

Project: Trilogy - Summit Square III Apartments
800-810 NW Ward Rd
Le's Summit, MO

Date: August 5, 2023

Architect: NSPJ Architects
3515 W. 75th St., Suite 201
Prairie Village, KS 66208

Distribution: Theresa Sipe-Curtis
Sara Wells

Description: Fire Alarm Equipment
Reference: Drawings and 283100

These comments represent a cursory review of the referenced shop drawing for general conformance with the contract documents. This is provided as a courtesy to the contractor and not intended to be all inclusive nor an approval to use the submitted equipment or materials. Corrections or comments made on the shop drawings or absence of comments during this review do not relieve the contractor from complying with the requirements of the plans and specifications. The contractor must adhere to the contract documents and request clarification if any discrepancy exists. See the specifications for further requirements. The required list of any differences between the specified and submitted equipment can assist in the review process. Items submitted, whether marked or not, are assumed to be provided. Items in the contract, but not submitted are assumed to be provided as specified and/or intended. The Contractor is responsible for, but not limited to: dimensions to be confirmed and correlated at the jobsite; quantities of materials, equipment capacities, information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination of the Work with that of all other trades; and performing all Work in a safe and satisfactory manner.

Remarks:

1. By submitting this shop drawing the contractor verifies the equipment meets the contract documents, local Code and the requirements of the project.
2. Obtain local AHJ written approval prior to proceeding.
3. Coordinate with other trades prior to proceeding to avoid conflicts in corridors, apartments, Club, etc.
4. Coordinate with fire suppression shop drawings and contractor for all connections required.
5. Horn/strobes and strobes to be within 15 ft of corridor ends including fire doors.
6. Verify elevator hoistway does not require smoke/heat detection.
7. Review HVAC plans and shop drawings for fire/smoke damper locations.
8. Provide risers, floor plans, calculations.
9. No further comments.



Richard R. Beardmore, P.E.



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OLATHE, KS 66061
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Submittal

Job: 20-23-723
SUMMIT SQUARE III
800 NW Ward Road
Lee's Summit, MO 64063

Spec Section No:
Submittal No: 1
Revision No: 0
Sent Date: 8/3/23

Spec Section Title:

Submittal Title: 283100 - Fire Alarm Equip Submittal

Contractor:
NEIGHBORS CONST. CO., INC.
Ryan Terrill

Contractor's Stamp

SHOP DRAWING REVIEW
REVIEW IS FOR GENERAL COMPLIANCE
WITH CONTRACT DOCUMENTS.
NO RESPONSIBILITY IS ASSUMED FOR
CORRECTNESS OF DIMENSIONS OR DETAILS
NEIGHBORS CONSTRUCTION CO., INC.
REVIEWED BY: R. Terrill **DATE:** 8/3/23

Architect's Stamp

Engineer's Stamp

Date 8/2/2023



Cover Sheet

Trilogy Apartments Lees' Summit Mo

T&C Fire and Security Systems
Prepared by Tim Myers

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AL802ULADA

NAC Power Extender

Altronix AL802ULADA is an extremely cost effective voltage regulated remote NAC Power Extender. It may be connected to any 24 volt Fire Alarm Control Panel (FACP). Primary applications include Notification Appliance Circuit (NAC) expansion (supports ADA requirements) and providing auxiliary power to support system accessories.



AL802ULADA

Specifications

Input

Voltage	120VAC, 60Hz, 4A
	Two (2) Class A or two (2) Class B inputs
	Two (2) NC dry contact trigger inputs

Input Ratings (INP1 and INP2):

8-30VDC 6.5mA max from FACP
12V 6.5mA, 24V 6.5mA from FACP

Output

Voltage	24VDC power-limited outputs
Current	8A max. total alarm current 2.5A max. current per output
Auxiliary	1A.
Other	Thermal and short circuit protection with auto reset Filtered and regulated outputs

Programmable Supervised Indicating Circuit Outputs:

Four (4) Class B, or Two (2) Class A, or
One (1) Class A and Two (2) Class B

Back-up Battery (not included)

Type	Sealed lead acid or gel type
Failover	Upon AC loss, instantaneous

Supervision

AC Failure	Form "C" contacts
Battery	Form "C" contacts

Indicators (LED)

AC Power (Green)	Input voltage is present
DC Output (Red)	Powered
Logic Board (Red and Green)	Output status

Agency Listings

UL	UL864 (Control Units and Accessories for Fire Systems)
MEA	NYC Department of Buildings Approved
FM	Factory Mutual Approved
CSFM	California State Fire Marshal Approved

Special Features

- 2-wire horn/strobe Sync mode allows audible notification appliances (horns) and visual notification appliances (strobes) to be silenced/deactivated at the same time
- Sync protocols include Potter/Amseco, Gentex®, System Sensor®, and CooperWheelock®
- Temporal Code 3, Steady Mode, Input to Output Follower Mode (maintains synchronization of notification appliances circuit)
- Compatible with 12VDC or 24VDC fire panels
- Output loop supervision steered to Input 1 or Input 2
- Signal circuit trouble memory (helps identify intermittent loop problems)
- Common trouble input and output for external trouble signals tie-in
- Ground fault detection

Physical and Environmental

Dimensions (H x W x D)

Enclosure: 15.5" x 12" x 4.5" (393.7mm x 304.8mm x 114.3mm)
Shipping: 16.5" x 13.5" x 6" (419.1mm x 342.9mm x 152.5mm)

Enclosure accommodates up to two (2) 12VDC/12AH batteries.

Weight (approx.)

Product:	9.6 lb. (4.35 kg)
Shipping:	12.3 lb. (5.58 kg)

Temperature

Operating:	0°C to 49°C (32°F to 120°F)
Storage:	- 20°C to 70°C (- 4°F to 158°F)

Relative Humidity 85% +/- 5%

BTU/Hr. (approx.) 41.3 BTU/Hr.

Lifetime Warranty



Selectable Output Horns, Strobes, and Horn/Strobes

SpectrAlert® Advance selectable-output horns, strobes, and horn/strobes are rich with features guaranteed to cut installation times and maximize profits.



SPECTRAlert
ADVANCE
from System Sensor

The SpectrAlert Advance series of notification appliances is designed to simplify installations, with features such as plug-in designs, instant feedback messages to ensure correct installation of individual devices, and 11 field-selectable candela settings for wall and ceiling strobes and horn/strobes.

When installing Advance products, first attach a universal mounting plate to a four-inch square, four-inch octagon or double-gang junction box. The two-wire mounting plate attaches to a single-gang junction box.

Next, connect the notification appliance circuit wiring to the SEMS terminals on the mounting plate.

Finally, attach the horn, strobe or horn/strobe to the mounting plate by inserting the product's tabs in the mounting plate's grooves. The device will rotate into position, locking the product's pins into the mounting plate's terminals. The device will temporarily hold in place with a catch until it is secured with a captured mounting screw.

The SpectrAlert Advance series includes outdoor notification appliances. Outdoor strobes and horn/strobes (two wire and four wire) are available for wall or ceiling. Outdoor horns are available for wall only. All System Sensor outdoor products are rated between minus 40 degrees Fahrenheit and 151 degrees Fahrenheit in wet or dry applications.

Features

- Electrically compatible with existing SpectrAlert products
- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candela
- Plug-in design
- Field selectable candela settings on wall and ceiling units: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, 185
- Same mounting plate for wall- and ceiling-mount units
- Shorting spring on mounting plate for continuity check before installation
- Tamper resistant construction
- Outdoor wall and ceiling products rated from -40°F to 151°F
- Design allows minimal intrusion into the back box
- Horn rated at 88+ dbA at 16 volts
- Rotary switch for horn tone and three volume selections
- Outdoor products UL listed to UL 1638 (strobe) and UL 464 (horn) outdoor requirements
- Outdoor products rainproof per UL 50 (NEMA 3R)
- Compatible with MDL sync module

Agency Listings



7125-1653:186 (indoor strobes)
7300-1653:187 (outdoor strobes)
7125-1653:188 (horn/strobes,
chime/strobes)
7135-1653:189 (horns, chimes)

SpectrAlert Advance Specifications

Architect/Engineer Specifications

General

SpectrAlert Advance horns, strobes and horn/strobes shall mount to a standard 4 × 4 × 1½-inch back box, 4-inch octagon back box or double-gang back box. Two-wire products shall also mount to a single-gang 2 × 4 × 1⅞-inch back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, SpectrAlert Advance products, when used with the Sync-Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync-Circuit Module, 12-volt rated notification appliance circuit outputs shall operate between nine and 17.5 volts; 24-volt rated notification appliance circuit outputs shall operate between 17 and 33 volts. Indoor SpectrAlert Advance products shall operate between 32 and 120 degrees Fahrenheit from a regulated DC, or full-wave rectified, unfiltered power supply. Strobes and horn/strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, 185.

Strobe

The strobe shall be a System Sensor SpectrAlert Advance Model _____ listed to UL 1971 and shall be approved for fire protective service. The strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

Horn/Strobe Combination

The horn/strobe shall be a System Sensor SpectrAlert Advance Model _____ listed to UL 1971 and UL 464 and shall be approved for fire protective service. The horn/strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have three audibility options and an option to switch between a temporal three-pattern and a non-temporal (continuous) pattern. These options are set by a multiple position switch. On four-wire products, the strobe shall be powered independently of the sounder. The horn on horn/strobe models shall operate on a coded or non-coded power supply.

Outdoor Products

SpectrAlert Advance outdoor horns, strobes and horn/strobes shall be listed for outdoor use by UL and shall operate between minus 40 degrees and 151 degrees Fahrenheit. The products shall be listed for use with a System Sensor outdoor/weatherproof back box with half inch and three-fourths inch conduit entries.

Synchronization Module

The module shall be a System Sensor Sync-Circuit model MDL listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz and horns at temporal three. Also, while operating the strobes, the module shall silence the horns on horn/strobe models over a single pair of wires. The module shall mount to a 4⅞ × 4⅞ × 2⅞-inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical/Electrical Specifications

Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
K Series Operating Temperature	–40°F to 151°F (–40°C to 66°C)
Humidity Range	10 to 93% non-condensing (indoor products)
Strobe Flash Rate	1 flash per second
Nominal Voltage	Regulated 12DC/FWR or regulated 24DC/FWR ¹
Operating Voltage Range²	8 to 17.5 V (12V nominal) or 16 to 33 V (24 nominal)
Input terminal wire gauge	12 to 18 AWG
Ceiling mount dimensions (including lens)	6.8" diameter × 2.5" high (173 mm diameter × 64 mm high)
Wall mount dimensions (including lens)	5.6"L × 4.7"W × 2.5"D (142 mm L × 119 mm W × 64 mm D)
Horn dimensions	5.6"L × 4.7"W × 1.3"D (142 mm L × 119 mm W × 33 mm D)
Wall-mount back box skirt dimensions (BBS-2, BBSW-2)	5.9"L × 5.0"W × 2.2"D (151 mm L × 128 mm W × 56 mm D)
Ceiling-mount back box skirt dimensions (BBSC-2, BBSCW-2)	7.1" diameter × 2.25" high (180 mm diameter × 57 mm high)
Wall-mount weatherproof back box dimensions (SA-WBB)	5.7"L × 5.1"W × 2.0"D (145 mm L × 130 mm W × 51 mm D)
Ceiling-mount weatherproof back box dimensions (SA-WBBC)	7.1" diameter × 2.0" high (180 mm diameter × 51 mm high)

Notes:

1. Full Wave Rectified (FWR) voltage is a non-regulated, time varying power source that is used on some power supply and panel outputs.
2. P, S, PC, and SC products will operate at 12 V nominal only for 15 and 15/75 cd.

