCE ONLY

PROVIDED BY OTHERS, SHOWN FOR REFERENCE ONLY

BACK BOX: 4" SQUARE OR 3.5" OCTAGONAL x 1-1/2" DEEP

BACK BOX: 4" SQUARE OR 3.5" OCTAGONAL x 1-1/2" DEEP

NOTIFIER FDM-1 DUAL ADDRESSABLE MONITOR MODULE

INCLUDE FMM-101 FOR ADDRESSABLE INTERFACE

NOTIFIER FMM-1 ADDRESSABLE MONITOR MODULE

NOTIFIER FCM-1 ADDRESSABLE CONTROL MODULE

NOTIFIER FRM-1 ADDRESSABLE RELAY MODULE MOUNT WITHIN 3' OF CONTROLLED DEVICE

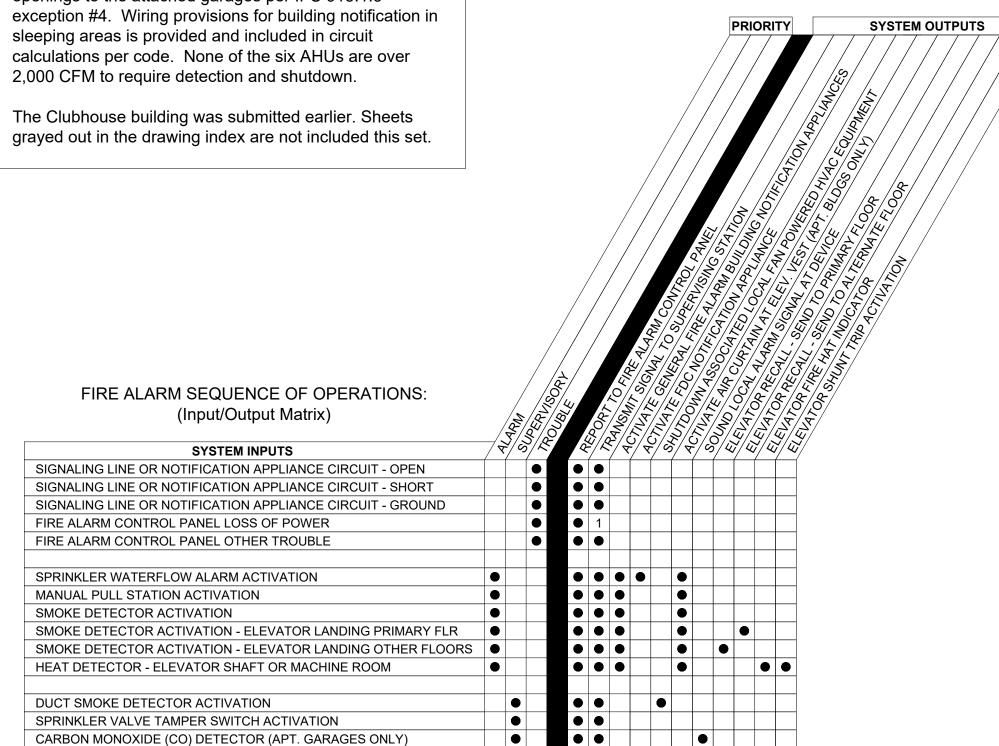
MOUNT WITHIN 3' OF CONTROLLED DEVICE

SYSTEM SENSOR CO1224TR CARBON MONOXIDE DETECTOR

NOTIFIER FDU-80 LCD ANNUNCIATOR, 80 CHAR.

SEE FA GENERAL NOTE 7 FOR MOUNTING HEIGHT

SYMBL DESCRIPTION



1. AC POWER LOSS REPORTED TO SUPERVISING STATION AFTER DELAY OF 30 MINUTES (PROGRAMMABLE).



DATE:

LANE 05.28.2024

GNED BY: DATE:

PR 05.07.24

POVED BY: DATE:

Igeline KS 66205

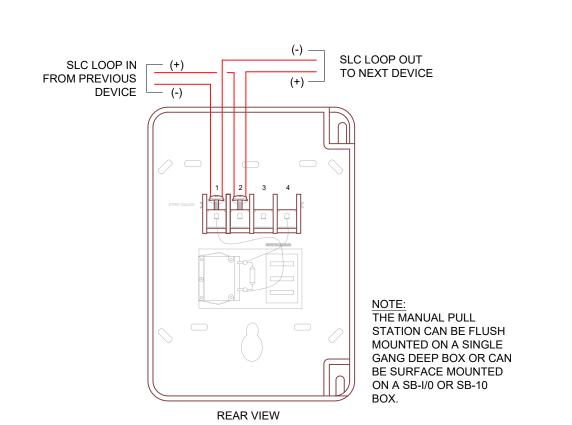
prepared 4700 Roe Parkw

3303 24050258

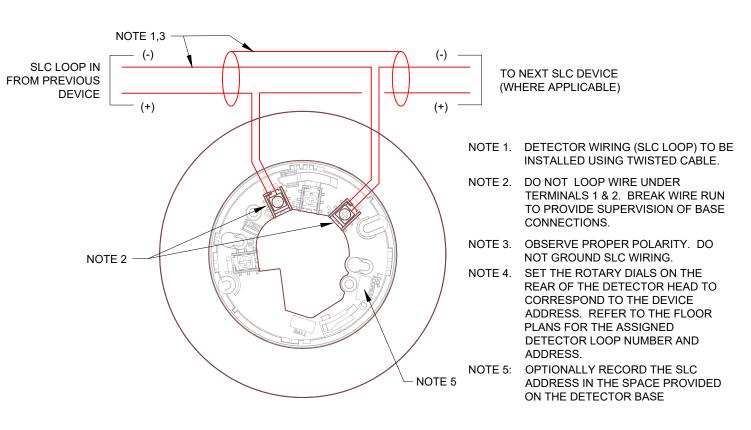
SHEET TITLE:
FIRE ALARM SYSTEM

FA-0 1 of 8

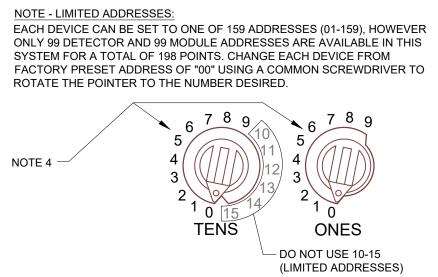
Cover Page & Notes Calculations - Clubhouse



