

CITY OF LEE'S SUMMIT
FIRE STATION #4
5031 NORTHEAST LAKEWOOD WAY
LEE'S SUMMIT, MISSOURI 64064

CODE INFORMATION

I. Applicable Codes

- A. ~~2018~~ 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

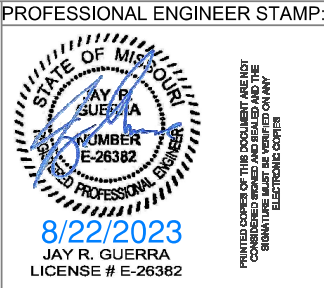
Sheet Index	
FA - 1	Cover Page
FA - 2	First Floor Plan
FA - 3	Second Floor Plan
FA - 4	Batter & Circuit Calculations, Operational Matrix, and Riser Diagram
FA - 5	NFPA 72 Reference

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
	60CBLF 60 HZ FREQUENCY SOUNDER STROBE WALL RED
	HORN/STROBE, 2 WIRE, STANDARD CD, RED, OUTDOOR

- NOTES:
- All smoke detectors shall be located a minimum of three (3) feet from any HVAC diffuser.
 - All manual pull stations shall be mounted four (4) feet above the finished floor (centerline of device, +or-6inches), unless otherwise noted.
 - 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.
 - All notification devices shall be located no less than 6 inches below finished ceilings.
 - The candela rating of the strobes or horn/strobes shall be shown on the drawings.
 - The location of the notification devices shall be at a uniform height for all devices.
 - All cables, conduits, or wire mold shall be securely fastened to the structure.
 - Smoke detectors shall be located in the ceiling no less than 4 inches from a sidewall to the nearest edge of the detector.
 - Drawings indicate general fire alarm device locations and Field Verify device locations with minimal deviations and document any changes.
 - FACP & Power Supplies shall be on a dedicated 120V, 20A circuit breaker marked in red with lock-on provision.
 - Fire Alarm wire paths are reserved for fire alarm cabling only. Including all UL listed fire barrier penetrations.
 - Outdoor Weatherproof Horn/Strobe is to be mounted 10' 00" AFF FDC.
 - All ceilings are 10' or below unless otherwise noted.
 - Default batteries are 18 - amp hour unless otherwise noted.
 - Remote Test Stations to be mounted on the wall 5' AFF.



GIBBENS DRAKE SCOTT, INC
Missouri State Certificate of Authority #000816
9201 E. 63rd STREET, SUITE 100
RAYTOWN, MISSOURI 64133



REVISIONS:		DATE:
	City Revisions #1	8/3/2023
	City Revisions #2	8/21/2023



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:

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.