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)						UL Max. Horn Current Draw (mA RMS)					
	Candela	8–17.5 Volts		16–33 Volts		Sound Pattern	dB	8–17.5 Volts		16–33 Volts	
		DC	FWR	DC	FWR			DC	FWR	DC	FWR
Standard Candela Range	15*	123	128	66	71	Temporal	High	57	55	69	75
	15/75*	142	148	77	81	Temporal	Medium	44	49	58	69
	30*	NA	NA	94	96	Temporal	Low	38	44	44	48
	75*	NA	NA	158	153	Non-temporal	High	57	56	69	75
	95*	NA	NA	181	176	Non-temporal	Medium	42	50	60	69
	110	NA	NA	202	195	Non-temporal	Low	41	44	50	50
	115	NA	NA	210	205	Coded	High	57	55	69	75
High Candela Range	135	NA	NA	228	207	Coded	Medium	44	51	56	69
	150	NA	NA	246	220	Coded	Low	40	46	52	50
	177	NA	NA	281	251						
	185	NA	NA	286	258						

UL Max. Current Draw (mA RMS), 2-wire Horn/Strobe, Standard Candela Range (15–115 cd)										
DC Input	8–17.5 Volts		16–33 Volts		30	75	95	110	115	
	15	15/75	15	15/75						
Temporal High	137	147	79	90	107	176	194	212	218	
Temporal Medium	132	144	69	80	97	157	182	201	210	
Temporal Low	132	143	66	77	93	154	179	198	207	
Non-temporal High	141	152	91	100	116	176	201	221	229	
Non-temporal Medium	133	145	75	85	102	163	187	207	216	
Non-temporal Low	131	144	68	79	96	156	182	201	210	
FWR Input										
Temporal High	136	155	88	97	112	168	190	210	218	
Temporal Medium	129	152	78	88	103	160	184	202	206	
Temporal Low	129	151	76	86	101	160	184	194	201	
Non-temporal High	142	161	103	112	126	181	203	221	229	
Non-temporal Medium	134	155	85	95	110	166	189	208	216	
Non-temporal Low	132	154	80	90	105	161	184	202	211	

UL Max. Current Draw (mA RMS), 2-wire Horn/Strobe, High Candela Range (135–185 cd)										
DC Input	16–33 Volts				FWR Input	16–33 Volts				
	135	150	177	185		135	150	177	185	
Temporal High	245	259	290	297	Temporal High	215	231	258	265	
Temporal Medium	235	253	288	297	Temporal Medium	209	224	250	258	
Temporal Low	232	251	282	292	Temporal Low	207	221	248	256	
Non-temporal High	255	270	303	309	Non-temporal High	233	248	275	281	
Non-temporal Medium	242	259	293	299	Non-temporal Medium	219	232	262	267	
Non-temporal Low	238	254	291	295	Non-temporal Low	214	229	256	262	

Candela Derating

For K series products used at low temperatures, listed candela ratings must be reduced in accordance with this table.

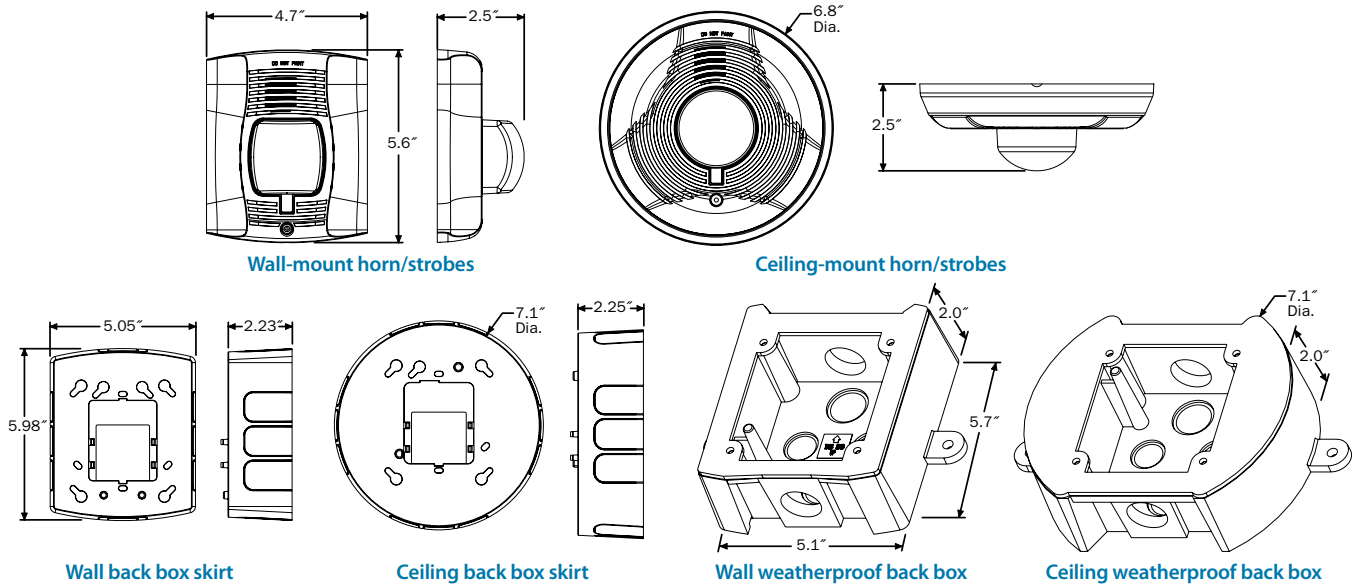
Strobe Output (cd)	
Listed Candela	Candela rating at –40°F
15	Do not use below 32°F
15/75	
30	
75	44
95	70
110	110
115	115
135	135
150	150
177	177
185	185

Horn Tones and Sound Output Data

Horn and Horn/Strobe Output (dBA)										
Switch Position	Sound Pattern	dB	8–17.5 Volts		16–33 Volts		24 Volt Nominal			
			DC	FWR	DC	FWR	Reverberant		Anechoic	
1	Temporal	High	78	78	84	84	88	88	99	98
2	Temporal	Medium	74	74	80	80	86	86	96	96
3	Temporal	Low	71	73	76	76	83	80	94	89
4	Non-temporal	High	82	82	88	88	93	92	100	100
5	Non-temporal	Medium	78	78	85	85	90	90	98	98
6	Non-temporal	Low	75	75	81	81	88	84	96	92
7†	Coded	High	82	82	88	88	93	92	101	101
8†	Coded	Medium	78	78	85	85	90	90	97	98
9†	Coded	Low	75	75	81	81	88	85	96	92

†Settings 7, 8, and 9 are not available on 2-wire horn/strobe.

SpectrAlert Advance Dimensions



SpectrAlert Advance Ordering Information

Model	Description
Wall Horn/Strobes	
P2R*†	2-wire Horn/Strobe, Standard cd‡, Red
P2RH*	2-wire Horn/Strobe, High cd, Red
P2RK*	2-wire Horn/Strobe, Standard cd, Red, Outdoor
P2RHK*	2-wire Horn/Strobe, High cd, Red, Outdoor
P2W*	2-wire Horn/Strobe, Standard cd, White
P2WH*	2-wire Horn/Strobe, High cd, White
P4R*	4-wire Horn/Strobe, Standard cd, Red
P4RH*	4-wire Horn/Strobe, High cd, Red
P4RK	4-wire Horn/Strobe, Standard cd, Red, Outdoor
P4RHK	4-wire Horn/Strobe, High cd, Red, Outdoor
P4W*	4-wire Horn/Strobe, Standard cd, White
P4WH*	4-wire Horn/Strobe, High cd, White
Wall Strobes	
SR*†	Strobe, Standard cd, Red
SRH*†	Strobe, High cd, Red
SRK	Strobe, Standard cd, Red, Outdoor
SRHK	Strobe, High cd, Red, Outdoor
SW*	Strobe, Standard cd, White
SWH*	Strobe, High cd, White
Ceiling Horn/Strobes	
PC2R*	2-wire Horn/Strobe, Standard cd, Red
PC2RH*	2-wire Horn/Strobe, High cd, Red
PC2RK	2-wire Horn/Strobe, Standard cd, Red, Outdoor
PC2RHK	2-wire Horn/Strobe, High cd, Red, Outdoor

Model	Description
Ceiling Horn/Strobes (cont'd.)	
PC2W*†	2-wire Horn/Strobe, Standard cd, White
PC2WH*†	2-wire Horn/Strobe, High cd, White
PC4R	4-wire Horn/Strobe, Standard cd, Red
PC4RH	4-wire Horn/Strobe, High cd, Red
PC4RK	4-wire Horn/Strobe, Standard cd, Red, Outdoor
PC4RHK	4-wire Horn/Strobe, High cd, Red, Outdoor
PC4W	4-wire Horn/Strobe, Standard cd, White
PC4WH	4-wire Horn/Strobe, High cd, White
Ceiling Strobes	
SCR*	Strobe, Standard cd, Red
SCRH*	Strobe, High cd, Red
SCRK	Strobe, Standard cd, Red, Outdoor
SCRHK	Strobe, High cd, Red, Outdoor
SCW*†	Strobe, Standard cd, White
SCWH*†	Strobe, High cd, White
Horns	
HR	Horn, Red
HRK	Horn, Red, Outdoor
HW	Horn, White
Accessories	
BBS-2	Back Box Skirt, Wall, Red
BBSW-2	Back Box Skirt, Wall, White
BBSC-2	Back Box Skirt, Ceiling, Red
BBSCW-2	Back Box Skirt, Ceiling, White

Notes:

* Add "-P" to model number for plain housing (no "FIRE" marking on cover), e.g., P2R-P

† Add "-SP" to model number for "FUEGO" marking on cover, e.g., P2R-SP

‡ "Standard cd," refers to strobes that include 15, 15/75, 30, 75, 95, 110, and 115 candela settings. "High cd," refers to strobes that include 135, 150, 177, and 185 candela settings.

All outdoor units ending in "K" include a weatherproof back box.



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Product specifications subject to change without notice. Visit systemsensor.com for current product information, including the latest version of this data sheet.
A05-0395-003 • 12/06 • #1676



Indoor Selectable-Output Strobes and Horn Strobes for Ceiling Applications

SpectrAlert® Advance audible visible notification products are rich with features guaranteed to cut installation times and maximize profits.



SPECTRAlert
ADVANCE
from System Sensor

Features

- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candela
- Field-selectable candela settings on ceiling units: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185
- Horn rated at 88+ dBA at 16 volts
- Rotary switch for horn tone and three volume selections
- Universal mounting plate for ceiling units
- Mounting plate shorting spring feature checks wiring continuity before device installation
- Electrically Compatible with legacy SpectrAlert devices
- Compatible with MDL3 sync module
- Listed for ceiling or wall mounting

The SpectrAlert Advance series offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry. With white and red plastic housings, wall and ceiling mounting options, and plain and FIRE-printed devices, SpectrAlert Advance can meet virtually any application requirement.

Like the entire SpectrAlert Advance product line, ceiling-mount strobes and horn strobes include a variety of features that increase their application versatility while simplifying installation. All devices feature a plug-in design with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults.

To further simplify installation, SpectrAlert Advance utilizes a universal mounting plate so you can mount them to a wide array of back boxes. With an onboard shorting spring, installers can test wiring continuity before the device is installed.

Installers can also easily adapt devices to suit a wide range of application requirements using field-selectable candela settings, automatic selection of 12- or 24-volt operation, and a rotary switch for horn tones with three volume selections.

Agency Listings



S4011 (chimes, horn strobes, horns)
S5512 (strobes)



3023572



MEA452-05-E



7125-1653-0186 (indoor strobes)
7125-1653-0188 (horn strobes,
chime strobes)
7135-1653-0189 (horns, chimes)

SpectrAlert Advance Specifications

Architect/Engineer Specifications

General

SpectrAlert Advance strobes and horn strobes shall mount to a standard 4 × 4 × 1½-inch back box, 4-inch octagon back box, or double-gang back box. Two-wire products shall also mount to a single-gang 2 × 4 × 17/8-inch back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, SpectrAlert Advance products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 8.5 and 17.5 volts; 24-volt-rated notification appliance circuit outputs shall operate between 16.5 and 33 volts. Indoor SpectrAlert Advance products shall operate between 32 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Strobes and horn strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185.

Strobe

The strobe shall be a System Sensor SpectrAlert Advance Model _____ listed to UL 1971 and shall be approved for fire protective service. The strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

Horn Strobe Combination

The horn strobe shall be a System Sensor SpectrAlert Advance Model _____ listed to UL 1971 and UL 464 and shall be approved for fire protective service. The horn strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have three audibility options and an option to switch between a temporal three pattern and a non-temporal (continuous) pattern. These options are set by a multiple position switch. On four-wire products, the strobe shall be powered independently of the sounder. The horn on horn strobe models shall operate on a coded or non-coded power supply.

Synchronization Module

The module shall be a System Sensor Sync•Circuit model MDL3 listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz and horns at temporal three. Also, while operating the strobes, the module shall silence the horns on horn strobe models over a single pair of wires. The module shall mount to a 4 11/16 × 4 11/16 × 2 1/8-inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical/Electrical Specifications

Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Strobe Flash Rate	1 flash per second
Nominal Voltage	Regulated 12 DC/FWR or regulated 24 DC/FWR ¹
Operating Voltage Range²	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Operating Voltage Range (MDL3)	8.5 to 17.5V (12 V nominal) or 16.5 to 33 V (24V nominal)
Input Terminal Wire Gauge	12 to 18 AWG
Ceiling-Mount Dimensions (including lens)	6.8" diameter × 2.5" high (173 mm diameter × 64 mm high)
Ceiling-Mount Surface Mount Back Box Skirt Dimensions (SBB CR, SBB CW)	6.9" diameter × 3.4" high (175 mm diameter × 86 mm high)

Notes:

1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
2. P, S, PC, and SC products will operate at 12 V nominal only for 15 and 15/75 cd.