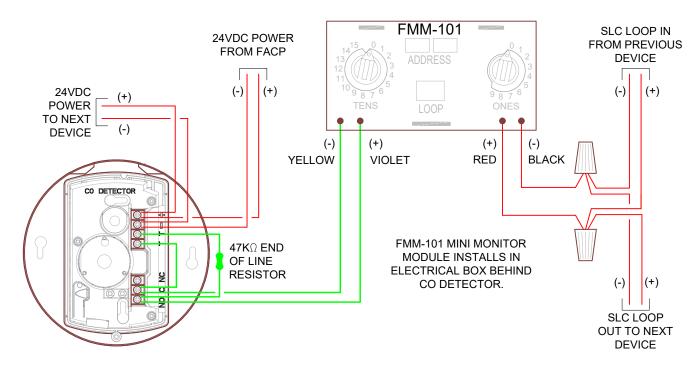
NBG-12LX MANUAL PULL STATION



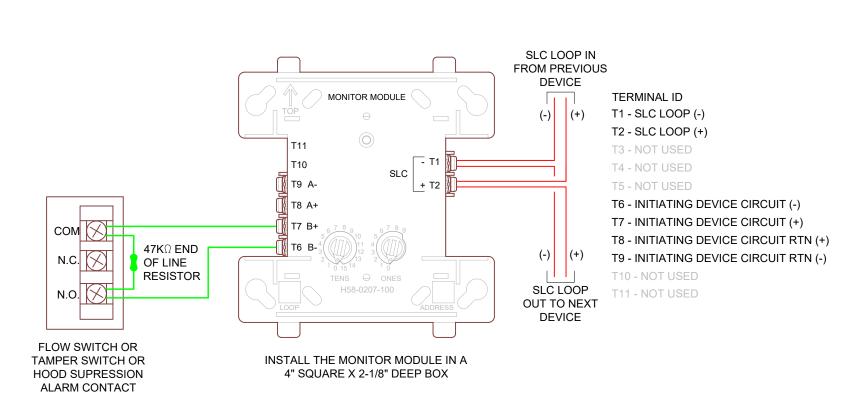
B300-6 DETECTOR BASE WIRING DETAIL



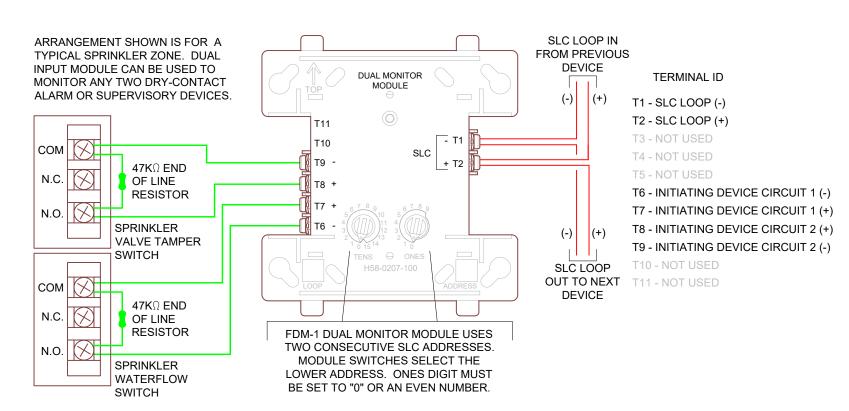
SETTING SLC ADDRESS (ROTARY DIALS)