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



8/22/2023
JAY R. GUERRA
LICENSE # E-26382

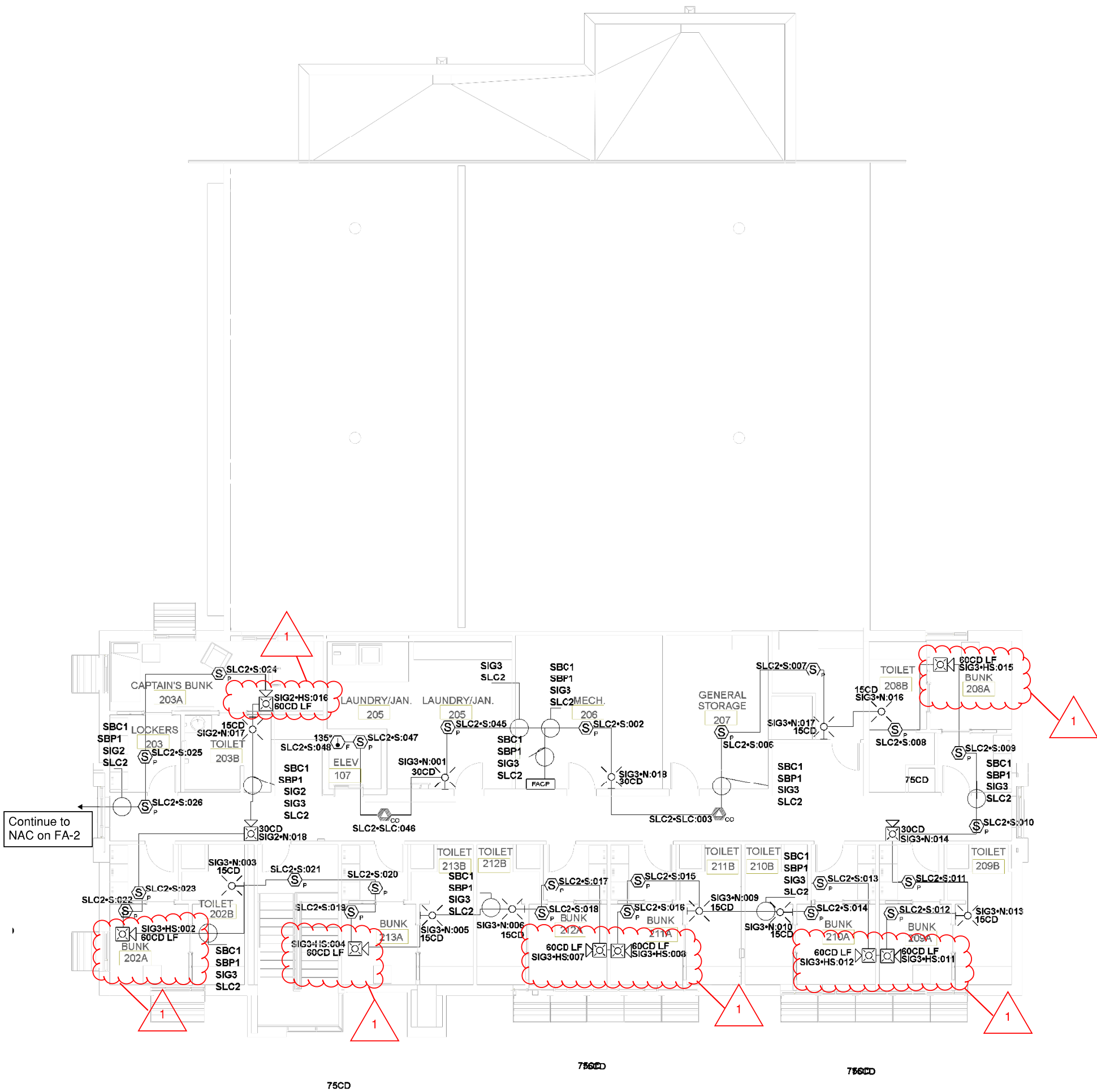


ENVISION
TECHNOLOGY GROUP

913-491-1700 6985 W 153rd St
913-491-1701 Overland Park, KS 66223

TITLE: First Floor Plan

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



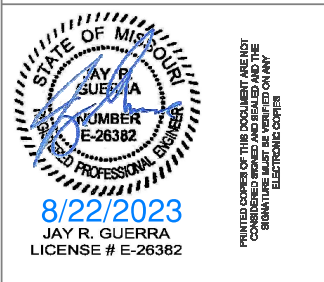
NOTES:

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



GIBBENS DRAKE SCOTT, INC.
Missouri State Certificate of Authority #000816
9201 E. 63rd STREET, SUITE 100
RAYTOWN, MISSOURI 64133

PROFESSIONAL ENGINEER STAMP:

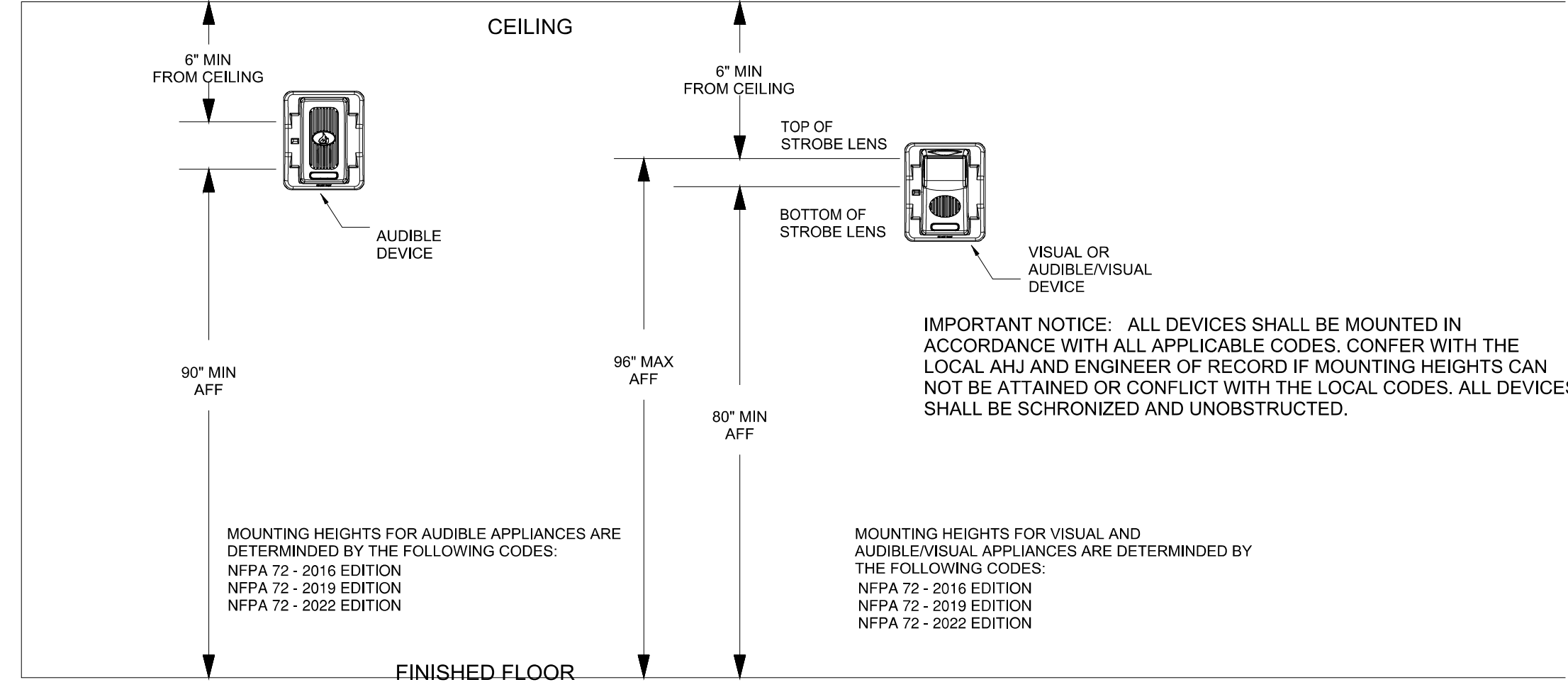
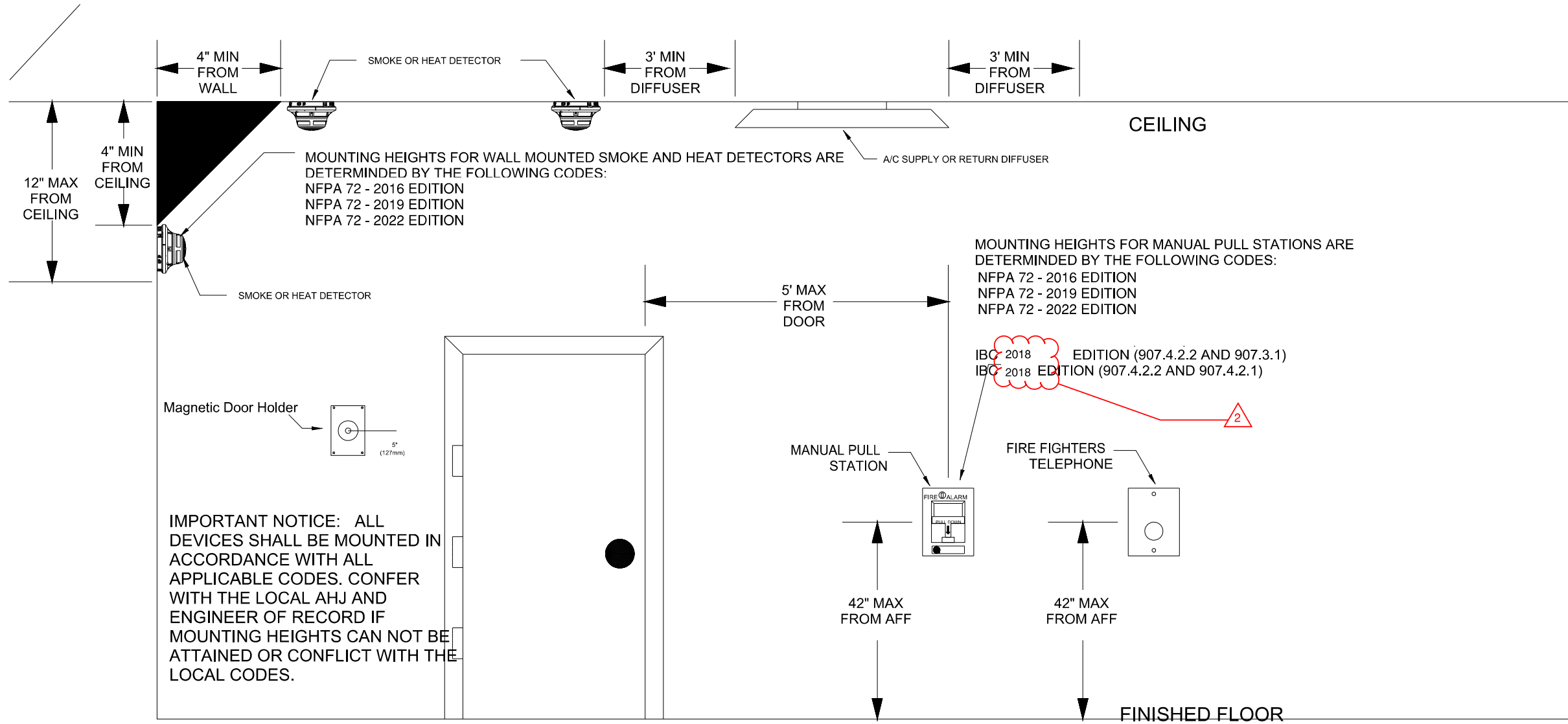