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)					
	Candela	8–17.5 Volts		16–33 Volts	
		DC	FWR	DC	FWR
Standard Candela Range	15	123	128	66	71
	15/75	142	148	77	81
	30	NA	NA	94	96
	75	NA	NA	158	153
	95	NA	NA	181	176
	110	NA	NA	202	195
	115	NA	NA	210	205
High Candela Range	135	NA	NA	228	207
	150	NA	NA	246	220
	177	NA	NA	281	251
	185	NA	NA	286	258

UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, Standard Candela Range (15–115 cd)									
DC Input	8–17.5 Volts		16–33 Volts						
	15	15/75	15	15/75	30	75	95	110	115
Temporal High	137	147	79	90	107	176	194	212	218
Temporal Medium	132	144	69	80	97	157	182	201	210
Temporal Low	132	143	66	77	93	154	179	198	207
Non-Temporal High	141	152	91	100	116	176	201	221	229
Non-Temporal Medium	133	145	75	85	102	163	187	207	216
Non-Temporal Low	131	144	68	79	96	156	182	201	210
FWR Input									
Temporal High	136	155	88	97	112	168	190	210	218
Temporal Medium	129	152	78	88	103	160	184	202	206
Temporal Low	129	151	76	86	101	160	184	194	201
Non-Temporal High	142	161	103	112	126	181	203	221	229
Non-Temporal Medium	134	155	85	95	110	166	189	208	216
Non-Temporal Low	132	154	80	90	105	161	184	202	211

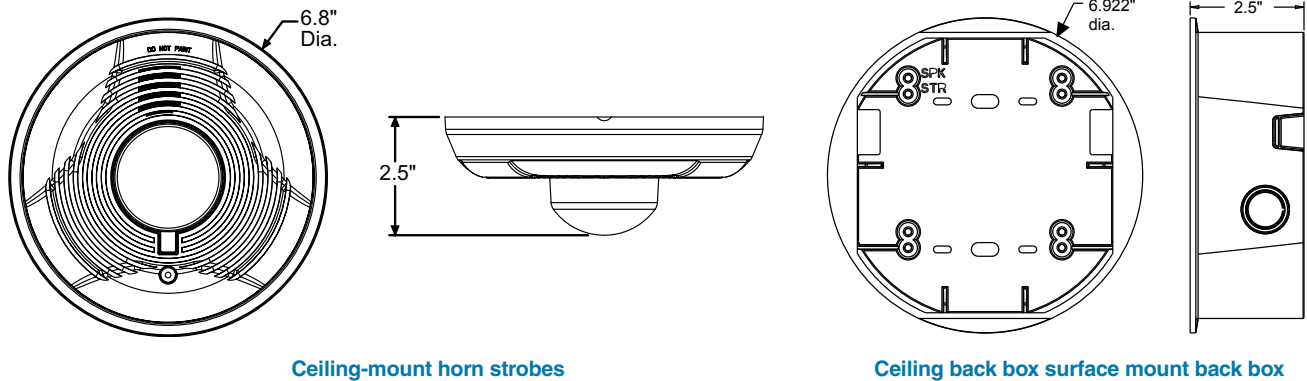
UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, High Candela Range (135–185 cd)									
DC Input	16–33 Volts				FWR Input	16–33 Volts			
	135	150	177	185		135	150	177	185
Temporal High	245	259	290	297	Temporal High	215	231	258	265
Temporal Medium	235	253	288	297	Temporal Medium	209	224	250	258
Temporal Low	232	251	282	292	Temporal Low	207	221	248	256
Non-Temporal High	255	270	303	309	Non-Temporal High	233	248	275	281
Non-Temporal Medium	242	259	293	299	Non-Temporal Medium	219	232	262	267
Non-Temporal Low	238	254	291	295	Non-Temporal Low	214	229	256	262

Horn Strobe Tones and Sound Output Data

Horn Strobe Output (dBA)										
Switch Position	Sound Pattern	dB	8–17.5 Volts		16–33 Volts		24-Volt Nominal			
			DC	FWR	DC	FWR	Reverberant		Anechoic	
			DC	FWR	DC	FWR	DC	FWR	DC	FWR
1	Temporal	High	78	78	84	84	88	88	99	98
2	Temporal	Medium	74	74	80	80	86	86	96	96
3	Temporal	Low	71	73	76	76	83	80	94	89
4	Non-Temporal	High	82	82	88	88	93	92	100	100
5	Non-Temporal	Medium	78	78	85	85	90	90	98	98
6	Non-Temporal	Low	75	75	81	81	88	84	96	92
7†	Coded	High	82	82	88	88	93	92	101	101
8†	Coded	Medium	78	78	85	85	90	90	97	98
9†	Coded	Low	75	75	81	81	88	85	96	92

†Settings 7, 8, and 9 are not available on 2-wire horn strobes.

SpectrAlert Advance Dimensions



SpectrAlert Advance Ordering Information

Model	Description
Ceiling Horn Strobes	
PC2R	2-Wire Horn Strobe, Standard cd, Red
PC2R-P	2-Wire Horn Strobe, Standard cd, Red, Plain (no "FIRE") marking
PC2RH	2-Wire Horn Strobe, High cd, Red
PC2W	2-Wire Horn Strobe, Standard cd, White
PC2W-P	2-Wire Horn Strobe, Standard cd, White, Plain (no "FIRE") marking
PC2W-SP	2-Wire Horn Strobe, Standard cd, White, "Fuego" marking
PC2WH	2-Wire Horn Strobe, High cd, White
PC2WH-P	2-Wire Horn Strobe, High cd, White, Plain (no "FIRE") marking
PC2WH-SP	2-Wire Horn Strobe, High cd, White, "Fuego"
PC4R	4-Wire Horn Strobe, Standard cd, Red
PC4RH	4-Wire Horn Strobe, High cd, Red
PC4W	4-Wire Horn Strobe, Standard cd, White

Model	Description
Ceiling Strobes	
SCR	Strobe, Standard cd, Red
SCRH	Strobe, High cd, Red
SCW	Strobe, Standard cd, White
SCW-P	Strobe, Standard cd, White, Plain (no "Fire") marking
SCWH	Strobe, High cd, White
Accessories	
SBBCR	Surface Mount Back Box, Ceiling, Red
SBBCW	Surface Mount Back Box, Ceiling, White

Notes:

All -P models have a plain housing (no "FIRE" marking on cover)
 All -SP models have "FUEGO" marking on cover
 "Standard cd" refers to strobes that include 15, 15/75, 30, 75, 95, 110, and 115 candela settings. "High cd" refers to strobes that include 135, 150, 177, and 185 candela settings.



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 AVDS10102 • 03/15



**SILENT
KNIGHT**

by Honeywell

5860 Remote Annunciator

Bring the power to control an IntelliKnight fire alarm control panel to every area within your facility.

Now you can operate and program your IntelliKnight system from up to eight locations throughout your facility. The 5860 remote annunciator provides the same advanced, easy-to-use interface found on the IntelliKnight panel's built-in annunciator. The 80-character display and ergonomically designed keypad allow for simple and error-free system operation. All operations—including reset, silence, detector status checking, fire drill, and programming—are identical.

Access to the system is through a firefighter's key or an access code. For security, a special installation code is needed for programming functions. The 5860 connects to the IntelliKnight panel via the RS-485 system bus. Wire runs can be up to 6000 feet from the panel.

For more information about the IntelliKnight system, or to locate your nearest source, please call 1-800-328-0103.

Description

Features include an 80-character backlit LCD providing easy-to-understand system messages. The annunciator is ergonomically designed with over-sized buttons for the most frequently used features, like Reset and Silence.

In addition to status messages displayed on the LCD, there are five LEDs for alarm, supervisory, trouble, silence, and AC power status.

The annunciator is available in gray to match virtually any decor and red for applications where the annunciator must stand out. The annunciator enclosure can be surface or flush mounted. A trim ring kit is available for surface mounting.

Features

- 80-character backlit LCD display (4 lines with 20 characters on each line)
- Tactile and audible feedback
- Accepts user codes or firefighter's key
- Larger keypad buttons for system reset and silence
- Install up to eight 5860s per FACP
- Available in red or light gray
- Support for simultaneous use of

multiple 5860s

- RS-485 interface to panel
- Operation and appearance is identical to 5860 built-in annunciator
- On-board piezo sounder audibly indicates alarms, troubles, and supervisories
- Five status LEDs for alarm, supervisory, trouble, silence and AC power conditions
- Wiring lengths up to 6000 ft. from the FACP (depending on wire gauge and number of devices on SBUS)
- UL listed, complies with NFPA 72
- CSFM approved

Electrical Specifications

Operating Voltage: 24 VDC

Standby Current: 20 mA max

Alarm Current: 25 mA

Wiring Distance: 6,000 max. from FACP (depending on wire gauge and number of devices on the SBUS)

Max Per System: 8

Mechanical Specifications

Physical 9.1" W x 7.4" H x 1.5" D (23.1 W x 18.8 H x 3.8 D cm)

Shipping Weight: 2.8 lbs (1.3 kg)

Color

5860R: Red

5860: Gray



5860

Environmental

Operating Temperature: 32°F – 120°F (0°C – 49°C)

Humidity: 10% – 93% non-condensing

Compatibility

The 5860 is compatible with the following FACP's:

- 5820XL Addressable Fire Control Panel
- 5820XL-EVS FACP with Emergency Voice System
- 5808 Addressable Fire Control Panel
- 5700 Addressable Fire Control Panel

Listings

NFPA 72; UL Listed;
CSFM 7170-0559: 135;
MEA 429-92-E Vol. IX;
FM Approved

5860 Remote Annunciator

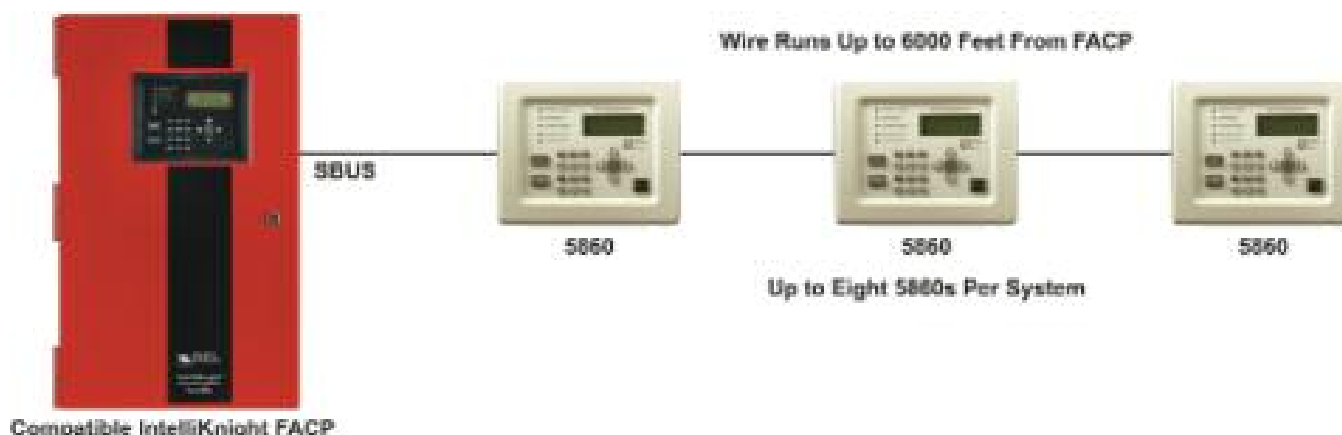
Engineering Specifications

The main control must have a built-in annunciator and must support up to eight remote annunciators. Remote annunciators shall have the same control and display layout so as to match the appearance of the built-in annunciator. Remote annunciators shall be available in two colors, red or light gray.

Remote annunciators shall have identical functionality and operation as the built-in annunciator. All annunciators must have an 80-character LCD display and must feature five LEDs for: General Alarm, Supervisory, System Trouble, System Silence, and System Power.

All controls and programming keys are silicone mechanical type with tactile and audible feedback. Keys have a travel of .040 inches. No membrane style buttons will be permissible.

The annunciator must be able to silence and reset alarms through the use of a code entered on the annunciator keypad or by using a firefighter's key. The annunciator must have two levels of user codes that will limit the operating system programming to authorized individuals. The control panel must allow all annunciators to accommodate multiple user input simultaneously.



Ordering Information

5860R Remote Annunciator four line LCD annunciator with 20 characters per line. Red.

5860 Remote Annunciator. Four line LCD annunciator with 20 characters per line. Gray.

Accessories

5860TR Red Trim Ring for surface mounting.

5860TG Gray Trim Ring for surface mounting.



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www.silentknight.com

MADE IN AMERICA

FORM# 350224 Rev F
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Addressable Fire Alarm Control Panels

6820

Addressable Fire Alarm Control Panel

The 6820 is an addressable fire alarm control panel (FACP) and is a direct replacement for the 5820XL FACP. The 6820 can be configured to achieve a point capacity of 1110 points and connect up to 17 panels in a single communications link.

The 6820 has one built-in signaling line circuit (SLC), which can support 159 (SK) System Sensor® sensors and 159 SK modules or 127 (SD) Hochiki® devices per loop. To increase point capabilities, additional SLC loops can be added using the 6815 SLC expander for SK devices or the 5815XL expander for SD devices, increasing the point capacity to a maximum of 1110 points for SK devices and 635 points for SD devices. Three additional SLCs are needed to reach 1110 points (SK devices). Four additional SLCs are needed to reach 635 points (SD devices).

