

CITY OF LEE'S SUMMIT

FIRE STATION #4

5031 NORTHEAST LAKEWOOD WAY

LEE'S SUMMIT, MISSOURI 64064

CODE INFORMATION

I. Applicable Codes

- A. 2015 IBC
- C. 2014 ICC 500
- D. ICC/ANSI A117.1-2009
- E. 28 CODE OF FEDERAL REGULATIONS (CFR) PART 35.15 AS DETAILED IN THE DEPARTMENT OF JUSTICE TITLE II ADA REGULATIONS AND THE 2010 ADA STANDARDS OF ACCESSIBLE DESIGN

II. Building Information:

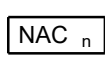
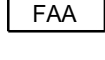
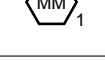
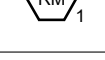
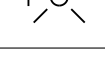
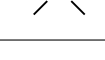
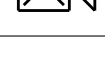
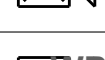
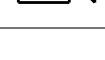
- A. II-B Construction {Per IBC 601}
- B. Fully Sprinklered {Per IBC 901.2}
- C. Full Perimeter Frontage {Per IBC 506.3}
- D. Use Group: Mixed Non-separated S-1, S-2, B, R-2 {Per IBC 508.3}

Occupant Load {IBC Table 1004.1.2}	
Business	19
Residential	8
Storage	25
Total	52

Scope:	This Project is new construction of a Fire Station in Lee's Summit. The building is fully sprinklered. Envision will install a full fire alarm system as well as monitoring of the sprinkler system.
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Wiring Legend	
SLC	18/2 UNS SOL FPLP Red Jkt
NAC	14/2 UNS SOL FPLP Red Jkt
P-Link	18/4 UNS SOL FPLP Red Jkt

Sheet Index	
FA - 1	Cover Page
FA - 2	First Floor Plan
FA - 3	Second Floor Plan
FA - 4	Batter & Circuit Calculations, Operational Matrix, and Riser Diagram
FA - 5	NFPA 72 Reference

Symbol Legend	
SYMBOL	DESCRIPTION
	INTELLIGENT PWR EXPANDER, 6-AMP, 4-NAC
	FACP ADDRESSABLE 198 OR 318 POINTS
	LOW-PROFILE INTELLIGENT 135F FIXED THERMAL SENSOR WHITE
	LOW-PROFILE PHOTOELECTRIC SENSOR WHITE
	ADVANCED MULTI-CRITERIA FIRE/CO DETECTOR, WHITE
	REMOTE LCD ANNUNCIATOR, RED
	PULL STATION, DOUBLE ACTION, ADDRESSABLE
	DUAL MONITOR MODULE
	RELAY MODULE, ADDRESSABLE
	L-SERIES STROBE, RED, WALL
	L-SERIES 2-WIRE, HORN STROBE, RED, WALL
	L-SERIES STROBE, RED, WALL
	L-SERIES 2-WIRE, HORN STROBE, RED, WALL
	LOW FREQUENCY SOUNDER STROBE WALL RED
	HORN/STROBE, 2 WIRE, STANDARD CD, RED, OUTDOOR

NOTES:
1. All smoke detectors shall be located a minimum of three (3) feet from any HVAC diffuser.
2. All manual pull stations shall be mounted four (4) feet above the finished floor (centerline of device, +or-6inches), unless otherwise noted.
3. All strobe and horn/strobes shall be located so the bottom of the device is not less than 80 inches above the finished floor and not greater than 96 inches above the finished floor.
4. All notification devices shall be located no less than 6 inches below finished ceilings.
5. The candela rating of the strobes or horn/strobes shall be shown on the drawings.
6. The location of the notification devices shall be at a uniform height for all devices.
7. All cables, conduits, or wire mold shall be securely fastened to the structure.
8. Smoke detectors shall be located in the ceiling no less than 4 inches from a sidewall to the nearest edge of the detector.
9. Drawings indicate general fire alarm device locations and Field Verify device locations with minimal deviations and document any changes.
10. FACP & Power Supplies shall be on a dedicated 120V, 20A circuit breaker marked in red with lock-on provision.
11. Fire Alarm wire paths are reserved for fire alarm cabling only. Including all UL listed fire barrier penetrations.
12.Outdoor Weatherproof Horn/Strobe is to be mounted 10' 00" AFF FDC.
13. All ceilings are 10' or below unless otherwise noted.
14. Default batteries are 18 - amp hour unless otherwise noted.
15. Remote Test Stations to be mounted on the wall 5' AFF.