REVISIONS:	DATE:
1 City Revisions #1	8/3/2023
2 City Revisions #2	8/21/2023

ENVISION
TECHNOLOGY GROUP
913-491-1700 6985 W 153rd St
913-491-1701 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-NAAC										Part No:6808 - FACP ADDRESSABLE 198 OR 316 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		40,000 mA	40,000 mA	160,000 mA	160,000 mA	160,000 mA		6808 MB	1	MAIN BOARD 1988		190,000 mA	190,000 mA	250,000 mA	250,000 mA	250,000 mA		
				Total Panel Standby	40,000 mA	Total Panel Alarm	160,000 mA							Total Panel Standby	190,000 mA	Total Panel Alarm	250,000 mA			
Peripheral Devices										Peripheral Devices										
P2RK	1	HORN/STROBE, 2 WIRE, STANDARD CO. RED, OUTDOOR (Notification) 115CD #14B		0,000 mA	0,000 mA	210,000 mA	210,000 mA	5860R	1	REMOTE LCD ANNUNCIATOR, RED (Power)		20,000 mA	20,000 mA	20,000 mA	20,000 mA	20,000 mA	20,000 mA			
SRL	13	L-SERIES STROBE, RED, WALL (Notification) 15CD		0,000 mA	0,000 mA	43,000 mA	593,000 mA	5496	1	INTELLIGENT PWR EXPANDER, 6-AMP, 4-NAAC, 5496 MB (Power)		16,000 mA	16,000 mA	16,000 mA	16,000 mA	16,000 mA	16,000 mA			
P2RL	3	L-SERIES 2-WIRE, HORN STROBE, RED, WALL (Notification) 30CD #94B		0,000 mA	0,000 mA	74,000 mA	222,000 mA	5860R	1	REMOTE LCD ANNUNCIATOR, RED (Serial)		0,000 mA	0,000 mA	0,000 mA	0,000 mA	0,000 mA	0,000 mA			
P2RL	4	L-SERIES 2-WIRE, HORN STROBE, RED, WALL (Notification) 110CD #94B		0,000 mA	0,000 mA	198,000 mA	792,000 mA	5496	1	INTELLIGENT PWR EXPANDER, 6-AMP, 4-NAAC, 5496 MB (Serial)		16,000 mA	16,000 mA	16,000 mA	16,000 mA	16,000 mA	16,000 mA			
P2RL	1	L-SERIES 2-WIRE, HORN STROBE, RED, WALL (Notification) 75CD #94B		0,000 mA	0,000 mA	156,000 mA	156,000 mA	SKPHOTO-W	42	LOW-PROFILE PHOTOELECTRIC SENSOR WHITE (Signalling line)		6,2000 mA	8,4000 mA	6,2000 mA	8,4000 mA					
P2RL	2	L-SERIES 2-WIRE, HORN STROBE, RED, WALL (Notification) 30CD #94B		0,000 mA	0,000 mA	107,000 mA	214,000 mA	SK-PULL-DA	1	PULL STATION, DOUBLE ACTION, ADDRESSABLE (Signalling line)		6,3500 mA	6,3500 mA	6,3500 mA	6,3500 mA					
SRL	5	L-SERIES STROBE, RED, WALL (Notification) 30CD		0,000 mA	0,000 mA	63,000 mA	315,000 mA	SK-MONITOR 2	4	DUAL MONITOR MODULE (Signalling line)		6,7500 mA	3,0000 mA	6,7500 mA	3,0000 mA					
P2RL-LF	8	LOW FREQUENCY SOUNDER STROBE WALL, RED (Notification) 75CD 80dB		0,000 mA	0,000 mA	156,000 mA	1264,000 mA	SK-RELAY	5	RELAY MODULE, ADDRESSABLE (Signalling line)		6,2000 mA	1,3000 mA	6,2000 mA	6,1300 mA					
				Total Peripheral Standby	0,000 mA	Total Peripheral Alarm	3732,000 mA	SK-FIRE-CO-W	2	ADVANCED MULTICRITERIA FIRESCO DETECTOR, WHITE (Signalling line)		6,2000 mA	9,4000 mA	6,2000 mA	2,0000 mA	4,0000 mA				
								SK-HEAT-W	1	LOW-PROFILE INTELLIGENT 135F FIXED THERMAL SENSOR WHITE (Signalling line)		6,2000 mA	9,2000 mA	6,2000 mA	9,2000 mA					
				Total Standby Amps	40,000 mA	Total Alarm Amps	3892,000 mA					Total Peripheral Standby	53,6500 mA	Total Peripheral Alarm	56,8000 mA					
								Standby time: 24 Hrs Alarm time: 5 Min Battery requirement: 1.284 Ah Requirement with compensation: 1.541 Ah									Standby time: 24 Hrs Alarm time: 5 Min Battery requirement: 5.848 Ah Requirement with compensation: 7.048 Ah			
Compensation Factors - Standby:1.199999999999999955591 Alarm:1.199999999999999955591 Requirement with compensation: 1.541 Ah										Compensation Factors - Standby:1.199999999999999955591 Alarm:1.199999999999999955591 Requirement with compensation: 7.048 Ah										