A common communications and annunciation link allows up to 17 panels to be connected via copper or fiber optic cable. A designated panel is configured as the communicator for all panels in the link for convenient single-point communications. It also has a built-in, dual-line POTS and IP communicator with additional cellular options available.

The 6820 system can be enhanced by adding modules such as the 6860 remote annunciator which also has four programmable function buttons to help automate tasks and reduce time spent at the panel.

SWIFT® wireless compatibility provides options for wireless detection through a Class A mesh network. It is ideal for hard-to-wire locations, buildings where new wiring is not allowed, or to provide an easy install fire system for new construction projects. SWIFT devices can be combined with other hard-wired 6820 compatible devices.



6820

The 6820 also has a form-C trouble relay, two programmable form-C relays, along with powerful features such as drift compensation, pre-trouble maintenance alert, a built-in sensor test to comply with NFPA 72 calibration testing requirements, and calibration trouble alert.

The 6820 supports a variety of devices, including the 6860, 5860, and 6855 remote annunciators, 5824 serial parallel printer interface module (for printing system reports), the 5496 NAC expander, 5895XL power module, and SK or SD devices.

FEATURES & BENEFITS

- Capable of providing up to 1110 points for enhanced design flexibility. Additional Signal Line Circuits can be added until maximum point levels are reached
- Built-in USB interface for convenient and quick programming
- Connect up to 17 panels on one site with convenient single-point access using the SK-NIC Network Interface Card. Connected panels can have mixed compatible FACP models
- Convenient field-upgradeable firmware
- Built-in dual path POTS and IP communications with optional cellular models available for reliable backup reporting
- 6860 annunciator with a 4 x 40 large display
- JumpStart® auto programming reduces installation time
- Programmable date setting for automatic and convenient Daylight Saving Time changes
- Four user-programmable buttons minimize time spent executing complex or routine tasks
- Flexput® circuits can be individually programmed to function as notification circuits, auxiliary power outputs, or initiating circuits that support both 2- and 4-wire smoke detectors

SIGNAL LINE CIRCUIT (SLC)

The 6815 signal line circuit (SLC) supports multiple device types of SK protocol, while the 5815XL signal line circuit (SLC) supports multiple device types of SD protocol. You cannot mix SD and SK SLC devices on a FACP.

The 6820 has one built-in signaling line circuit (SLC) which supports multiple devices. Additional points can be added using the 6815 SLC expanders to increase overall capacity to 1,110 maximum points (SK devices) or by adding up to four 5815XL SLC expanders to reach 635 maximum points (SD devices). The number of SLCs which can be used within one system is limited by point count. (See the Manual for additional information.)

The 6820 SLC loops support multiple device types, maintenance alerts, and a built-in sensor test to comply with NFPA 72 calibration testing requirements.

INDICATOR LIGHTS

- **General Alarm (Red):** Flashes if in alarm; solid when alarm is silenced
- **Supervisory (Yellow):** Flashes if a supervisory condition exists; solid when supervisory is silenced
- **System Troubles (Yellow):** Flashes if a trouble condition exists; solid when trouble is silenced
- **System Silenced (Yellow):** On when an alarm, trouble or supervisory condition has been silenced but not yet cleared
- **System Power (Green):** Flashes for AC failure; solid when power systems are normal

USER INTERFACE

The 6820 built-in 4 x 20 annunciator with 80 character LCD display and large easy-to-use tactile touchpad can be used for system operation, programming and maintenance. It has five LEDs for alarm, supervisory, system trouble,

system silenced and system power.

System operations include silencing alarms and troubles, resetting alarms and the display of alarm troubles and memory. The system's non-volatile event history buffer stores 1,000 events for viewing from the built-in or remote annunciator. System operations can be initiated with a mechanical firefighter's key or a valid 4- to 7-digit operator's code.

PROGRAMMING

The 6820 system offers several options to simplify and speed-up programming. JumpStart® AutoProgramming minimizes programming required to start a new system. The built-in keypad, or the 6860, 5860 or 6855 remote annunciators give you on-site access to current system programming. Programming can also be accomplished using the Windows®-based Honeywell Fire Software Suite (HFSS) program.

SOFTWARE TOOLS

SKST: Silent Knight Selection Tool provides the installer or design architect with a Windows® software system configuration tool to create a detailed Bill of Material (BOM) and battery calculations.

HFSS: Honeywell Fire Software Suite provides communication and panel programming, detector status, event history and additional data. Requires a PC running Microsoft® Windows®.

ADDITIONAL INFORMATION

Twisted-unshielded pair wire is recommended. The 6820 also has 13 preset notification cadence patterns (including ANSI 3.41).

AGENCY LISTINGS AND APPROVALS

NFPA 13, NFPA 15, NFPA 16, NFPA 70, NFPA 72: Central station; remote Signaling; Local Protective Signaling Systems; Auxiliary Protected Premises Unit; Water Deluge releasing service. Suitable for automatic, manual,

waterflow, sprinkler supervisory (DACT non-coded) signaling services.

- **UL Listed:** S2766
- **CSFM:** 7165-0559:0500
- **FDNY:** COA# 6249
- **FM approved**

ORDERING INFORMATION

6820: Addressable Fire Alarm Control Panel. (Red cabinet).

COMPATIBLE ANNUNCIATORS

6860: 4x40 LCD remote fire annunciator (4 lines and up to 160 characters) per system; four programmable buttons

5860: 4x20 LCD remote fire annunciator. 5860 is gray; 5860R is red

6855: 4x20 LCD remote fire annunciator

5865-3 or 5865-4: LED annunciators can display up to 30 LEDs (15 red and 15 yellow). The 5865-4 has key switches for silence and reset, and a system trouble LED.

5880: The 5880 LED / IO module has 40 programmable LED outputs and eight supervised dry contact inputs which are useful for custom applications. You can use up to eight 5880 modules on one control panel for maximum flexibility. Its compact size allows mounting inside the annunciator, or in an accessory cabinet.

6820 COMPATIBLE DEVICES AND ACCESSORIES

See the data sheets listed below for a complete listing of the SK, SD or SWIFT devices.

53623: SK Devices Data Sheet

53624: SD Devices Data Sheet

350614, 350616 & 350618: SWIFT wireless devices

For a complete and current listing of compatible devices and accessories, visit www.silentknight.com

Important: You cannot mix SK and SD devices in the same fire alarm system.

SK COMPATIBLE ADDRESSABLE DEVICES

SK-ACCLIMATE: Multi criteria photoelectric smoke detector with thermal 135°F fixed temperature

SK-BEAM: Reflected beam smoke detector without test feature

SK-BEAM-T: Reflected beam smoke detector with test feature

SK-CONTROL: Supervised control module

SK-CONTROL-6: Six circuit supervised control module

SK-DUCT: Photoelectric duct smoke detector with extended air speed range

SK-FIRE-CO: Four criteria fire and carbon monoxide detector

SK-HEAT: Fixed thermal detector (135°F)

SK-HEAT-W: Fixed thermal detector (135°F), white

SK-HEAT-ROR: Fixed rate of rise detector (135°F)

SK-HEAT-ROR-W: Fixed rate of rise detector (135°F), white

SK-HEAT-HT: Fixed high temperature thermal detector (190°F)

SK-HEAT-HT-W: Fixed high temperature thermal detector (190°F), white

SK-ISO: Fault isolator module

SK-MINIMON: Mini monitor module

SK-MONITOR: Monitor module

SK-MONITOR-2: Dual input monitor module

SK-MON-10: 10 input monitor module

SK-PHOTO: Photoelectric smoke detector

SK-PHOTO-W: Photoelectric smoke detector, white

SK-PHOTO-T: Photoelectric smoke detector with thermal (135°F fixed temperature)

SK-PHOTO-T-W: Photoelectric smoke detector with thermal (135°F fixed temperature), white

SK-PHOTOR: Photoelectric detector with remote test capability

SK-PHOTO-R-W: Photoelectric detector with remote test capability, white

SK-PULL-SA: Addressable single action pull station

SK-PULL-DA: Addressable dual action pull station

SK-RELAY: Addressable relay module

SK-RELAY-6: Addressable Six relay control module

SK-RELAYMON-2: Addressable Dual relay/monitor module

SK-ZONE: Addressable zone interface module

SK-ZONE-6: Six zone interface module

B300-6(-IV): 6" base for SK-W Series

B210LP: 6" mounting base

B501(-WHITE, -IV, -BL): 4" Flangeless base

B501: 4" Flangeless mounting base

B200S(-IV, -WH): Intelligent sounder base

B200S: Intelligent sounder base

B200S-LF(-IV, -WH): Low-frequency intelligent sounder base.

B200S-LF: Low-frequency intelligent sounder base

B224RB(-IV, -WH): Relay base

B224RB: Relay base

B224BI(-IV, -WH): Isolator base

B224BI: Isolator base

SD COMPATIBLE ADDRESSABLE DEVICES

SD505-6AB: Addressable 6" base

SD505-6IB: Addressable 6" short circuit isolator base

SD505-6RB: Addressable 6" relay base

SD505-6SB: Addressable 6" sounder base

SD500-AIM: Addressable input module (switch input)

SD500-ANM: Addressable notification module

SD500-ARM: Addressable relay module

SD505-DTS-K: Remote test switch and LED indicator for the SD505-DUCTR

SD505-DUCT: Addressable Duct Smoke Detector.

SD505-DUCTR: Addressable Duct Detector housing with relay base.

SD505-HEAT: Absolute temperature heat detector. Trip point range from 135°F–150°F (0°C–37°C).

SD500-LIM: Addressable Line isolator module

SD500-MIM: Addressable Mini input monitor module (switch input)

SD505-PHOTO: Photoelectric smoke detector

SD500-PS/-PSDA: Addressable Single or dual action pull station

SD500-SDM: Addressable smoke detector module

AUDIBLE/VISIBLE DEVICES

These AV devices are all 2-wire. Color: "R" indicates red; "W" denotes white. For a complete listing of Silent Knight AV devices go to www.silentknight.com.

CHSRL/CHSWL: Wall chime/strobe

CHSRL/CHSCWL: Ceiling chime/strobe

CHRL/CHWL: Wall chime

HRL/HWL: Wall horn

P2RL/P2WL: Wall horn/strobe

PC2RL/PC2WL: Ceiling horn/strobe

SRL/SWL: Wall strobe

SCRL/SCWL: Ceiling strobe

SPSRL/SPSCWL: Ceiling speaker/strobe

SPSRL/SPSWL: Wall speaker/strobe

SPRL/SPWL: Wall speaker

SPCRL/SPCWL: Ceiling speaker

SWIFT WIRELESS DEVICES

SWIFT is only compatible with System Sensor (SK) devices. It is not compatible with Hochiki (SD) devices.

WSK-WGI: Wireless Gateway

WSK-PHOTO: Wireless Photoelectric smoke detector

WSK-PHOTO-T: Wireless Multi-criteria photoelectric smoke detector with thermal detection (135°F fixed temperature) and B510W 4" base

WSK-HEAT: Wireless Heat, (135°F fixed temperature) and B510W 4" base

WSK-HEAT-ROR: Wireless heat, ROR (135°F fixed temperature) and B510W 4" base

WSK-MONITOR: Wireless monitor module

WSK-RELAY: Wireless relay module

W-USB: SWIFT Tools USB transceiver used for communication with SWIFT devices

SBUS ACCESSORIES

6815: Each Single Line Circuit allows for an additional 159 SK modules and 159 SK sensors to be added to the system-up to 1,110 total points. Supports System Sensor SK devices only.

5815XL: Each Single Line Circuit provides an additional 127 SD devices to be added to the system -for a maximum of 635 points. Supports SD devices only.

5496: A 6 amp notification power expander with four power-limited notification appliance circuit outputs.

5883: Relay Interface. Provides 10 Form C relays.

5824: Serial/Parallel Printer Interface Module for printer connection.

5895XL: Power Supply with six Flexput™ circuits, and two Form C relays. Max. 16 per system.

5815RMK: Remote mounting kit. Dimensions 10 3/8"W x 10-3/16"H x 3"D

COMMUNICATION OPTIONS

CELL-CAB-SK: Cellular communicator, metal enclosure with lock/key*

CELL-MOD: Cellular communicator, plastic enclosure*

*Sole path, powered by panel.

IPGSM-4G: Dual path fire alarm communicator, cellular and/or IP (primary or backup, selectable)

SK-IP-2: Remote reporting via the Internet. Requires a VisorAlarm® receiver at the central station

MISC. ACCESSORIES

SK-NIC: Network Interface Card. Provides a common communications link for the 6820.

SK-NIC-KIT: Installation Accessory Kit

SK-FML: Fiber-Optic Multi Mode, transmitter and receiver

SK-FSL: Fiber-Optic Single Mode

RBB: Remote battery box accessory cabinet for batteries that are too large to fit in the FACP cabinet. Dimensions: 16" W x 10" H x 6" D (406mm W x 254mm H x 152mm D).