PROFESSIONAL ENGINEER STAMP:

REVISIONS:	DATE:
1City Revisions #1	8/3/2023



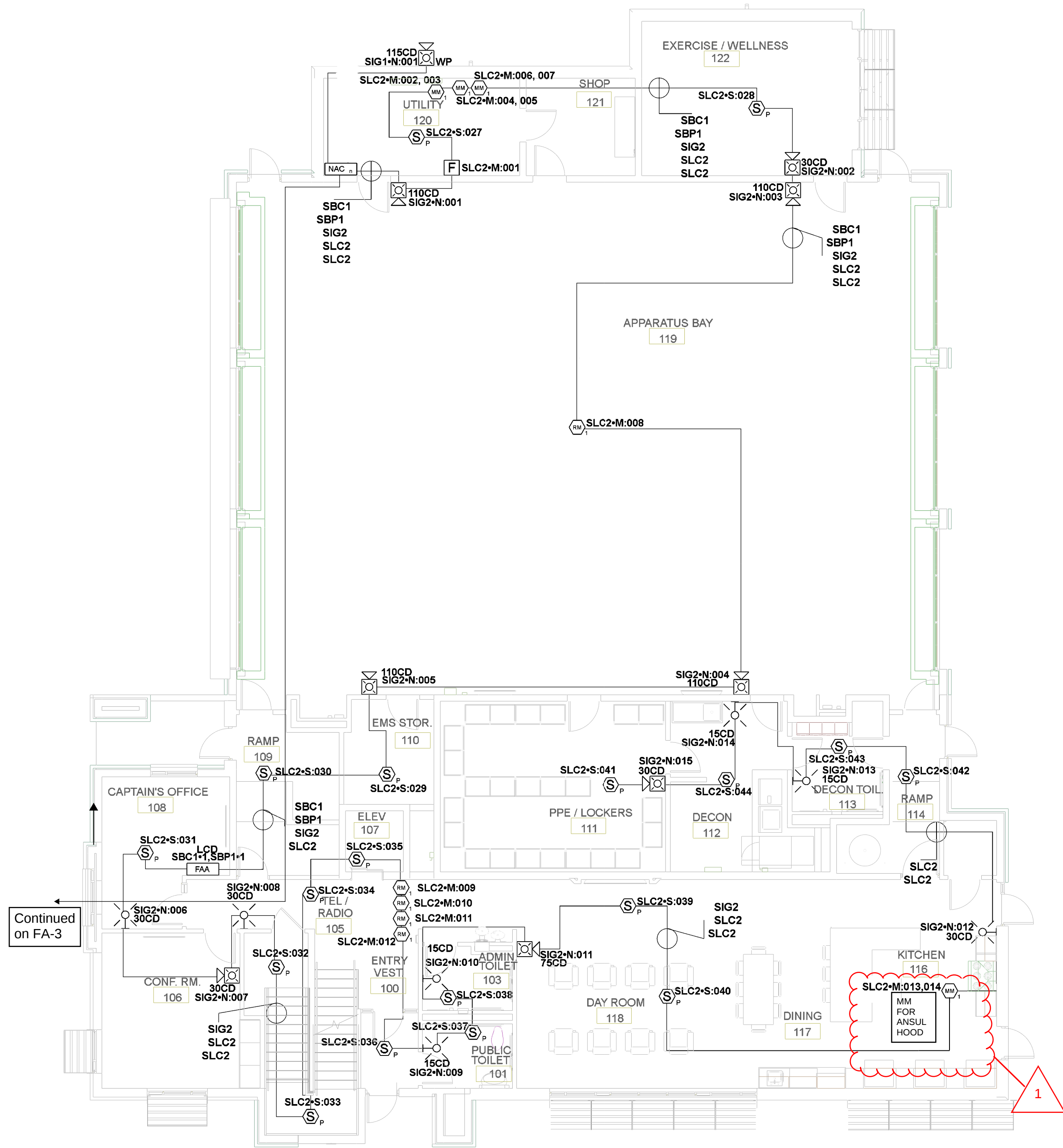
ENVISION
TECHNOLOGY GROUP

913-491-1700
913-491-1701

6985 W 153rd St
Overland Park, KS 66223



SITE: 5031 Northeast Lakewood Way Lee's Summit, Missouri 64064		
TITLE: Cover Page		
SCALE AT:	DATE: 8/2/2023	DESIGNED BY:
PROJECT NO:	DRAWING NO:FA-1	REVISION:



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1	City Revisions #1	8/3/2023



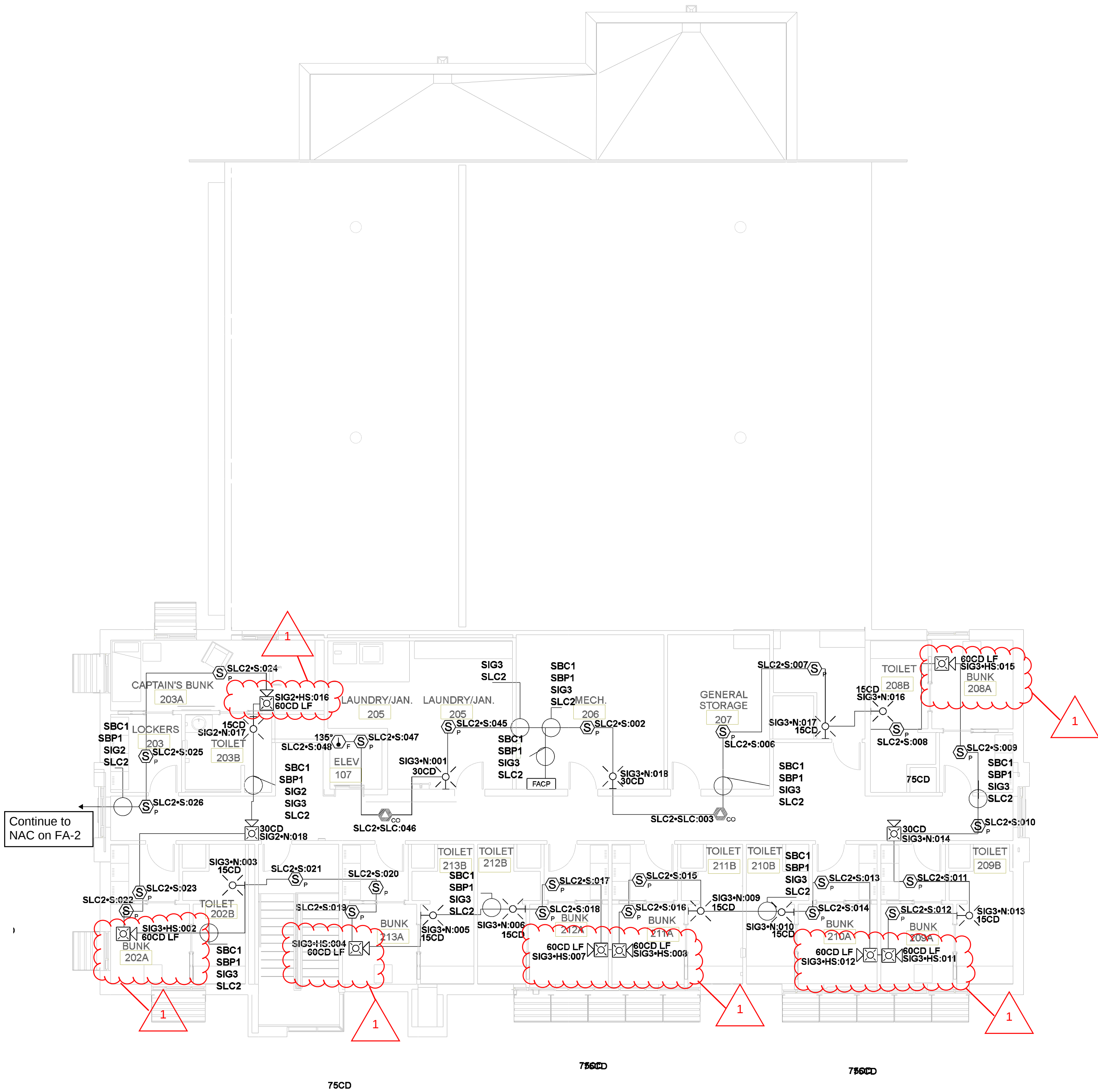
6985 W 153rd St
Overland Park, KS 66223

913-491-1700
913-491-1701

SITE: 5031 Northeast Lakewood Way
Lee's Summit, Missouri 64064

TITLE: First Floor Plan

SCALE AT: 1/8"=1'	DATE: 8/2/2023	DESIGNED BY:
PROJECT NO:	DRAWING NO: FA-2	REVISION:



NOTES:

1. All smoke detectors shall be located a minimum of three (3) feet from any HVAC diffuser.
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PROFESSIONAL ENGINEER STAMP:

REVISIONS:		DATE:
1	City Revisions #1	8/3/2023

**ENVISION**
TECHNOLOGY GROUP

913-491-1700
913-491-1701

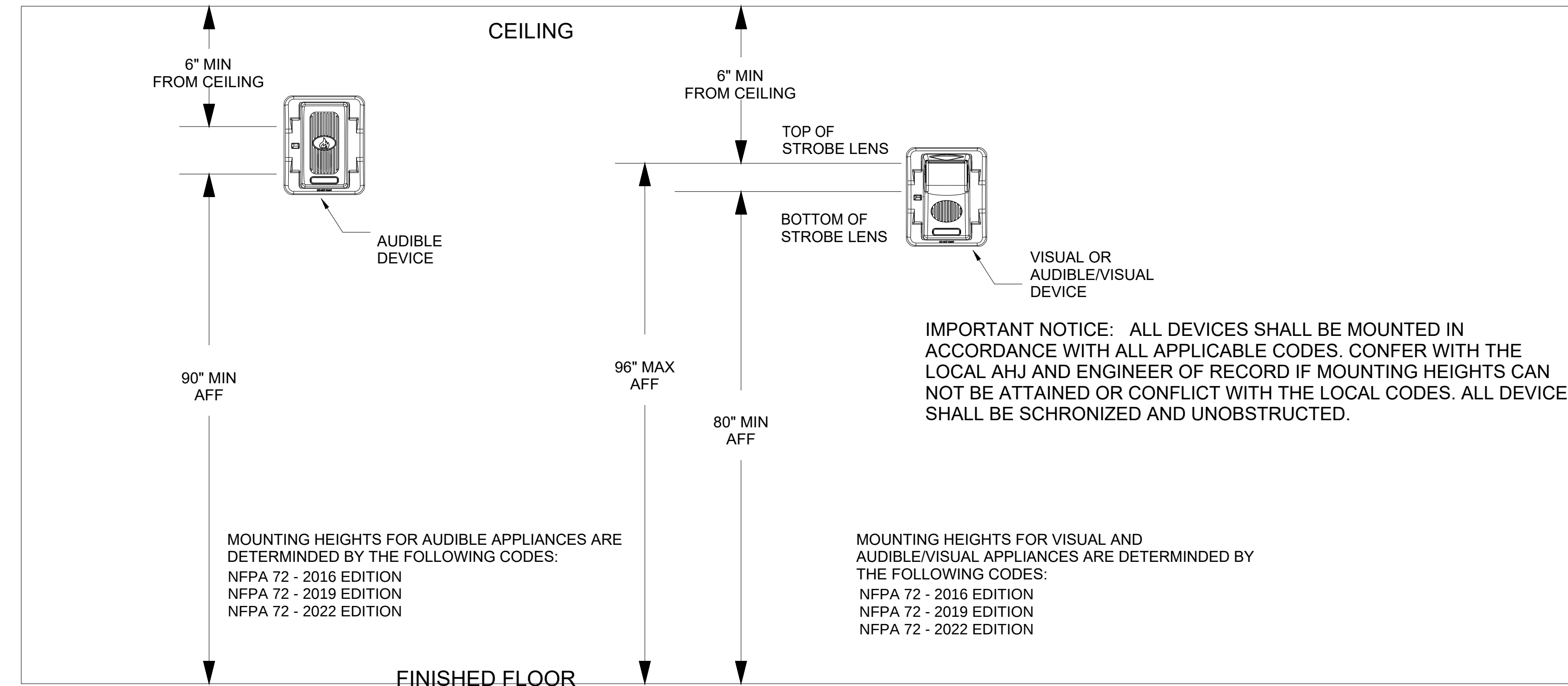
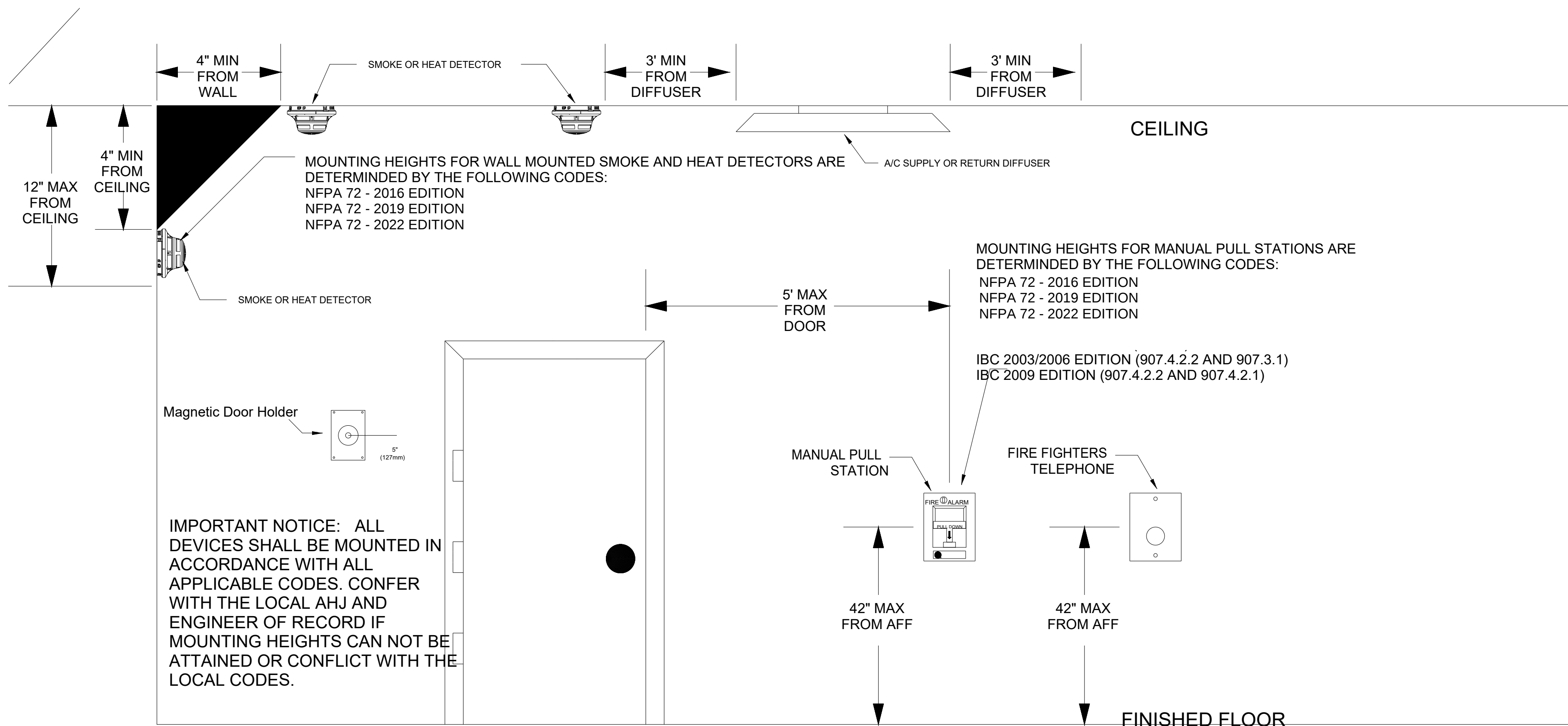
6985 W 153rd St
Overland Park, KS 66223