Circuit Calculations Panel: NAC Card: 01 Circuit:SIG1										Circuit Calculations Panel: FACP Card: 00 Circuit:SBP1										
Circuit Name: SIG1 Circuit Type: Notification Terminal Voltage: 20.4 V.DC Amperage: 2,000 A Cable: 142 SOL JKT FPLR 1M RL RED #14 Calculations based on Running Total Length.										Circuit Name: SBP1 Circuit Type: Power/SBUS RS-485 Terminal Voltage: 20.2 V.DC Amperage: 2,000 A Cable: 142 SOL JKT FPLR 1M RL RED #14 Calculations based on Running Total Length.										
Design Criteria: Ambient temperature: 107 °F Max. operating voltage drop: 18%										Design Criteria: Ambient temperature: 107 °F Max. operating voltage drop: 18%										
Device	Part No	Panel	Appliance Desc	Distance	Current	Voltage	Voltage Drop			Device	Part No	Panel	Appliance Desc	Distance	Current	Voltage	Voltage Drop			
N-001	P2RK	HORN/STROBE, 2 WIRE, STANDARD CO. RED, OUTDOOR, 115CD		20'-7"	210,000 mA	20.3742 V	(0.0258 V)			2	6808	Panel	INTELLIGENT PWR EXPANDER, 6-AMP, 4-NAAC	372'-0"	16,000 mA	20.1555 V	(0.0645 V)			
				20'-7"	210,000 mA					1	5860R	Panel	REMOTE LCD ANNUNCIATOR, RED	236'-10"	20,000 mA	20.1073 V	(0.0282 V)			
								Total Current: 210,000 mA										Total Current: 30,000 mA		
								(Total VDrop Percent:5.13%)										Total Voltage Drop : 0.0927 V		
Circuit Calculations Panel: NAC Card: 01 Circuit:SIG2										Circuit Calculations Panel: FACP Card: 00 Circuit:SBP1										
Circuit Name: SIG2 Circuit Type: Notification Terminal Voltage: 20.4 V.DC Amperage: 2,000 A Cable: 142 SOL JKT FPLR 1M RL RED #14 Calculations based on Running Total Length.										Circuit Name: SBP1 Circuit Type: Power/SBUS RS-485 Terminal Voltage: 20.2 V.DC Amperage: 2,000 A Cable: 142 SOL JKT FPLR 1M RL RED #14 Calculations based on Running Total Length.										
Design Criteria: Ambient temperature: 107 °F Max. operating voltage drop: 18%										Design Criteria: Ambient temperature: 107 °F Max. operating voltage drop: 18%										
Device	Part No	Panel	Appliance Desc	Distance	Current	Voltage	Voltage Drop			Device	Part No	Panel	Appliance Desc	Distance	Current	Voltage	Voltage Drop			
N-001	P2RL	L-SERIES 2-WIRE, HORN STROBE, RED, WALL, 115CD		6'-4	188,000 mA	20.3912 V	(0.0308 V)			2	6808	Panel	INTELLIGENT PWR EXPANDER, 6-AMP, 4-NAAC	372'-0"	16,000 mA	20.2 V	(0.0645 V)			
N-002	P2RL	L-SERIES 2-WIRE, HORN STROBE, RED, WALL, 30CD		68'-4	74,000 mA	19.7828 V	(0.0583 V)			1	5860R	Panel	REMOTE LCD ANNUNCIATOR, RED	236'-10"	20,000 mA	20.1073 V	(0.0282 V)			
N-003	P2RL	L-SERIES 2-WIRE, HORN STROBE, RED, WALL, 115CD		2'-3	188,000 mA	19.7868 V	(0.0543 V)													
N-004	P2RL	L-SERIES 2-WIRE, HORN STROBE, RED, WALL, 115CD		86'-9"	188,000 mA	19.7764 V	(0.0582 V)													
N-005	P2RL	L-SERIES 2-WIRE, HORN STROBE, RED, WALL, 115CD		37'-0"	188,000 mA	19.8973 V	(0.0211 V)													
N-006	SRL	L-SERIES STROBE, RED, WALL, 30CD		49'-10	63,000 mA	18.7913 V	(0.2154 V)													
N-007	P2RL	L-SERIES 2-WIRE, HORN STROBE, RED, WALL, 30CD		16'-9	107,000 mA	18.685 V	(0.0558 V)													
N-008	SRL	L-SERIES STROBE, RED, WALL, 30CD		7'-4"	63,000 mA	18.6821 V	(0.0241 V)													
N-009	SRL	L-SERIES STROBE, RED, WALL, 15CD		67'-7	43,000 mA	18.486 V	(0.0538 V)													