SK-SCK: Seismic Compliance Kit used to securely fasten batteries to the fire panel.

6820 Technical Specifications

PHYSICAL

Overall Dimensions: 16.36" W x 26.37" H x 3.91" D

Shipping Weight: 32 lbs

Color: Red

ENVIRONMENTAL

Operating Temperature: 32°F to 120°F (0°C to 49°C)

Humidity: 0 to 93% relative humidity (non-condensing)

ELECTRICAL

6820 Primary AC: 120AC @ 60Hz, 3.3A Total
Accessory Load: 6A @ 27.4VDC power-limited

Standby Current: 190mA

Alarm Current: 250mA

Battery Charging Capacity: 7 to 35AH

Battery Size: 18AH max. allowed in control panel cabinet. Larger capacity batteries can be housed in RBB accessory cabinet.

FLEXPUT CIRCUITS

Six programmable circuits which can be programmed individually as:

Notification Appliance Circuits: 3A @ 27.4VDC per circuit, power-limited (with a panel maximum current of 6A)

Auxiliary power circuits: 3A @ 27.4VDC per circuit, power-limited

Initiating Circuits (Circuits 5 and 6 Only): 100mA @ 27.4VDC per circuit, power limited

Supports Class B (Style 4) and Class A (Style 6) configuration for SLC, SBUS, and Flexput circuits

WIRING: See the product manual for wiring details

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For Technical Support, call 800-446-6444.

Honeywell Silent Knight

12 Clintonville Road
Northford, CT 06472
800-328-0103
www.silentknight.com

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SK-MONITOR-2

Addressable Dual Monitor Module

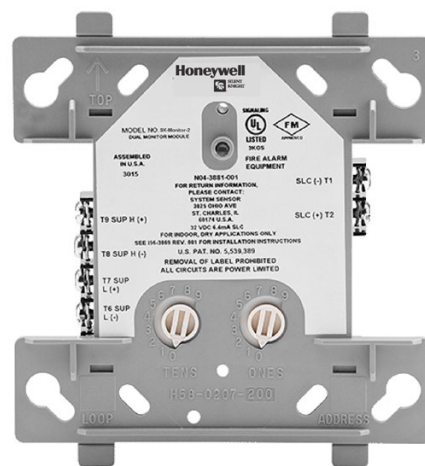
The SK-MONITOR-2 module is capable of monitoring two separate Class B circuits simultaneously, making it ideal for waterflow tamper switch and flow switch monitoring.

The SK-MONITOR-2 is an addressable monitor module with two initiating circuits for use with Honeywell Silent Knight series fire alarm control panels (FACPs). The SK-MONITOR-2 acts as an interface to contact devices, such as waterflow switches and pull stations.

The SK-MONITOR-2 supports Class B supervised wiring to the load device. Conventional 4-wire smoke detectors can be monitored for alarm and trouble conditions..

INSTALLATION

SK-MONITOR-2 mounts directly into a 4" square electrical box. The box must have a minimum depth of 2-1/8". A surface mount electrical box (System Sensor® part number SMB500) is available from Silent Knight.

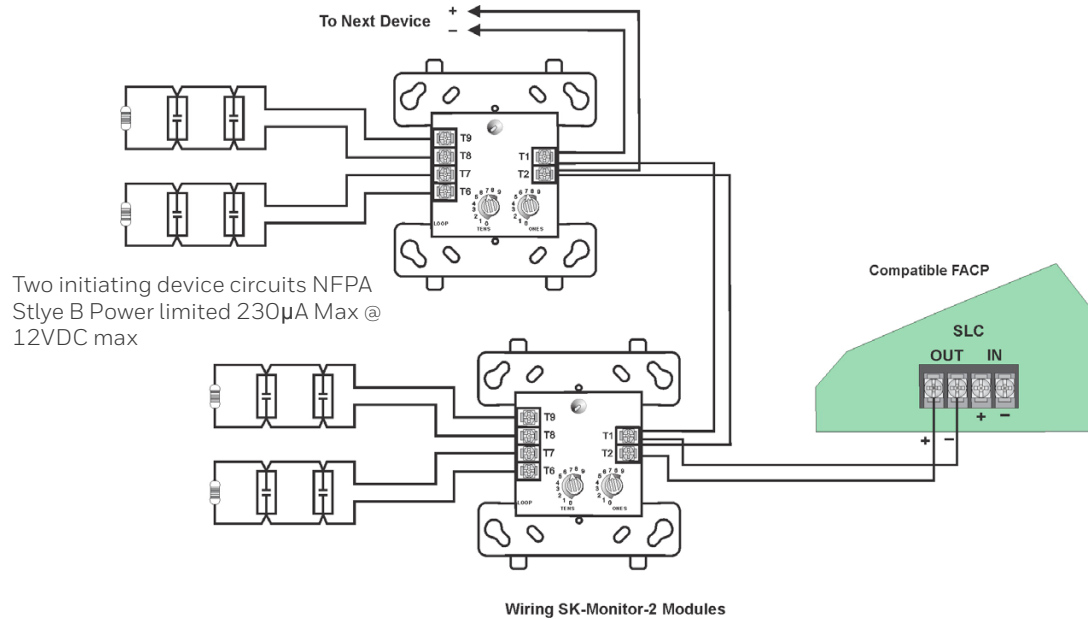


SK-MONITOR-2

FEATURES & BENEFITS

- Monitor two circuits, with unique addresses, simultaneously
- Support for Class B wiring
- Fully supervised
- Panel controlled status LED that flashes green in normal state and is solid red in alarm
- Attractive ivory cover plate
- Rotary address switches for fast installation
- SEMS screws for easy wiring

SK-MONITOR-2 Technical Specifications



For a complete listing of all compliance approvals and certifications, please visit www.silentknight.com.

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For Technical Support, call 800-446-6444.

PHYSICAL

Height: 4.5" H x 4" W x 1.25" D

Shipping Weight: 6.3 oz (196 g)

ELECTRICAL

Operating Voltage: 15 – 32 VDC

Standby and Alarm Current: 750µA max @ 24VDC
(one communication every 5 sec with 47K EOL)

End-of-Line Resistance: 47KΩ

ENVIRONMENTAL

Operating Temperature: 32°F – 120°F (0°C – 49°C)

Humidity: 10% – 93% non-condensing

ORDERING INFORMATION

SK-Monitor-2: Dual Monitoring Module

ACCESSORIES

SMB500: 4" Square Surface Mount Electrical Box

AGENCY LISTINGS AND APPROVALS

UL Listed

CSFM Approved

City of New York Approved

COMPATIBILITY

The SK-MONITOR-2 is compatible with the following Honeywell Silent Knight fire alarm control panels:

6820: Addressable fire alarm control panel

6820EVS: Addressable fire alarm control panel with an emergency mass notification system.

6808: Addressable fire alarm control panel

6700: Addressable fire alarm control panel

5700: Addressable fire alarm control panel

5808: Addressable fire alarm control panel

5820XL: Addressable fire alarm control panel

5820XL-EVS: Addressable fire alarm control panel with an emergency mass notification system.

For more information

Learn more about Honeywell Silent Knight and other products by visiting www.silentknight.com

Honeywell Silent Knight

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SK-PULL-SA / SK-PULL-DA

Intelligent Pull Stations

The SK-PULL-SA is a single action pull station requiring only one motion to activate the station. The SK-PULL-DA is a dual action pull station requiring two motions to activate the station. The SK-PULL-SA and SK-PULL-DA are for use with Honeywell Silent Knight Series fire control panel (FACP).

Extremely easy to operate, the SK-PULL-DA and SK-PULL-SA provide a fast and practical means of manually initiating a fire alarm signal. The FACP recognizes each manual pull station by its specific address saving precious seconds in determining the location of an alarm.

INSTALLATION

The SK-PULL-SA and SK-PULL-DA can be surface mounted to an SB-I/O surface back box or semi-flush mounted on a standard single-gang with a minimum depth of 2.13"(5.40 cm) or double gang or 4" (10.61 cm) square electrical box. You can also use the optional (System Sensor® PN BG-TR) trim ring if the station is being semi-flush mounted.



SK-PULL-SA



SK-PULL-DA

FEATURES & BENEFITS

- Installer can open station without causing an alarm condition
- Dual-color LED is visible through handle of station blinks green to indicate normal operation and remains steady red in an alarm condition
- Key operated test and reset lock using lock plate actuator
- Key matches compatible FACP locks
- Meets ADA requirement for 5 lbs maximum pull force to activate
- Meets the Americans with Disabilities Act Accessibility Guidelines (ADAAG) controls and operating mechanisms guidelines (Section 4.1.3[13])
- Shell, door, and handle molded from durable LEXAN®
- Reliable analog communications for trouble-free operation
- Braille text on station handle
- Rotary address switches for fast installation
- Handle latches in down position and the word Activated appears, clearly indicating the station has been pulled
- UL Listed, including UL 38, Standard of Manually Actuated Signaling System
- CSFM Listed
- MEA Listed

SK-PULL-SA / SK-PULL-DA Technical Specifications

PHYSICAL

Dimensions: 5.5" H x 4" W x 1.45" D (14 x 10.2 x 3.7cm)

Housing Material: LEXAN polycarbonate resin

Bi-Colored LED:

Blinking Green: Normal

Steady Red: Alarm

Switch: Single pole, single throw (SPST) normally open (N/O) switch which closes upon activation of the pull station

ELECTRICAL

Operating Voltage: 15 – 32VDC

SLC Standby and Alarm Current: 350µA

Wire Gauge: Up to 12AWG (3.1 mm²)

ENVIRONMENTAL

Operating Temperature: 32°F – 120°F (0°C – 49°C)

Humidity: 10% – 93% non-condensing

ORDERING INFORMATION

SK-Pull-SA: Single Action Pull Station

SK-Pull-DA: Dual Action Pull Station

ACCESSORIES

BG-TR: Optional trim ring.

SB-I/O: Surface backbox, indoor/outdoor.

* Unless otherwise noted, specifications apply to SK-Pull-SA and SK-Pull-DA

COMPATIBILITY

The SK-PULL-SA AND SK-PULL-DA are compatible with the following Honeywell Silent Knight fire alarm control panels:

6820: Addressable fire alarm control panel

6820EVS: Addressable fire alarm control panel with an emergency voice system.

6808: Addressable fire alarm control panel

6700: Addressable fire alarm control panel

5700: Addressable fire alarm control panel

5808: Addressable fire alarm control panel

5820XL: Addressable fire alarm control panel

5820XL-EVS: Addressable fire alarm control panel with an emergency voice system

For a complete listing of all compliance approvals and certifications, please visit www.silentknight.com.

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SK-FIRE-CO-W

Multi-Criteria Fire/CO Detector

General Description

SK-FIRE-CO-W is a plug-in, addressable device that provides both fire and carbon monoxide (CO) detection. The detector combines four separate sensing elements to sense multiple components of a fire: smoke, CO, light/flame, and heat. This approach enables enhanced sensitivity to real fire with heightened immunity to nuisance particulates. For CO, the detector's electrochemical sensing cell creates a separate signal for life safety CO detection.

Multiple sensors and communication can greatly reduce nuisance alarms compared to single sensing methods. Sophisticated algorithms maximize the advantages of all four sensor types creating our best detection strategy offering heightened immunity to nuisance particulate and enhanced sensitivity to real fire.

- Photoelectric sensors detect airborne particles associated with smoke.
- Thermal sensors detect heat and rate-of-rise (135°F fixed temperature threshold).
- Infrared sensors discern light patterns in the environment as an additional data point for alarm determination.

This ability to reject certain nuisance alarm triggers, such as theater smoke, supports the use of the fire/CO detector in applications where moderate to heavy nuisance conditions exist that might cause single sensing detectors to false alarm.

UL models meet UL 268 7th edition and UL 521 listing requirements for fire detection and UL 2075 standard for system-connected life safety carbon monoxide detection.

Released through the incomplete burning of various fuels, CO is a colorless, odorless and deadly gas that is virtually impossible to detect with the human senses. Because the potential exists for dangerous levels of CO to accumulate in almost any building, legislation mandating the use of CO detection in commercial spaces continues to grow.

B200S series intelligent sounder bases are recommended for use with SK-FIRE-CO-W. These bases can generate either a Temp 3 pattern for fire or a Temp 4 pattern for CO alarm indication. The B200S series bases recognize the System Sensor synchronization protocol for use as a component of the general evacuation signal — along with other System Sensor Audible/Visible devices — when connected to a power supply or Fire Alarm Control Panel (FACP) output capable of generating the System Sensor synchronization pulses.