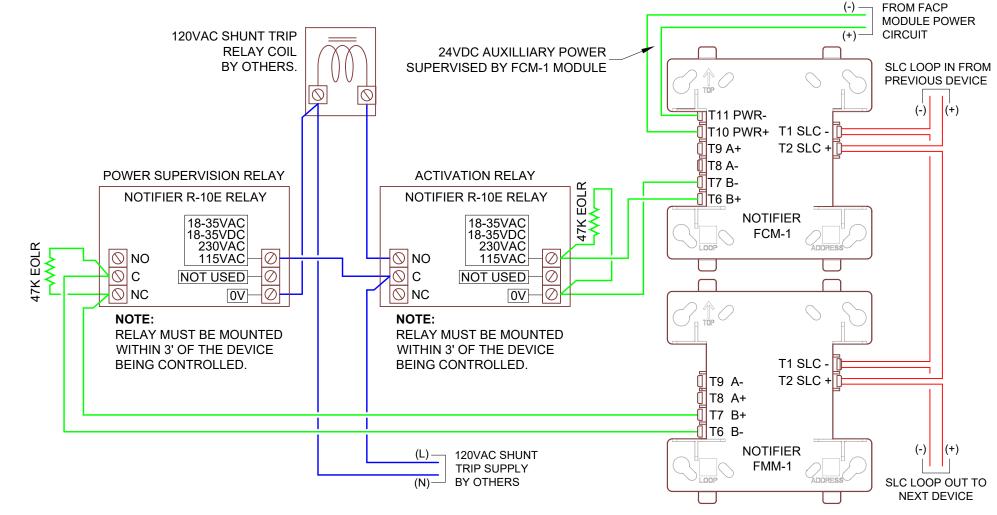
CO1224TR DETECTOR WITH FMM-101
MINI MONITOR MODULE



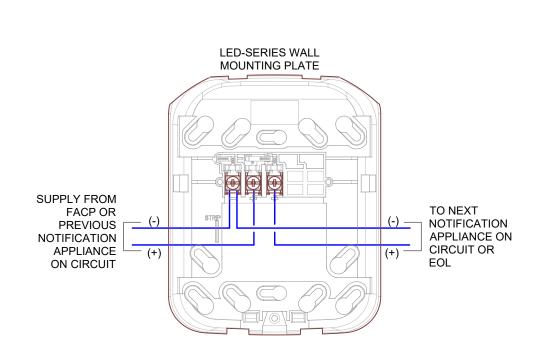
FMM-1 ADDRESSABLE MONITOR MODULE



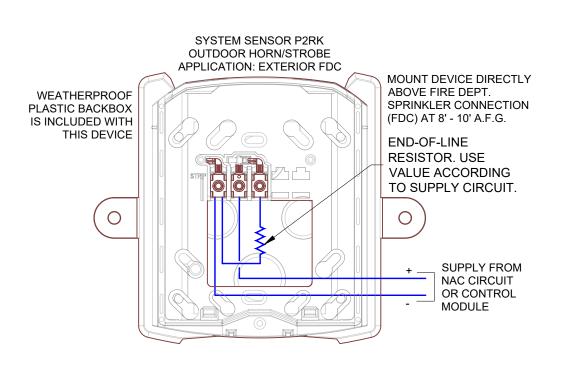
FDM-1 DUAL INPUT MONITOR MODULE - TYPICAL WIRING



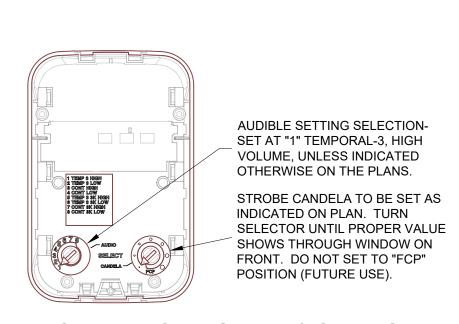
ELEVATOR SHUNT TRIP WIRING DETAIL



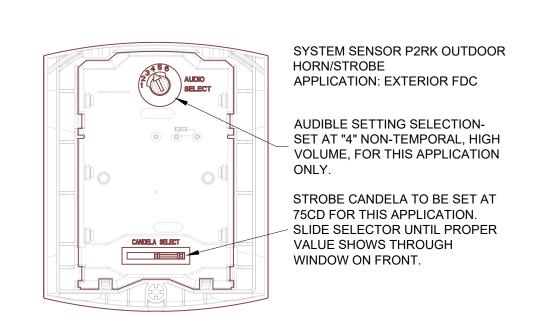
SYSTEM SENSOR LED-SERIES
HORN / STROBE & STROBE



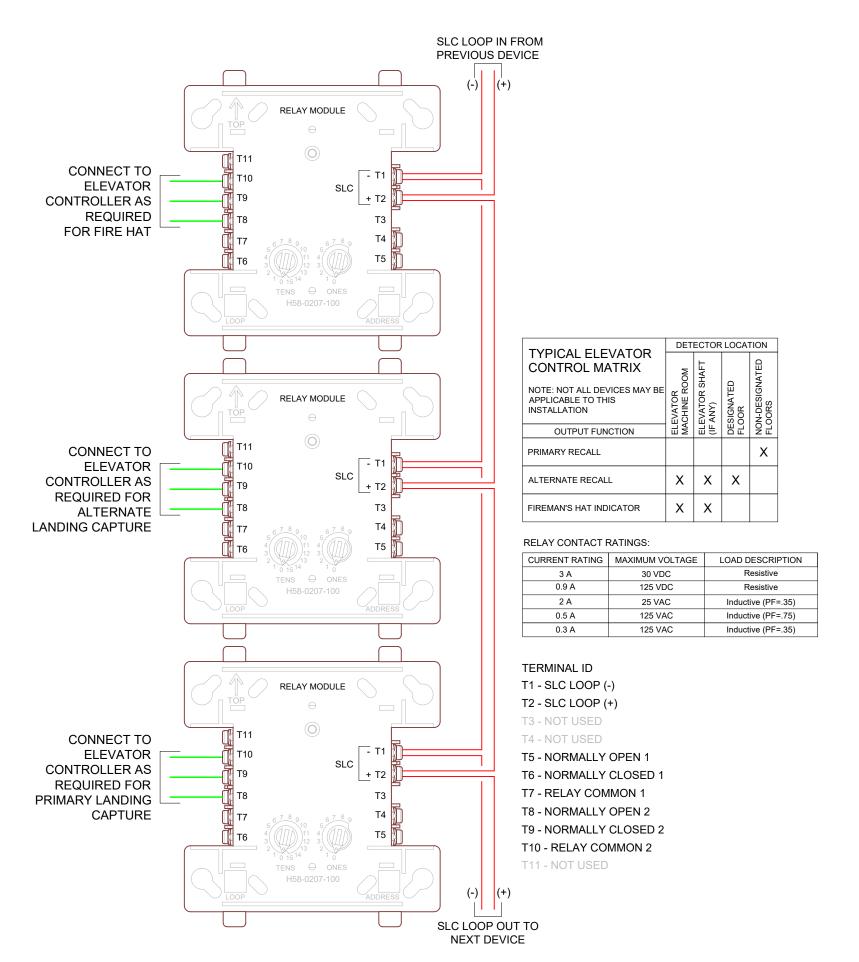
SYSTEM SENSOR P2RK OUTDOOR HORN / STROBE