SITE: 5031 Northeast Lakewood Way
Lee's Summit, Missouri 64064

TITLE: Second Floor Plan

SCALE AT: 1/8"=1'	DATE: 8/2/2023	DESIGNED BY:
PROJECT NO:	DRAWING NO: FA-3	REVISION:

Battery Calculations for Panel: NAC										Battery Calculations for Panel: FACP										
Part No:5496 - INTELLIGENT PWR EXPANDER, 6-AMP, 4-NAC										Part No:6808 - FACP ADDRESSABLE 198 OR 318 POINTS										
Job number: 1 Job name: Drawing1										Job number: 1 Job name: Drawing1										
Part No.	Qty.	Panel Equipment	Description	Standby	Total Standby	Alarm	Total Alarm			Part No.	Qty.	Panel Equipment	Description	Standby	Total Standby	Alarm	Total Alarm			
5496 MB	1	INTELLIGENT POWER MODULE MAIN BOARD		40.0000 mA	40.0000 mA	160.0000 mA	160.0000 mA			6808_MB	1	MAIN BOARD 6808		190.0000 mA	190.0000 mA	250.0000 mA	250.0000 mA			
Total Panel Sby				40.0000 mA	Total Panel Alarm		160.0000 mA			Total Panel Sby				190.0000 mA	Total Panel Alarm		250.0000 mA			
Peripheral Devices										Peripheral Devices										
P29K	1	HORN/STROBE, 2 WIRE, STANDARD CD, RED, OUTDOOR (Notification) 115CD 81dB		0.0000 mA	0.0000 mA	210.0000 mA	210.0000 mA			S680R	1	REMOTE LCD ANNUNCIATOR, RED (Power)		20.0000 mA	20.0000 mA	20.0000 mA	20.0000 mA			
SRL	13	L-SERIES STROBE, RED, WALL, (Notification) 15CD		0.0000 mA	0.0000 mA	43.0000 mA	559.0000 mA			5496	1	INTELLIGENT PWR EXPANDER, 6-AMP, 4-NAC, 5496 MB (Power)		10.0000 mA	10.0000 mA	10.0000 mA	10.0000 mA			
P2RL	3	L-SERIES 2-WIRE, HORN STROBE, RED, WALL, (Notification) 30CD 89dB		0.0000 mA	0.0000 mA	74.0000 mA	222.0000 mA			S680R	1	REMOTE LCD ANNUNCIATOR, RED (Serial)		0.0000 mA	0.0000 mA	0.0000 mA	0.0000 mA			
P2RL	4	L-SERIES 2-WIRE, HORN STROBE, RED, WALL, (Notification) 110CD 89dB		0.0000 mA	0.0000 mA	198.0000 mA	792.0000 mA			5496	1	INTELLIGENT PWR EXPANDER, 6-AMP, 4-NAC, 5496 MB (Serial)		10.0000 mA	10.0000 mA	10.0000 mA	10.0000 mA			
P2RL	1	L-SERIES 2-WIRE, HORN STROBE, RED, WALL, (Notification) 75CD 89dB		0.0000 mA	0.0000 mA	156.0000 mA	156.0000 mA			SK-PHOTO-W	42	LOW-PROFILE PHOTOELECTRIC SENSOR WHITE (Signaling line)		0.2000 mA	8.4000 mA	0.2000 mA	8.4000 mA			
P2RL	2	L-SERIES 2-WIRE, HORN STROBE, RED, WALL, (Notification) 30CD 89dB		0.0000 mA	0.0000 mA	107.0000 mA	214.0000 mA			SK-PULL-DA	4	PULL STATION, DOUBLE ACTION, ADDRESSABLE (Signaling line)		0.3500 mA	0.3500 mA	0.3500 mA	0.3500 mA			
SRL	5	L-SERIES STROBE, RED, WALL, (Notification) 30CD		0.0000 mA	0.0000 mA	63.0000 mA	315.0000 mA			SK-MONITOR 2	4	DUAL MONITOR MODULE (Signaling line)		0.7500 mA	3.0000 mA	0.7500 mA	3.0000 mA			
P2RL-LF	6	LOW FREQUENCY SOUNDER STROBE WALL, RED, (Notification) 75CD 80dB		0.0000 mA	0.0000 mA	156.0000 mA	156.0000 mA			SK-RELAY	5	RELAY MODULE, ADDRESSABLE (Signaling line)		0.2000 mA	1.0000 mA	0.2000 mA	1.0000 mA			