N-010	SRL	L-SERIES STROBE, RED, WALL, 15CD		15'-5	43,000 mA	18.3692 V	(0.0391 V)													
N-011	P2RL	L-SERIES 2-WIRE, HORN STROBE, RED, WALL, 75CD		17'-5	156,000 mA	18.3292 V	(0.043 V)													
N-012	SRL	L-SERIES STROBE, RED, WALL, 30CD		70'-10	63,000 mA	18.2809 V	(0.1163 V)													
N-013	SRL	L-SERIES STROBE, RED, WALL, 15CD		60'-1	43,000 mA	18.1637 V	(0.0462 V)													
N-014	SRL	L-SERIES STROBE, RED, WALL, 15CD		13'-7	43,000 mA	18.1517 V	(0.0212 V)													
N-015	P2RL	L-SERIES 2-WIRE, HORN STROBE, RED, WALL, 30CD		14'-0"	107,000 mA	18.1423 V	(0.0205 V)													
HS-016	P2RL-LF	LOW FREQUENCY SOUNDER STROBE WALL, RED, 75CD		41'-5"	156,000 mA	20.3325 V	(0.0675 V)													
N-017	SRL	L-SERIES STROBE, RED, WALL, 15CD		4'-2"	43,000 mA	20.3206 V	(0.0075 V)													
N-018	P2RL	L-SERIES 2-WIRE, HORN STROBE, RED, WALL, 30CD		11'-9	74,000 mA	20.3246 V	(0.005 V)													
				597'-8	1872,000 mA															
								Total Current: 1872,000 mA												
								(Total VDrop Percent:11.06%)												
Circuit Calculations Panel: NAC Card: 01 Circuit:SIG3										Circuit Calculations Panel: FACP Card: 00 Circuit:SLC2										
Circuit Name: SIG3 Circuit Type: Notification Terminal Voltage: 20.4 V.DC Amperage: 3,000 A Cable: 142 SOL JKT FPLR 1M RL RED #14 Calculations based on Running Total Length.										Circuit Name: SLC2 Circuit Type: Signalling line/RS - SLC Terminal Voltage: 20.4 V.DC Amperage: 2,000 A Cable: 182 SOL JKT FPLR 1M RL RED #18 Calculations based on Running Total Length.										
Design Criteria: Ambient temperature: 107 °F Max. operating voltage drop: 18%										Design Criteria: Ambient temperature: 107 °F Max. operating voltage drop: 18%										
Device	Part No	Panel	Appliance Desc	Distance	Current	Voltage	Voltage Drop			Device	Part No	Panel	Appliance Desc	Distance	Current	Voltage	Voltage Drop			
HS-002	P2RL-LF	LOW FREQUENCY SOUNDER STROBE WALL, RED, 75CD		83'-3	156,000 mA	19.9997 V	(0.0603 V)			S-002	SK-PHOTO-W	Panel	LOW-PROFILE PHOTOELECTRIC SENSOR WHITE	10'-8	0,2000 mA	20.4 V	(0.0019 V)			
N-003	SRL	L-SERIES STROBE, RED, WALL, 15CD		17'-11	43,000 mA	19.4439 V	(0.1557 V)			SLC-003	SK-FIRE-CO-W	Panel	ADVANCED MULTICRITERIA FIRESCO DETECTOR, WHITE	23'-7	0,2000 mA	20.3936 V	(0.0045 V)			
HS-004	P2RL-LF	LOW FREQUENCY SOUNDER STROBE WALL, RED, 75CD		29'-2"	156,000 mA	19.2335 V	(0.2048 V)			S-004	SK-PHOTO-W	Panel	LOW-PROFILE PHOTOELECTRIC SENSOR WHITE	9'-1	0,2000 mA	20.3921 V	(0.0015 V)			
N-005	SRL	L-SERIES STROBE, RED, WALL, 15CD		19'-7	43,000 mA	19.2335 V	(0.2048 V)			S-007	SK-PHOTO-W	Panel	LOW-PROFILE PHOTOELECTRIC SENSOR WHITE	17'-1	0,2000 mA	20.388 V	(0.002 V)			
N-006	SRL	L-SERIES STROBE, RED, WALL, 15CD		10'-5	43,000 mA	19.0834 V	(0.0766 V)			S-008	SK-PHOTO-W	Panel	LOW-PROFILE PHOTOELECTRIC SENSOR WHITE	17'-11	0,2000 mA	20.3858 V	(0.003 V)			
HS-007	P2RL-LF	LOW FREQUENCY SOUNDER STROBE WALL, RED, 75CD		116	156,000 mA	18.963 V	(0.1184 V)			S-009	SK-PHOTO-W	Panel	LOW-PROFILE PHOTOELECTRIC SENSOR WHITE	10'-11	0,2000 mA	20.3798 V	(0.0018 V)			
HS-008	P2RL-LF	LOW FREQUENCY SOUNDER STROBE WALL, RED, 75CD		2'-0	156,000 mA	18.9522 V	(0.0129 V)			S-010	SK-PHOTO-W	Panel	LOW-PROFILE PHOTOELECTRIC SENSOR WHITE	16'-4	0,2000 mA	20.3769 V	(0.0028 V)			