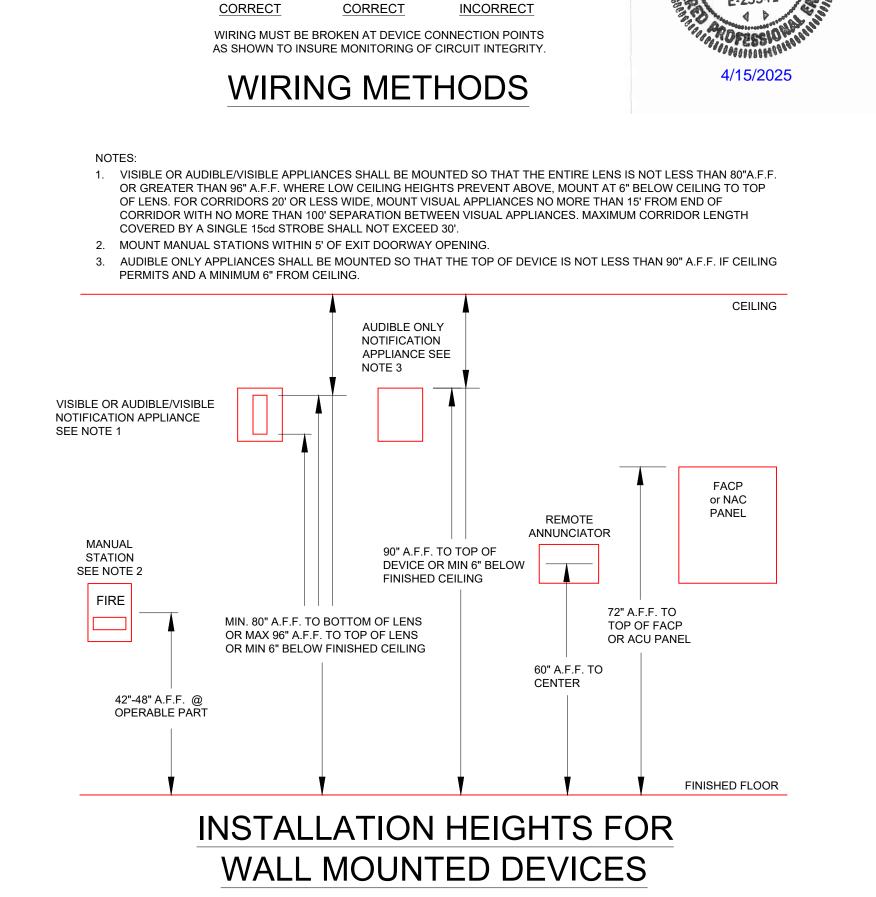
LED-SERIES HORN / STROBE CANDELA & AUDIBLE SETTINGS



P2RK OUTDOOR HORN / STROBE CANDELA & AUDIBLE SETTINGS



FRM-1 RELAY MODULE/ELEVATOR INTERFACES



Building

Blackwell

Residen

D.LANE

PR

3303 24050258

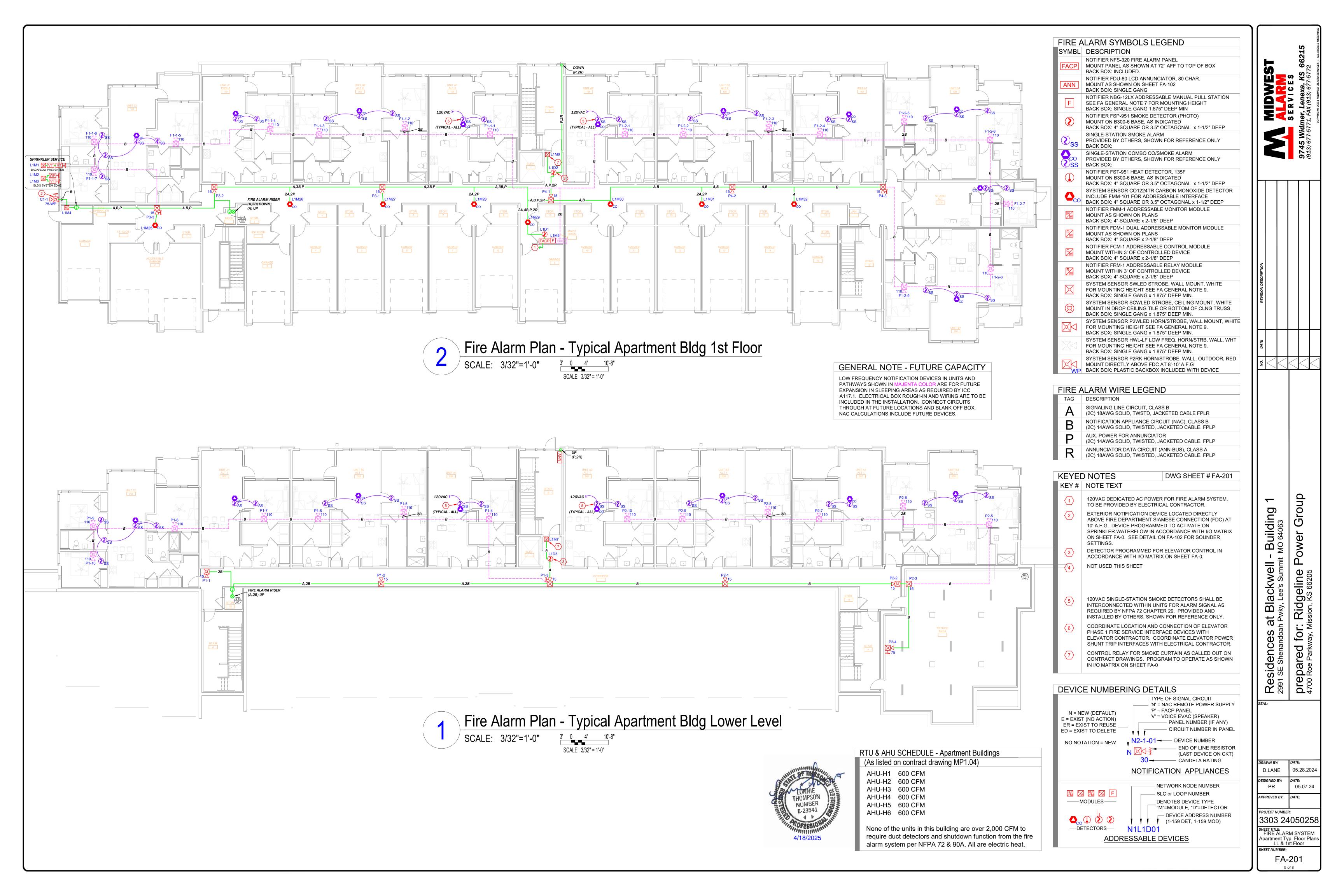
SHEET TITLE: FIRE ALARM SYSTEM

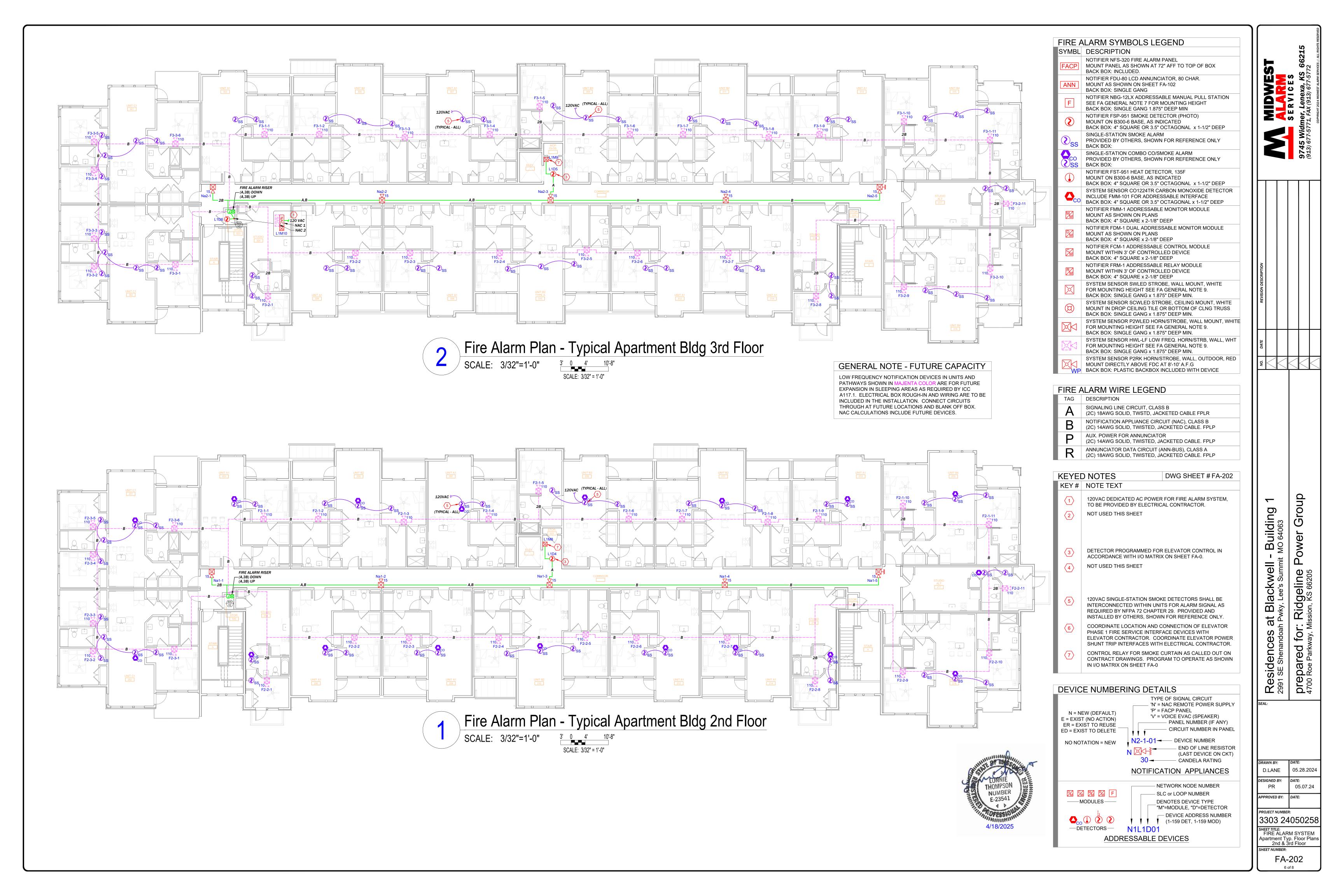
Device Wiring & Mounting Details

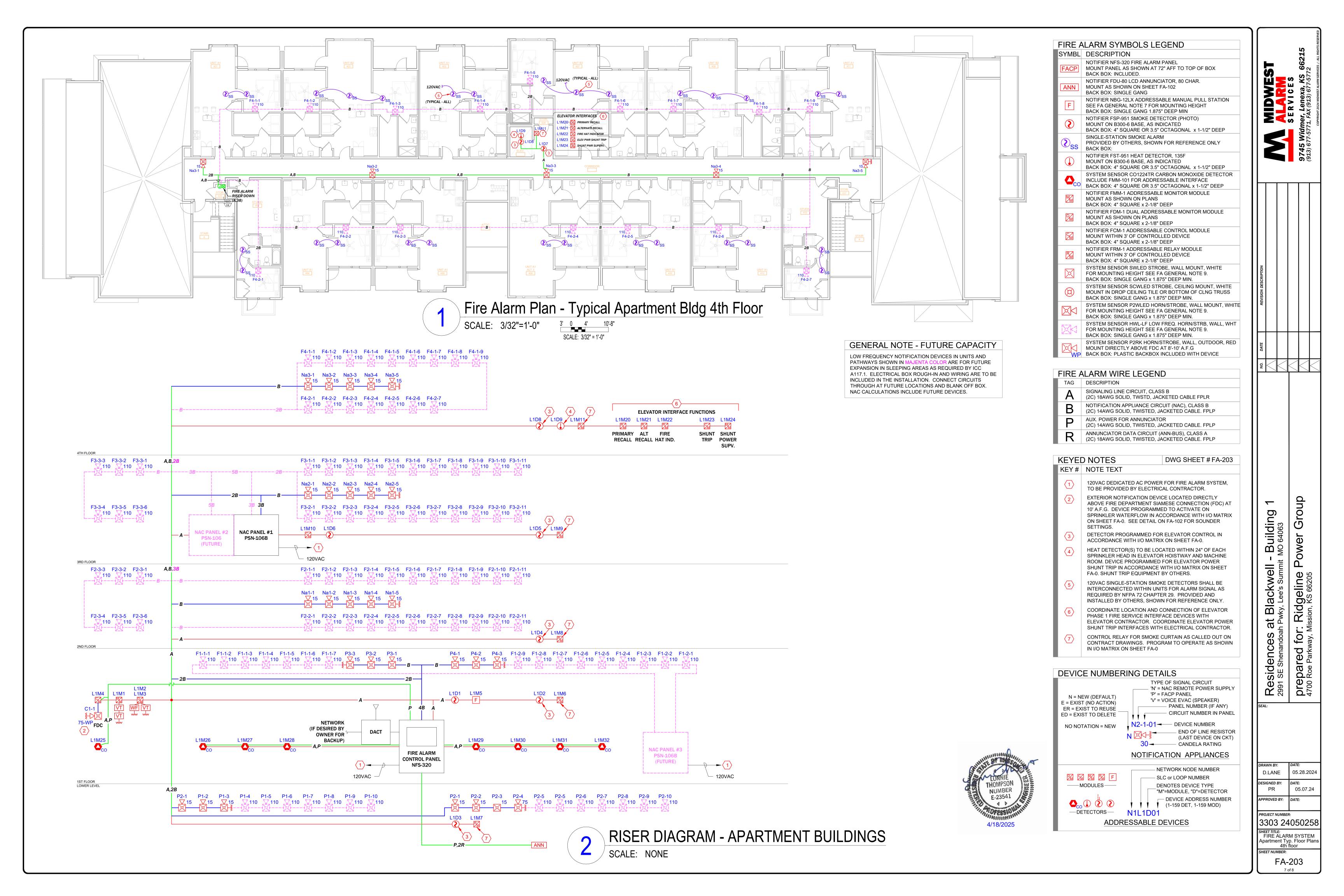
FA-102

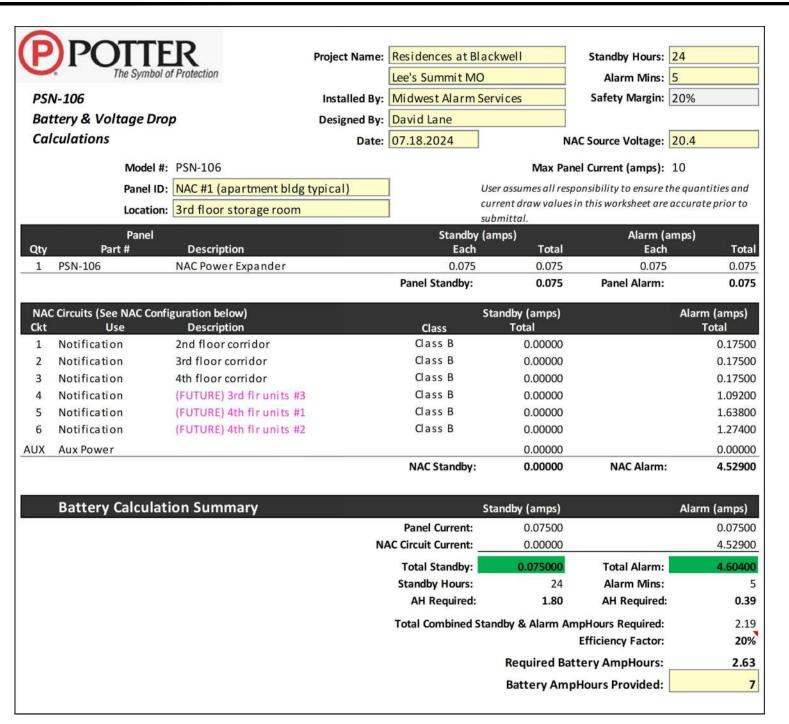
Ridgeline ission, KS 66205

prepared 4700 Roe Parkw









<u> </u>	The Symbol o		Residences at Bla Lee's Summit MO	ONTO	Standby Hours: Alarm Mins:				
PSI	V-106	Insta	lled By: Midwest Alarm Se	Safety Margin:	20%				
Bat	tery & Voltage Dro	D esig	ned By: David Lane	David Lane					