Total Peripheral Sby				0.0000 mA	Total Periph Alarm		3732.0000 mA			SK-FIRE-CO-W	2	ADVANCED MULTI-CRITERIA FIRE/CO DETECTOR, WHITE (Signaling line)		0.2000 mA	0.4000 mA	2.0000 mA	4.0000 mA			
Total Standby Amps				40.0000 mA	Total Alarm Amps		3892.0000 mA			SK-HEAT-W	1	LOW-PROFILE INTELLIGENT 135F FIXED THERMAL SENSOR WHITE (Signaling line)		0.2000 mA	0.2000 mA	0.2000 mA	0.2000 mA			
				Standby time: 24 Hrs		0.96 Ah								Standby time: 24 Hrs		5.848 Ah				
				Alarm time: 5 Min		0.324 Ah								Alarm time: 5 Min		0.873 Ah				
				Battery requirement:		1.284 Ah								Battery requirement:		7.648 Ah				
				Requirement with compensation:		1.541 Ah								Requirement with compensation:		7.648 Ah				
Compensation Factors - Standby:1.199999999999999955591 Alarm:1.199999999999999955591										Compensation Factors - Standby:1.199999999999999955591 Alarm:1.199999999999999955591										
Circuit Calculations Panel: NAC Card: 01 Circuit:SIG1										Circuit Calculations Panel: FACP Card: 00 Circuit:SBP1										
Circuit Name: SIG1										Circuit Name: SBP1										
Circuit Type: Notification										Circuit Type: Power/RSBUS RS-485										
Terminal Voltage: 28.4 V-DC										Terminal Voltage: 29.2 V-DC										
Cable: 14/2 SOL, JKT FPLR 1M RL RED #14										Cable: 14/2 SOL, JKT FPLR 1M RL RED #14										
Calculations based on Running Total Length:										Calculations based on Running Total Length:										
Design Criteria: Ambient temperature: 167 °F Max. operating voltage drop: 18%										Design Criteria: Ambient temperature: 167 °F Max. operating voltage drop: 18%										
Device	Part No	Appliance Desc	Distance	Current	Voltage	Voltage Drop				Device	Part No	Appliance Desc	Distance	Current	Voltage	Voltage Drop				
5496	Panel				20.4 V					6808	Panel				20.2 V					
N301	P29K	HORN/STROBE, 2 WIRE, STANDARD CD, RED, OUTDOOR, 115CD		20.7%	210.0000 mA	20.3742 V	(0.0258 V)				2	5496	INTELLIGENT PWR EXPANDER, 6-AMP, 4-NAC	372-0%	10.0000 mA	20.1355 V	(0.0645 V)			
				20-7%	210.0000 mA	20.3742 V	(0.0258 V)				1	S680R	REMOTE LCD ANNUNCIATOR, RED	236-10%	20.0000 mA	20.1073 V	(0.0282 V)			



DETECTOR LOCATION REQUIREMENTS FOR WALL SECTIONS
NFPA 72

DEPTH OF WALL SECTION ABOVE DOOR	DOOR FRAME MOUNTED	SMOKE DETECTOR LISTED FOR FRAME MOUNTING OR AS PART OF CLOSER ASSEMBLY	DOOR FRAME MOUNTED	SMOKE DETECTOR CEILING MOUNTED	CEILING MOUNTED
d			A	B	
0 - 610 mm (0 - 24 in.) ON BOTH SIDES OF DOORWAY					
OVER 610 mm (24 in.) ON ONE SIDE ONLY			C		
OVER 610 mm (24 in.) ON BOTH SIDES			E		
OVER 1524 mm (60 in.)					
			G		

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6985 W 153rd St
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913-491-1700
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SITE: 5031 Northeast Lakewood Way
Lee's Summit, Missouri 64064

TITLE: NFPA 72 Reference

SCALE AT:	DATE: 8/2/2023	DESIGNED BY:
PROJECT NO:	DRAWING NO: FA-5	REVISION:

NFPA 72 Device Reference