SK-FIRE-CO-W in B200S-WH sounder base

FEATURES & BENEFITS

- | | | | | |
|---|---|---|--|--|
| • Detects all four major elements of a fire | • Separate audible signal for fire or CO alarm when used with a B200S series base | • Automatic drift compensation for smoke and CO sensors | • New modern profile with expanded color options | • UL 268 7th edition, UL 521, and UL 2075 listed |
| • Separate CO detection signal | • Highest nuisance alarm immunity | • RealTest® CO testing capability | • Uses only one address on the SLC loop | • 10-year CO cell with end-of-life warning |

SK-FIRE-CO-W Technical Specifications

PHYSICAL/OPERATING

Dimensions:

Height: 2.7" (69 mm) installed in B200S series sounder base

Diameter: 6.875" (175 mm) installed in B200S series sounder base

Weight: 3.4 oz. (95 g)

Operating Humidity Range: 15% to 90% Relative Humidity, Non-condensing

Operating Temperature Range: 32°F to 100°F (0°C to 38°C)

Air Velocity: 0 to 4000 ft./min. (0 to 1219.2 m/min.)

ELECTRICAL SPECIFICATIONS

Operating Voltage Range: 15 to 32 VDC

Operating Current @ 24 VDC: 200 uA (one communication every 5 seconds with green LED blink on communication)

Maximum Alarm Current: 2 mA @ 24 VDC (one communication every 5 seconds with red LED solid on)

Maximum Current: 4.5 mA @ 24 VDC (one communication every 5 seconds with amber LED solid on)

Isolator Load Rating: 0.0063

CO MONITORING UL STANDARD REFERENCE

Alarm thresholds (in parts per million) are as follows for:

70 ± 5ppm: Detector response time 60 – 240 min.

150 ± 5ppm: Detector response time 10 – 50 min.

400 ± 10ppm: Detector response time 4 – 15 min.

STANDARDS

Per UL standard 2075, the SK-FIRE-CO-W has have been tested to the sensitivity limits defined in UL Standard 2034.

UL Standard: UL 268 7th Edition

AGENCY LISTINGS AND APPROVALS

The listings and approvals below apply to the SK-FIRE-CO-W. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult the factory for the latest listing status.

UL: S6173

CSFM: 7272-0559:0517

ORDERING INFORMATION

SK-FIRE-CO-W: Advanced multi-criteria fire/CO detector, white

Bases

B501-WHITE: 4" Mounting base, white

B501-WHITE-BP: 4" mounting base, white, 10-pack

B501-IV: 4" Mounting base, ivory

B501-BL: 4" Mounting base, black

B300-6: 6" Flanged mounting base, white

B300-6-BP: 6" Flanged mounting base, white, 10-pack

B300-6-IV: 6" Flanged mounting base, ivory

B200S-WH: Intelligent addressable sounder base, white

B200S-IV: Intelligent addressable sounder base, ivory

B200S-LF-WH: Intelligent addressable sounder base, low-frequency, white

B200S-LF-IV: Intelligent addressable sounder base, low-frequency, ivory

B224BI-WH: Isolator base, white

B224BI-IV: Isolator base, ivory

B224RB-WH: Relay base, white

B224RB-IV: Relay base, ivory

Accessories

SMB600: Surface mounting kit (flanged)

TR300: Trim ring, white

TR300-IV: Trim ring, ivory

CK300-IR: IR color kit (includes cover and trim ring), white, 10 pack

CK300-IR-IV: IR color kit (includes cover and trim ring), ivory, 10 pack

CK300-IR-BL: IR color kit (includes cover and trim ring), black, 10 pack

RA100Z: Remote LED annunciator

M02-04-00: Detector test magnet

M02-09-00: Telescoping test magnet

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Country of origin: Mexico

Honeywell Silent Knight

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SK-HEAT, SK-HEAT-HT, and SK-HEAT-ROR

Addressable Thermal Heat and Rate-Of Rise Detectors

The SK-HEAT, SK-HEAT-HT, and SK-HEAT-ROR are plug in thermal detectors, with integral communication, that provide features that surpass conventional detectors. These thermal detectors are for use with the Honeywell Silent Knight series fire alarm control panels (FACPs).

SK-HEAT, SK-HEAT-HT and SK-HEAT-ROR are intelligent sensors that utilize a state-of-the art thermistor sensing circuit for fast response. Sensitivity is continuously monitored and reported to the FACP. Point ID capability allows each detector's address to be set with rotary address switches, providing exact detector locations for selective maintenance when chamber contamination reaches unacceptable levels.

SK-HEAT is a fixed temperature sensor that uses a thermistor sensing circuit to produce 135°F (57°C) fixed temperature alarm. SK-HEAT-HT is a variable high temperature detector that provides high temperature detection at 135°F - 190°F (57°C - 88°C). SK-HEAT-ROR is a rate-of-rise temperature sensor with 135°F (57°C) fixed temperature alarm.



SK-HEAT (BASE INCLUDED)

COMPATIBILITY

SK-HEAT, SK-HEAT-HT, and SK-HEAT-ROR are compatible with the following detector bases:

B210LP: 6" base (included)

B501: 2 wire base

B224RB: Relay base

B224BI: Isolator base

B200SR: Sounder base

FEATURES & BENEFITS

- Reliable analog communications for trouble-free operation
- Age resistant polymer housing
- Innovative thermistor sensing circuit
- Superior EMI resistance for reliability
- Variety of mounting options to meet any application
- Dual LED indicators for 360° visibility
- Detector transmits signal to indicate maintenance is required
- Plug-in mounting provides ease of installation
- Optional remote LED annunciator (System Sensor® PN RA100Z)
- Tamper-proof feature available on mounting bases
- Rotary address switches for fast installation
- UL Listed

SK-HEAT, SK-HEAT-HT and SK-HEAT-ROR Technical Specifications

PHYSICAL

Height: 2.0" (5.0cm)

Diameter: 6.1" (155mm) installed in B201LP base

Shipping Weight: 4.8oz (137g)

ELECTRICAL

Operating Voltage: 15–32VDC Peak

Standby Current: 300 μ A @ 24VDC

LED Current: 6.5mA @ 24VDC max

ENVIRONMENTAL

Operating Temperature

SK-HEAT & SK-HEAT-ROR: -4° – 100°F (-20°C – 38°C)

SK-HEAT-HT: -4° – 150°F (-20°C – 66°C)

Humidity: 10% – 93% non-condensing

THERMAL RATINGS

SK-HEAT: Fixed temperature alarm
135°F (57°C)

SK-HEAT-HT: High temperature heat sensor 135°F – 190°F (57°C – 88°C)

SK-HEAT-ROR: Rate-of-rise detection 15°F/min (8.3°C/min)

ORDERING INFORMATION

SK-HEAT: Fixed thermal detector (135°F)

SK-HEAT-ROR: Fixed rate of rise detector (135°F)

SK-HEAT-HT: Fixed high temperature thermal detector (190°F)

ACCESSORIES

RA100Z: Remote LED annunciator

RMK400: Recesses mounting kit. Provides low profile for use with B501

XR2B: Detector removal tool. A removal and replacement tool for SK series plug-in detectors. Includes the T55-127-000

M02-04-01: Detector test magnet.

M02-09-00: Test magnet with telescoping handle

XP-4: Extension Pole for XR2B. Extends from 5 – 15 ft.

T55-127-000: Detector Removal Head

BCK-200B: Black Detector Kit. For SK series detectors

COMPATIBILITY

The SK-HEAT, SK-HEAT-HT and SK-HEAT-ROR are compatible with the following Honeywell Silent Knight fire alarm control panels:

6820: Addressable fire alarm control panel

6820EVS: Addressable fire alarm control panel with an emergency voice system.

6808: Addressable fire alarm control panel

6700: Addressable fire alarm control panel

5700: Addressable fire alarm control panel

5808: Addressable fire alarm control panel

5820XL: Addressable fire alarm control panel

5820XL-EVS: Addressable fire alarm control panel with an emergency voice system

For a complete listing of all compliance approvals and certifications, please visit www.silentknight.com.

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For more information

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SK-PHOTO, SK-PHOTO-T, and SK-PHOTOR

Intelligent Photoelectric Smoke Detectors

The SK-PHOTO is a photoelectric smoke detector, the SK PHOTO-T is a photoelectric smoke detector with thermal and SK-PHOTOR is a photoelectric detector with remote test capability. These plug in smoke detectors, with integral communication, provide features that surpass conventional detectors and are for use with the Honeywell Silent Knight series fire alarm control panels (FACPs).

SK-PHOTO and SK-PHOTO-T are plug-in type smoke sensors that combine a photoelectric sensing chamber with addressable analog communications. Point ID capability allows each detector's address to be set with rotary address switches, providing exact detector locations for selective maintenance when chamber contamination reaches unacceptable levels.

SK-PHOTO and SK-PHOTO-T have a unique optical sensing chamber that is engineered to sense smoke produced by a wide range of combustion sources. In the SK-PHOTO-T, dual electronic thermistors add 135°F (57°C) thermal technology to maximize detection.

The SK-PHOTOR is a remote test capable detector for use with the DNR/DNRW duct smoke detector (not included).



SK-PHOTO (BASE INCLUDED)

COMPATIBILITY

SK-Photo, and SK-Photo-T are compatible with the following detector bases:

B210LP: 6" base (included)

B501: 2 wire base

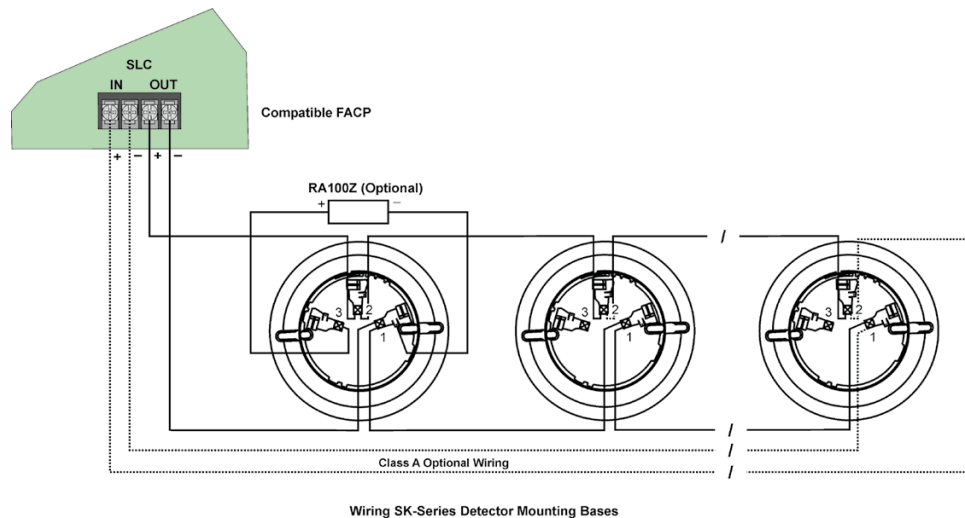
B224RB: Relay base

B224BI: Isolator base

FEATURES & BENEFITS

- Sleek, low-profile design
- Base included
- Reliable analog communications for trouble-free operation
- Age resistant polymer housing
- Dual electronic thermistor design on the SK-Photo-T
- Superior EMI resistance for reliability
- Simple field cleaning for code compliance
- Variety of mounting options to meet any application
- Dual LED indicators for 360° visibility
- Detector transmits signal to indicate maintenance is required
- Optional remote LED annunciator (System Sensor® PN RA100Z)
- Plug-in mounting provides ease of installation
- Tamper-proof feature available on mounting bases
- Listed for use in duct applications
- Rotary address switches for fast installation
- UL Listed
- FM Approved

SK-PHOTO, SK-PHOTO-T and SK-PHOTOR Technical Specifications



PHYSICAL

Height: 2.0" (5.0 cm)

Diameter: 4.1" (10.4 cm) installed in B501 base

ELECTRICAL

Operating Voltage: 15–32VDC

Standby Current: 300 μ A @ 24VDC Maximum

Alarm Current: 6.5mA @ 24VDC max (with LED on)

ENVIRONMENTAL

Operating Temperature

SK-Photo: 32° – 120°F (0°C – 49°C)

SK-Photo-T: 32° – 100°F (0°C – 38°C)

Humidity: 10% – 93% non-condensing

OTHER RATINGS

SK-Photo-T Thermal: Fixed temperature set point 135°F (57°C)

Velocity: 0 – 4000 fpm (0 – 20 m/sec)

INSTALLATION

The SK-PHOTO and SK-PHOTO-T plug into a compatible Silent Knight series detector bases. The SK-PHOTOR is a remote test capable detector head included within the DNR (W) duct smoke detector.

ORDERING INFORMATION

SK-PHOTO: Photoelectric smoke detector

SK-PHOTO-T: Photoelectric smoke detector with thermal (135°F fixed temperature)

SK-PHOTOR: Photoelectric detector with remote test capability

ACCESSORIES

RA100Z: Remote LED annunciator

XR2B: Detector removal tool. A removal and replacement tool for SK series plug-in detectors. Includes the T55-127-000

M02-04-01: Detector test magnet.

M02-09-00: Test magnet with telescoping handle

XP-4: Extension Pole for XR2B. Extends from 5 – 15 ft.