Cal	culations		Date: 07.18.2024	N	AC Source Voltage:	20.4			
	Model #:	PSN-106		Max Par	el Current (amps):	10			
	Panel ID:	NAC #2 (apartment bldg typical) U	ser assumes all resp	onsibility to ensure t	he quantities and			
		3rd floor storage room (FUTURE		urrent draw values ubmittal.	in this worksheet are	accurate prior to			
Qty	Panel Part #	Description	Standby (a Each	amps) Total	Alarm (a Each				
1	PSN-106	NAC Power Expander	0.075	0.075	0.075	0.07			
			Panel Standby:	0.075	Panel Alarm:	0.07			
NAC Ckt	Circuits (See NAC Confi Use	guration below) Description	S Class	itandby (amps) Total		Alarm (amps) Total			
1	Notification	(FUTURE) 2nd flr units #1	Class B	0.00000		2.0020			
2	Notification	(FUTURE) 2nd flr units #2	Class B	0.00000		2.0020			
3	Notification	(FUTURE) 2nd flr units #3	Class B	0.00000		1.0920			
4	Notification	(FUTURE) 3rd flr units #1	Class B	0.00000		2.0020			
5	Notification	(FUTURE) 3rd flr units #2	Class B	0.00000		2.0020			
6	Unused		Class B	0.00000		0.0000			
UX	Aux Power			0.00000		0.0000			
			NAC Standby:	0.00000	NAC Alarm:	9.1000			
	Battery Calculati	on Summary	S	standby (amps)		Alarm (amps)			
			Panel Current:	0.07500		0.0750			
			NAC Circuit Current:	0.00000		9.1000			
			Total Standby:	0.075000	Total Alarm:	9.1750			
			Standby Hours:	24	Alarm Mins:				

Total Combined Standby & Alarm AmpHours Required:

Required Battery AmpHours:

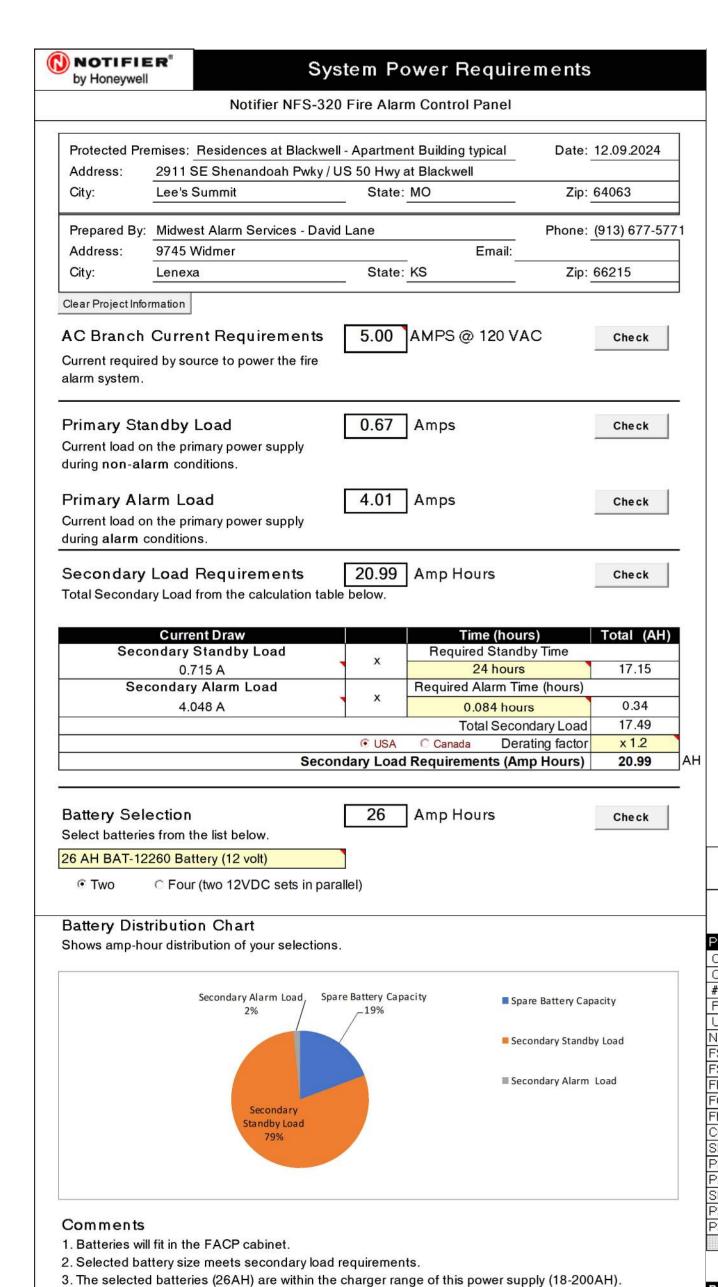
Battery AmpHours Provided:

20%

3.08

٢	POILE The Symbol of		Name: Residences at Bla		Standby Hours: Alarm Mins:		
PSI	V-106	Instal	led By: Midwest Alarm S			20%	
90	tery & Voltage Dro		ned By: David Lane			2070	
	culations	Design	Date: 07.18.2024		NAC Source Voltage:	20.4	
	1990AT 180 ATACO		Date: 07.10.2024				
		PSN-106			inel Current (amps):		
	Panel ID:	NAC #3 (apartment bldg typical)			sponsibility to ensure t		
	Location:	1st floor mech room (FUTURE)		current draw value submittal.	s in this worksheet are	accurate prior to	
	Panel		Standby	A STATE OF THE PARTY OF T	Alarm (a	amps)	
Qty	Part #	Description	Each	Total	Each		
1	PSN-106	NAC Power Expander	0.075	0.075	0.075	0.07	
			Panel Standby:	0.075	Panel Alarm:	0.07	
NAC Ckt	Circuits (See NAC Confi Use	guration below) Description		Standby (amps) Total		Alarm (amps) Total	
1	Notification	(FUTURE) 1st flr units #1	Class Class B	0.00000		1,2740	
2	Notification	(FUTURE) 1st flr units #2	Class B	0.00000		1.6380	
3	Unused		Class B	0.00000		0.0000	
4	Unused		Class B	0.00000		0.0000	
5	Unused		Class B	0.00000		0.0000	
6	Unused		Class B	0.00000		0.0000	
UX	Aux Power			0.00000		0.0000	
			NAC Standby:	0.00000	NAC Alarm:	2.9120	
	Battery Calculat	on Summary		Standby (amps)		Alarm (amps)	
	Darrer y Carculat	on cammary	Panel Current:	0.07500		0.0750	
			NAC Circuit Current:	0.00000		2.9120	
			Total Standby:	0.075000	Total Alarm:	2.9870	
			Standby Hours:	24	Alarm Mins:	2.5870	
			AH Required:	1.80	AH Required:		
					mpHours Required:	2.0	
			rotal combined 3	andy a Aldrill P	Efficiency Factor:	209	
				Required B	attery AmpHours:	2.4	
				quii cu bi	,pr		

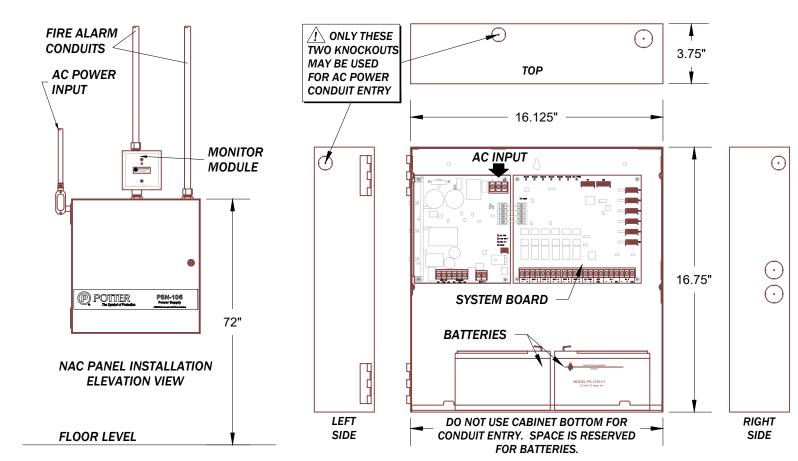
	NOTIF	ICA	HON PO	NER S	UMMARY	- HOR	N/STROBE	CIRCU	JITS			
	Ckt	Qty	Alarm	Max.	Percent	Circuit		Start	Line	Load	е	End
FACP	Desig	Dev	Load	Load	of Max	Length	wire type	Volts	Ω	Ω	Drop	Volts
LL corr W + future	P1	10	1.379 A	1.50 A	91.93%	405 Ft	14ga solid Cu	20.4	2.49	14.8	3.43 V	16.9
LL corr W + future	P2	10	1.267 A	1.50 A	84.47%	495 Ft	14ga solid Cu	20.4	3.04	16.1	3.85 V	16.5
1st floor Corr W	P3	4	0.140 A	1.50 A	9.33%		14ga solid Cu	20.4	0.80	145.7	0.11 V	20.2
1st floor Corr E	P4	3	0.105 A	1.50 A	7.00%	125 Ft	14ga solid Cu	20.4	0.77	194.3	0.08 V	20.3
N/A	P	0	0.000 A	0.00 A	#DIV/0!		14ga solid Cu	20.4	0.00		0.00 V	20.4
N/A	P	0	0.000 A	0.00 A	#DIV/0!	0 Ft	14ga solid Cu	20.4	0.00		0.00 V	20.4
TOTALS		27	2.891 A	7.4 A	39.07%							
			A CONTRACTOR OF THE CONTRACTOR		0/1 1 1					1 1 - 1		
NAC pnl #1			Alm Load		% Loaded					Load Ω		endV
2nd floor corridor	Na1	5	0.175 A	3.00 A	5.83%		14ga solid Cu	20.4	1.44	116.6	0.05 V	20.3
3rd floor corridor	Na2	5	0.175 A	3.00 A	5.83%	(C)	14ga solid Cu	20.4	1.38	116.6	0.05 V	20.3
4th floor corridor	Na3	5	0.175 A	3.00 A	5.83%		14ga solid Cu	20.4	1.35	116.6	0.05 V	20.3
Future 3rd floor #3	Na4	6	1.092 A	3.00 A	36.40%		14ga solid Cu	20.4	0.86	18.7	0.59 V	19.8
Future 4th floor #1	Na5	9	1.638 A	3.00 A	54.60%		14ga solid Cu	20.4	1.35	12.5	1.31 V	19.0
Future 4th floor #2	Na6	7	1.274 A	3.00 A	42.47%	215 Ft	14ga solid Cu	20.4	1.32	16.0	0.98 V	19.4
TOTALS		37	4.529 A	10.0 A	45.29%							
NAC pnl #2 (future)	Circuit	Qtv	Alm Load	Max.	% Loaded	Length	wire type	Volts	Line o	Load Ω	Vdrop	endV
Future 2nd floor #1	F2-1	11	2.002 A	3.00 A	66.73%		14ga solid Cu	20.4	1.84	10.2	2.03 V	18.3
Future 2nd floor #2	F2-2	11	2.002 A	3.00 A	66.73%	Control Control Control	14ga solid Cu	20.4	2.21	10.2	2.42 V	17.9
Future 2nd floor #3	F2-3	6	1.092 A	3.00 A	36.40%		14ga solid Cu	20.4	0.92	18.7	0.65 V	19.7
Future 3rd floor #1	F3-1	11	2.002 A	3.00 A	66.73%		14ga solid Cu	20.4	1.78	10.2	1.91 V	18.4
Future 3rd floor #2	F3-2	11	2.002 A	3.00 A	66.73%	The second second second second	14ga solid Cu	20.4	2.15	10.2	2.30 V	18.1
spare	ckt 6	0	0.000 A	3.00 A	0.00%		14ga solid Cu	20.4	0.00		0.00 V	20.4
TOTALS		50	9.100 A	10.0 A	91.00%							
NAC pnl #3 (future)			Alm Load		% Loaded					Load Ω	Vdrop	endV
Future 1st floor #1	F1-1	7	1.274 A	3.00 A	42.47%		14ga solid Cu	20.4	0.98	16.0	0.18 V	20.2
Future 1st floor #2	F1-2	9	1.638 A	3.00 A	54.60%		14ga solid Cu	20.4	1.32	12.5	0.24 V	20.1
spare	Nc-3	0	0.000 A	3.00 A	0.00%		14ga solid Cu	20.4	0.00		0.00 V	20.4
spare	Nc-4	0	0.000 A	3.00 A	0.00%		14ga solid Cu	20.4	0.00		0.00 V	20.4
spare	Nc-5	0	0.000 A	3.00 A	0.00%		14ga solid Cu	20.4	0.00		0.00 V	20.4
cnara	Nc-6	0	0.000 A	3.00 A	0.00%	0 Ft	14ga solid Cu	20.4	0.00	655	0.00 V	20.4
spare TOTALS	140-0	16	2.912 A	10.0 A	29.12%	011	riga dolla da	20.1	0.00		0.00 1	