N-009	SRL	L-SERIES STROBE, RED, WALL, 15CD		29'-0"	43,000 mA	18.8484 V	(0.1037 V)			S-012	SK-PHOTO-W	Panel	LOW-PROFILE PHOTOELECTRIC SENSOR WHITE	19'-8	0,2000 mA	20.3728 V	(0.0031 V)			
N-010	SRL	L-SERIES STROBE, RED, WALL, 15CD		8'-4"	43,000 mA	18.8048 V	(0.0418 V)			S-013	SK-PHOTO-W	Panel	LOW-PROFILE PHOTOELECTRIC SENSOR WHITE	19'-05"	0,2000 mA	20.3705 V	(0.0033 V)			
HS-012	P2RL-LF	LOW FREQUENCY SOUNDER STROBE WALL, RED, 75CD		20'-10"	156,000 mA	18.7983 V	(0.0886 V)			S-014	SK-PHOTO-W	Panel	LOW-PROFILE PHOTOELECTRIC SENSOR WHITE	19'-05"	0,2000 mA	20.3687 V	(0.0033 V)			
HS-013	P2RL-LF	LOW FREQUENCY SOUNDER STROBE WALL, RED, 75CD		2'-0	156,000 mA	18.7864 V	(0.0076 V)			M-000, 001	SK-MONITOR 2	DUAL MONITOR MODULE	11'-11"	0,7500 mA	20.3838 V	(0.0061 V)				
N-011	SRL	L-SERIES STROBE, RED, WALL, 15CD		11'-4	43,000 mA	18.6645 V	(0.0419 V)			M-004, 005	SK-MONITOR 2	DUAL MONITOR MODULE	2'-6	0,7500 mA	20.3885 V	(0.0020 V)				
N-014	P2RL	L-SERIES 2-WIRE, HORN STROBE, RED, WALL, 30CD		17'-11	74,000 mA	18.8181 V	(0.0463 V)			S-020	SK-PHOTO-W	Panel	LOW-PROFILE PHOTOELECTRIC SENSOR WHITE	29'-2	0,2000 mA	20.358 V	(0.0025 V)			
HS-015	P2RL-LF	LOW FREQUENCY SOUNDER STROBE WALL, RED, 75CD		33'-4"	156,000 mA	18.7074 V	(0.0891 V)			S-021	SK-PHOTO-W	Panel	LOW-PROFILE PHOTOELECTRIC SENSOR WHITE	9'-10	0,2000 mA	20.3565 V	(0.0015 V)			
N-016	SRL	L-SERIES STROBE, RED, WALL, 15CD		16'-8"	43,000 mA	18.5852 V	(0.0519 V)			S-022	SK-PHOTO-W	Panel	LOW-PROFILE PHOTOELECTRIC SENSOR WHITE	27'-7	0,2000 mA	20.3628 V	(0.0028 V)			
N-017	SRL	L-SERIES STROBE, RED, WALL, 15CD		6'-6"	43,000 mA	18.5222 V	(0.0682 V)			S-024	SK-PHOTO-W	Panel	LOW-PROFILE PHOTOELECTRIC SENSOR WHITE	43'-4	0,2000 mA	20.3467 V	(0.0029 V)			
N-018	SRL	L-SERIES STROBE, RED, WALL, 30CD		29'-0"	63,000 mA	18.4567 V	(0.0535 V)			S-025	SK-PHOTO-W	Panel	LOW-PROFILE PHOTOELECTRIC SENSOR WHITE	17'-4	0,2000 mA	20.3444 V	(0.0023 V)			
N-011	SRL	L-SERIES STROBE, RED, WALL, 15CD		29'-0"	63,000 mA	18.4454 V	(0.0546 V)			S-026	SK-PHOTO-W	Panel	LOW-PROFILE PHOTOELECTRIC SENSOR WHITE	17'-4	0,2000 mA	20.3444 V	(0.0023 V)			
N-011	SRL	L-SERIES STROBE, RED, WALL, 30CD		29'-0"	63,000 mA	18.4454 V	(0.0546 V)			S-027	SK-PHOTO-W	Panel	LOW-PROFILE PHOTOELECTRIC SENSOR WHITE	17'-4	0,2000 mA	20.3444 V	(0.0023 V)			
				387'-3"	1650,000 mA					S-028	SK-PHOTO-W	Panel	LOW-PROFILE PHOTOELECTRIC SENSOR WHITE	17'-4	0,2000 mA	20.3444 V	(0.0023 V)			
								Total Current: 1650,000 mA												
								(Total VDrop Percent:8.43%)												
Circuit Calculations Panel: NAC Card: 01 Circuit:SIG3										Circuit Calculations Panel: FACP Card: 00 Circuit:SLC2										
Circuit Name: SIG3 Circuit Type: Notification Terminal Voltage: 20.4 V.DC Amperage: 3,000 A Cable: 142 SOL JKT FPLR 1M RL RED #14 Calculations based on Running Total Length.										Circuit Name: SLC2 Circuit Type: Signalling line/RS - SLC Terminal Voltage: 20.4 V.DC Amperage: 2,000 A Cable: 182 SOL JKT FPLR 1M RL RED #18 Calculations based on Running Total Length.										
Design Criteria: Ambient temperature: 107 °F Max. operating voltage drop: 18%										Design Criteria: Ambient temperature: 107 °F Max. operating voltage drop: 18%										
Device	Part No	Panel	Appliance Desc	Distance	Current	Voltage	Voltage Drop			Device	Part No	Panel	Appliance Desc	Distance	Current	Voltage	Voltage Drop			