T55-127-000: Detector Removal Head

BCK-200B: Black Detector Kit. For SK series detectors

COMPATIBILITY

The SK-PHOTO, SK-PHOTO-T and SK-PHOTOR are compatible with the following Honeywell Silent Knight fire alarm control panels:

6820: Addressable fire alarm control panel

6820EVS: Addressable fire alarm control panel with an emergency mass notification system.

6808: Addressable fire alarm control panel

6700: Addressable fire alarm control panel

5700: Addressable fire alarm control panel

5808: Addressable fire alarm control panel

5820XL: Addressable fire alarm control panel

5820XL-EVS: Addressable fire alarm control panel with an emergency mass notification system.

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SK-RELAY

Intelligent Relay Module

The SK-RELAY is an addressable relay module for use with Honeywell Silent Knight Series fire alarm control panels (FACPs). The SK-RELAY allows a Silent Knight FACP to switch discrete contacts by code command. The relay contains two isolated sets of Form C contacts, which operate as a DPDT switch. No supervision is provided for the notification appliance circuit.

The SK-RELAY contacts can be used for virtually any normally open or normally closed application. Each SK-RELAY is programmed with a unique signaling line circuit (SLC) loop address. When an event occurs that controls the SK-RELAY, the relay is triggered by the FACP.

INSTALLATION

The SK-RELAY mounts directly into a 4" square electrical box. The box must have a minimum depth of 2-1/8". A surface mount electrical box (System Sensor® PN SMB500) is available from Silent Knight.



SK-RELAY

FEATURES & BENEFITS

- Two sets of Form C contacts
- Rotary address switches for fast installation
- Contacts are rated for a variety of amps (see Specifications)
- Panel controlled status LED that flashes green in normal state and is solid red in alarm
- Relay programming is completely flexible—can be mapped to zone conditions
- Polling LED visible through the cover plate
- SEMS screws for easy wiring
- UL Listed

SK-RELAY Technical Specifications

PHYSICAL

4.675" H x 4.275" W x 1.4" D

Shipping Weight: 6.3 oz (196 g)

ELECTRICAL

Operating Voltage: 15 – 32 VDC

End-of-Line Resistance: Not used

SLC Standby & Alarm Current: .255mA max @ 24VDC (one communication every 5 sec with LED enabled)

ENVIRONMENTAL

Operating Temperature: 32°F – 120°F (0°C – 49°C)

Humidity: 10% – 93% non-condensing

RELAY CONTACT RATINGS

3.0A @ 30VDC resistive

0.9A @ 110VDC resistive

0.9A @ 125VAC resistive

0.5A @ 125VAC inductive (PF = .35)

0.7A @ 75VAC inductive (PF = .35)

ORDERING INFORMATION

SK-RELAY: Relay Module

ACCESSORIES

SMB500: 4" Square Surface Mount Electrical Box

CB500 :Module Barrier

COMPATIBILITY

The SK-RELAY is compatible with the following Honeywell Silent Knight fire alarm control panels:

6820: Addressable fire alarm control panel

6820EVS: Addressable fire alarm control panel with an emergency mass notification system.

6808: Addressable fire alarm control panel

6700: Addressable fire alarm control panel

5700: Addressable fire alarm control panel

5808: Addressable fire alarm control panel

5820XL: Addressable fire alarm control panel

5820XL-EVS: Addressable fire alarm control panel with an emergency mass notification system.

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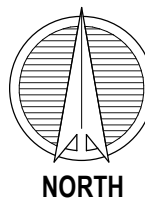
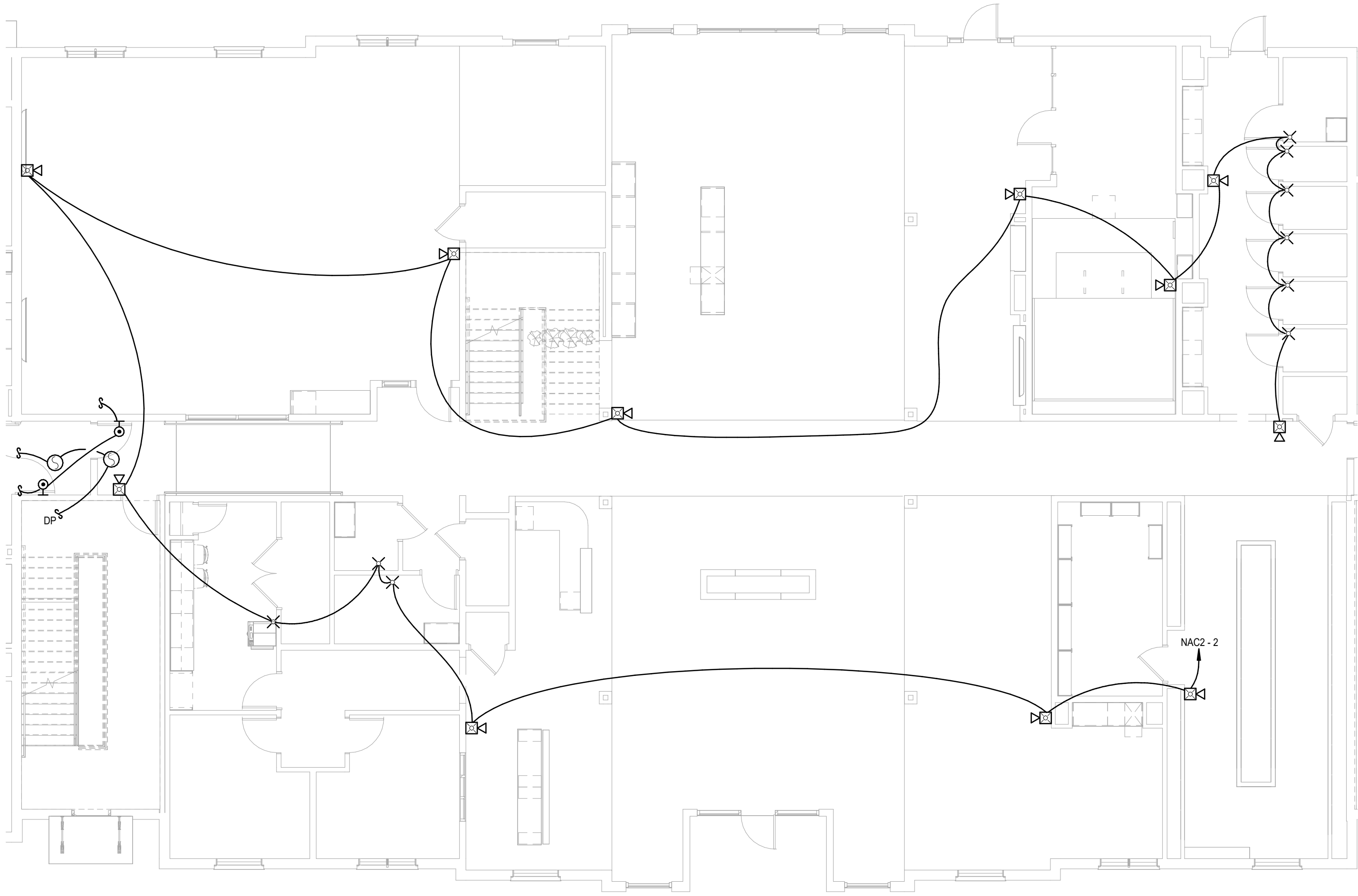
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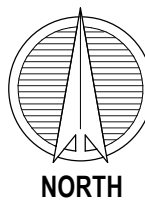
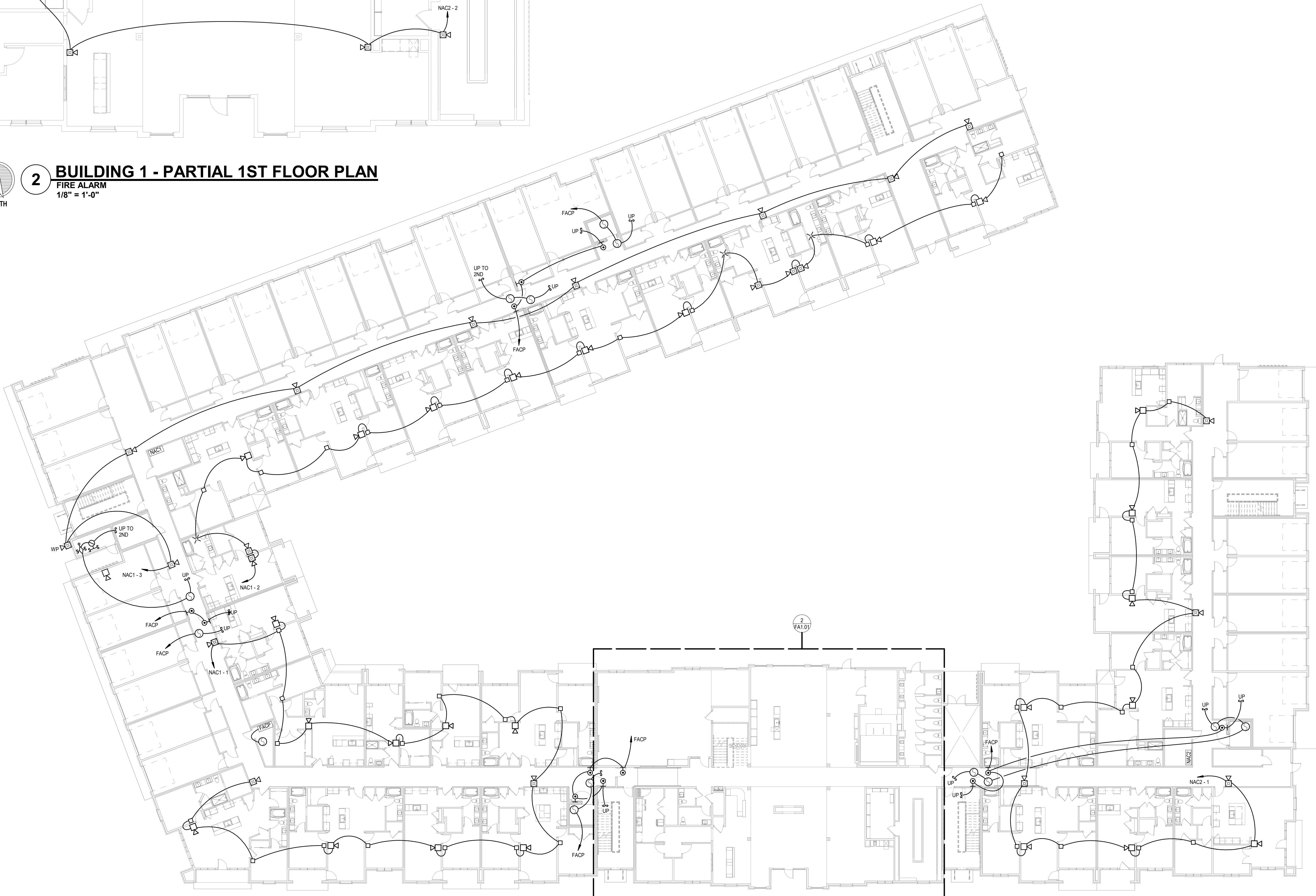
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2

BUILDING 1 - PARTIAL 1ST FLOOR PLAN
FIRE ALARM
1/8" = 1'-0"



1

BUILDING 1 - OVERALL 1ST FLOOR PLAN
FIRE ALARM
1/16" = 1'-0"

NFPA SYMBOLS LEGEND	
[FACP]	FIRE ALARM CONTROL PANEL
[PULL STATION]	PULL STATION
[SMOKE DETECTOR]	SMOKE DETECTOR
[WALL HORN ONLY]	WALL HORN ONLY
[HORN STROBE WALL LOW FREQUENCY]	HORN STROBE WALL LOW FREQUENCY
[OUTSIDE HORN STROBE FOR WATER FLOW]	OUTSIDE HORN STROBE FOR WATER FLOW
[STROBE ONLY]	STROBE ONLY
[FLOW DETECTOR SWITCH]	FLOW DETECTOR SWITCH
[TAMPER DETECTOR]	TAMPER DETECTOR
[162 CABLE SLC LOOP]	162 CABLE SLC LOOP
[142 OR 162 AS REQUIRED, CABLE NAC LOOP]	142 OR 162 AS REQUIRED, CABLE NAC LOOP
[EOL]	END-OF-LINE RESISTOR