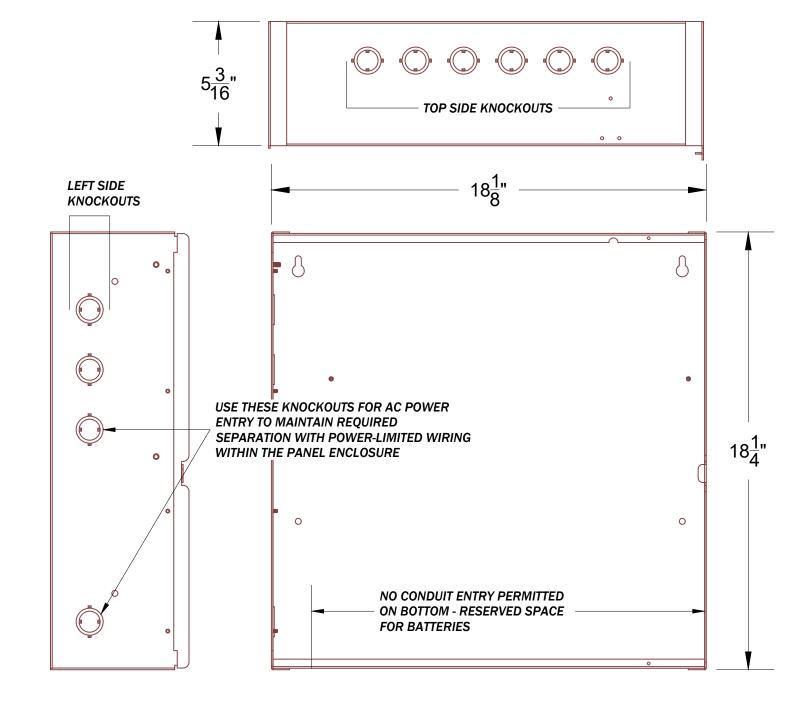
Battery Selection (AH) - Secondary Load Requirements (AH)

Secondary Standby Load (AH) * Derating Factor Secondary Alarm Load (AH) * Derating Factor

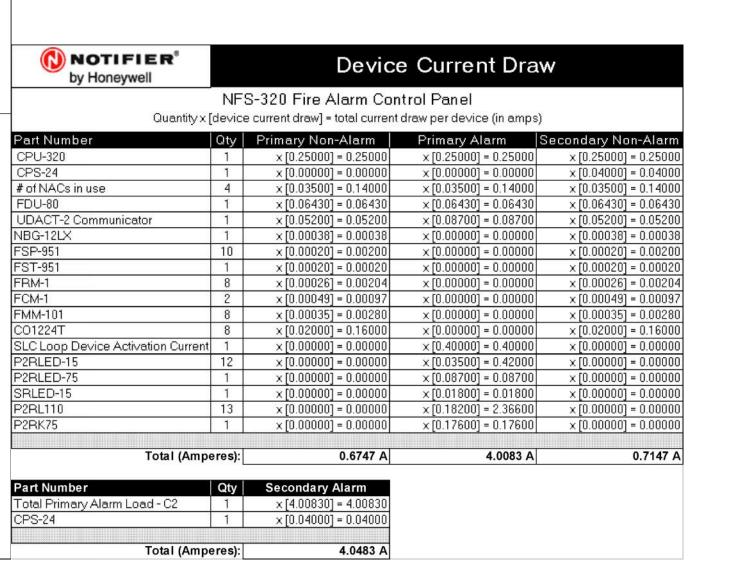
Spare Battery Capacity



PSN-106 NAC POWER SUPPLY MOUNTING



NFS-320 CABINET CONDUIT ENTRY





Residences at 2991 SE Shenandoah P.	prepared for: F						
<i>DRAWN BY:</i> D.LANE	DATE: 05.28.2024						
DESIGNED BY: PR	DATE: 05.07.24						
APPROVED BY:	DATE:						
3303 24	050258						
SHEET TITLE: FIRE ALAR	SHEET TITLE: FIRE ALARM SYSTEM Apartment Calculations Panel Mounting Details						
Apartment	Calculations						

Building MO 64063

at Blackwell -

Ridgeline ission, KS 66205