DETECTOR LOCATION REQUIREMENTS FOR WALL SECTIONS
NFPA 72

DEPTH OF WALL SECTION ABOVE DOOR	DOOR FRAME MOUNTED	CEILING MOUNTED
0 - 610 mm (0 - 24 in.) ON BOTH SIDES OF DOORWAY	SMOKE DETECTOR LISTED FOR FRAME MOUNTING OR AS PART OF CLOSER ASSEMBLY ONE DETECTOR MOUNTED ON EITHER SIDE	SMOKE DETECTOR CEILING MOUNTED ONE DETECTOR MOUNTED ON EITHER SIDE
OVER 610 mm (24 in.) ON ONE SIDE ONLY	DETECTOR OR DETECTOR CLOSER MOUNTED ON EITHER SIDE DETECTOR OR DETECTOR CLOSER MOUNTED ON HIGHER SIDE	ONE DETECTOR MOUNTED ON HIGHER SIDE
OVER 610 mm (24 in.) ON BOTH SIDES	DETECTOR OR DETECTOR CLOSER MOUNTED ON EITHER SIDE	TWO DETECTORS REQUIRED
OVER 1524 mm (60 in.)	MIGHT REQUIRE ADDITIONAL DETECTORS	

- NOTES:
- All smoke detectors shall be located a minimum of three (3) feet from any HVAC diffuser.
 - All manual pull stations shall be mounted four (4) feet above the finished floor (centerline of device, +or-6inches), unless otherwise noted.
 - 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.
 - All notification devices shall be located no less than 6 inches below finished ceilings.
 - The candela rating of the strobes or horn/strobes shall be shown on the drawings.
 - The location of the notification devices shall be at a uniform height for all devices.
 - All cables, conduits, or wire mold shall be securely fastened to the structure.
 - Smoke detectors shall be located in the ceiling no less than 4 inches from a sidewall to the nearest edge of the detector.
 - Drawings indicate general fire alarm device locations and Field Verify device locations with minimal deviations and document any changes.
 - FACP & Power Supplies shall be on a dedicated 120V, 20A circuit breaker marked in red with lock-on provision.
 - Fire Alarm wire paths are reserved for fire alarm cabling only. Including all UL listed fire barrier penetrations.
 - Outdoor Weatherproof Horn/Strobe is to be mounted 10' 00" AFF FDC.
 - All ceilings are 10' or below unless otherwise noted.
 - Default batteries are 18 - amp hour unless otherwise noted.
 - Remote Test Stations to be mounted on the wall 5' AFF.

GIBBENS DRAKE SCOTT, INC
Missouri State Certificate of Authority #000816
9201 E. 63rd STREET, SUITE 100
BAYTOWN, MISSOURI 64133

PROFESSIONAL ENGINEER STAMP:
JAY R. GUERRA
LICENSE # E-26382
8/22/2023

REVISIONS:	DATE:
1 City Revisions #1	8/3/2023
2 City Revisions #2	8/21/2023

ENVISION
TECHNOLOGY GROUP
913-491-1700 6985 W 153rd St
913-491-1701 Overland Park, KS 66223

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