*ALL SYMBOLS SHOWN ABOVE MAY NOT APPEAR ON PLANS

- NOTES:**
- ALL FIRE ALARM WIRING MUST BE IN STRICT COMPLIANCE WITH APPLICABLE SECTIONS OF THE NATIONAL ELECTRICAL CODE (ARTICLE 760) AND ALL APPLICABLE NFPA STANDARDS, INCLUDING CHAPTER 12.
 - INSTALLATION MUST COMPLY WITH ALL APPLICABLE FEDERAL, STATE, OR LOCAL LAWS, REGULATIONS, CODES, AND SPECIFICATIONS.
 - ALL INSTALLATIONS MUST BE APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
 - WHERE CONDUCTORS ARE RUN IN CONDUIT USE ONLY APPROVED CABLE WITHIN RACEWAYS, PIPES, OR CONDUITS. ALL SHIELDS SHALL TERMINATE AT THE FIRE ALARM CONTROL PANEL (FACP) ONLY.
 - TO AVOID CONTAMINATION AND DUST ACCUMULATION IN THE SMOKE DETECTORS, IT IS RECOMMENDED THAT THE SMOKE SMOKE DETECTORS NOT BE INSTALLED UNTIL AFTER CONSTRUCTION IS COMPLETED AND THE SUBJECT AREA HAS BEEN CLEANED. THE SUPPLIER IS NOT RESPONSIBLE FOR DUST ACCUMULATION IN SMOKE DETECTORS AND WILL NOT WARRANT DEVICES THAT HAVE NOT BEEN PROPERLY MAINTAINED. WHEN DETECTORS ARE INSTALLED, PROTECTIVE COVERS SHALL BE INSTALLED OVER EACH DETECTOR AND REMOVED BY AUTHORIZED SERVICE PERSONNEL.
 - ALL FIRE ALARM SYSTEM WIRING SHALL BE CLEAR FROM SHORTS, OPENS, AND GROUNDS. A SMOKE DETECTOR MUST BE LOCATED WITHIN FIVE FEET HORIZONTALLY OF THE FIRE ALARM CONTROL PANEL.
 - DO NOT LOCATE SMOKE DETECTORS WITHIN THREE FEET OF SUPPLY AIR VENTS. SMOKE DETECTORS SHALL BE LOCATED ON THE CEILING, NOT LESS THAN 4 INCHES FROM SIDEWALL.
 - SIGNALING CIRCUIT WIRE RUNS ARE CRITICAL. ANY INCREASE IN LENGTH OF WIRE MAY AFFECT CIRCUIT CONFIGURATIONS.
 - MANUAL PULL STATIONS SHOULD BE 48 INCHES ABOVE THE FINISHED FLOOR IN ACCORDANCE WITH NFPA 720 GUIDELINES.
 - Horns will remain on until silenced and strobes will remain until alarm is reset.
 - SYSTEM IS AN ADDRESSABLE SUPERVISED PROTECTED PREMISES SYSTEM.
 - SEE APARTMENT PLANS FOR SMOKE/CO DETECTION WITHIN UNITS.
 - ALL DEVICES SHALL BE VISIBLE IN TYPE A - ACCESSIBLE UNITS.
 - CAPABILITY OF FUTURE ADDITIONS SHALL BE PROVIDED VIA BLANK BOXES IN BEDROOMS AS SHOWN AND WIRE SIZES WITH SPARE CAPACITY. ALSO, REMOTE-WIRELESS UNITS CAN BE PROVIDED.
 - THIS SYSTEM COMPLIES WITH THE KANSAS ELEVATOR SAFETY ACT WHICH IS ENFORCED BY THE KANSAS STATE FIRE MARSHAL OFFICE. ELEVATORS WILL COMPLY WITH KSBE AT 17.1 2019 EDITION.

A NEW RESIDENTIAL COMMUNITY AT:

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REVISIONS

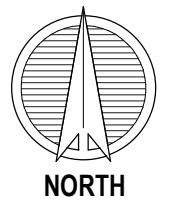
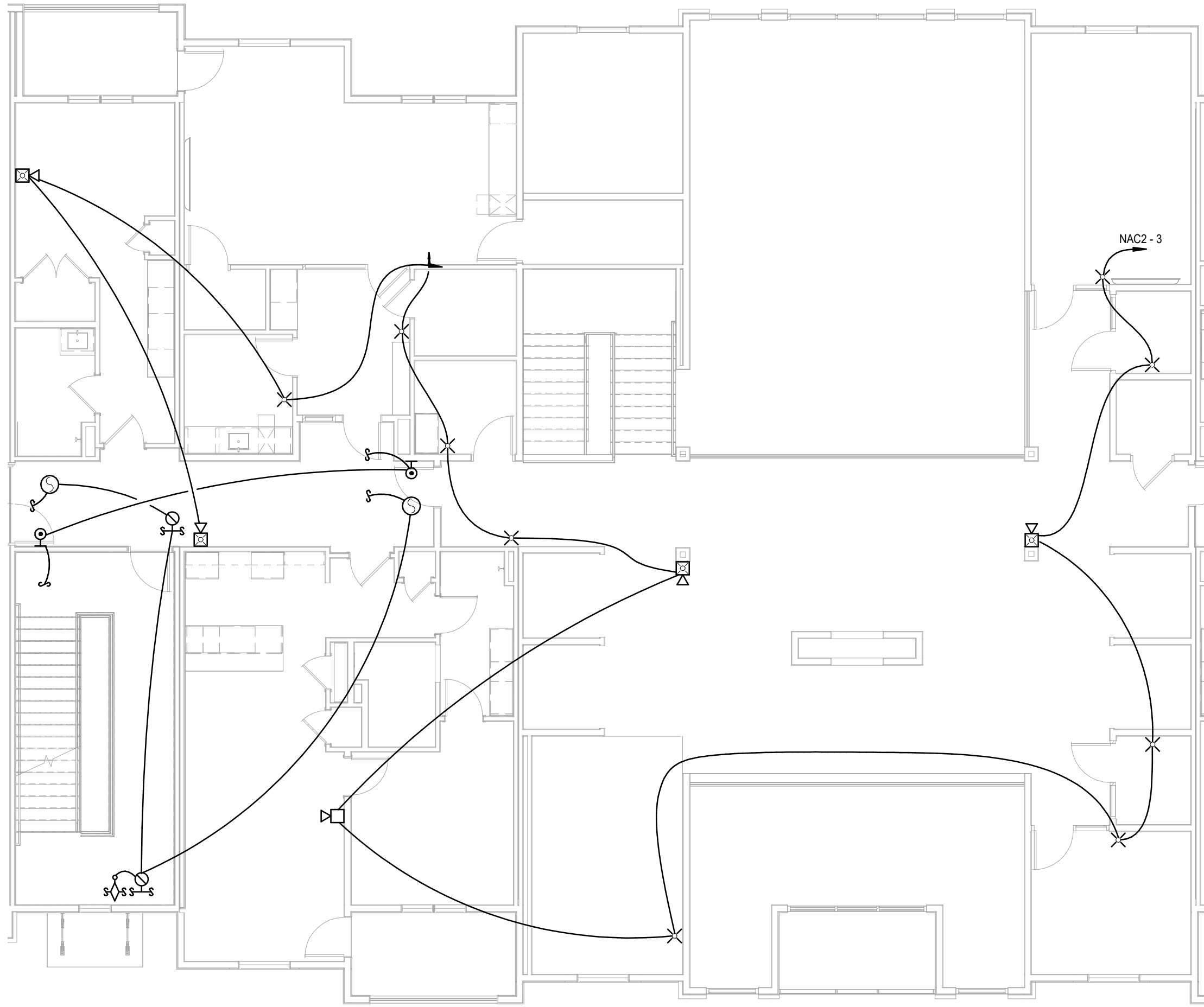
JOB NO. 705921
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SHEET NAME
BUILDING 1 OVERALL FIRST
FLOOR PLAN
SHEET NO.

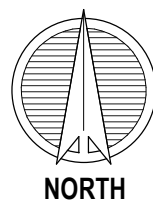
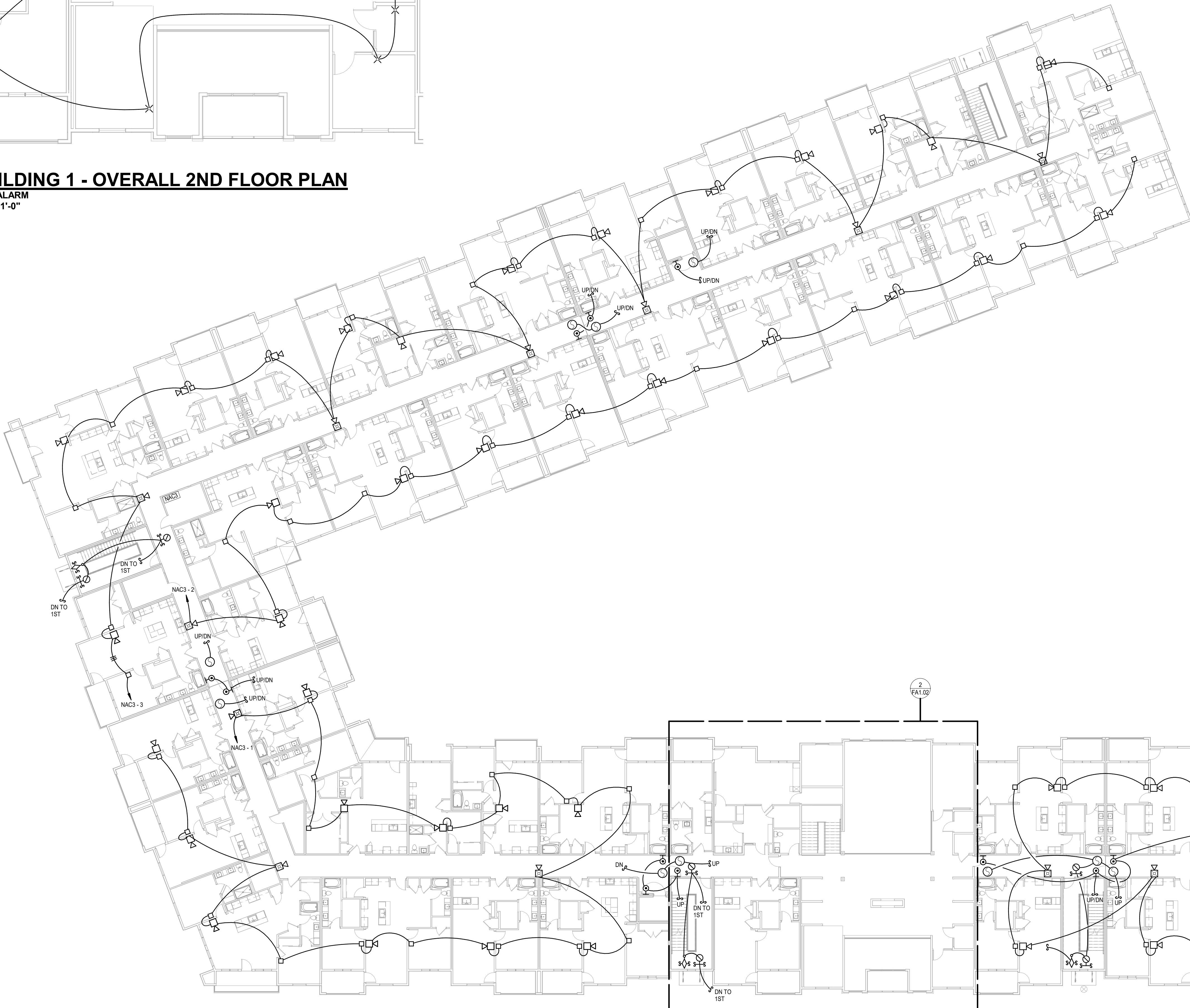
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02/28/2024



2 BUILDING 1 - OVERALL 2ND FLOOR PLAN
FIRE ALARM
1/8" = 1'-0"



1 BUILDING 1 - OVERALL 2ND FLOOR PLAN
FIRE ALARM
1/16" = 1'-0"

NFPA SYMBOLS LEGEND	
	FIRE ALARM CONTROL PANEL
	PULL STATION
	SMOKE DETECTOR
	WALL HORN ONLY
	HORN STROBE WALL LOW FREQUENCY
	OUTSIDE HORN STROBE FOR WATER FLOW
	STROBE ONLY
	FLOW DETECTOR SWITCH
	TAMPER DETECTOR
	182 CABLE SLC LOOP
	142 OR 162 AS REQUIRED, CABLE NAC LOOP
	END-OF-LINE RESISTOR
* ALL SYMBOLS SHOWN ABOVE MAY NOT APPEAR ON PLANS	

- NOTES:
- ALL FIRE ALARM WIRING MUST BE IN STRICT COMPLIANCE WITH APPLICABLE SECTIONS OF THE NATIONAL ELECTRICAL CODE (ARTICLE 760) AND ALL APPLICABLE NFPA STANDARDS, INCLUDING CHAPTER 17.
 - INSTALLATION MUST COMPLY WITH ALL APPLICABLE FEDERAL, STATE, OR LOCAL LAWS, REGULATIONS, CODES, AND SPECIFICATIONS.
 - ALL INSTALLATIONS MUST BE APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
 - WHERE CONDUCTORS ARE RUN IN CONDUIT USE ONLY APPROVED CABLE WITHIN RACEWAYS, PIPES, OR CONDUITS. ALL SHIELDS SHALL TERMINATE AT THE FIRE ALARM CONTROL PANEL (FACP) ONLY.
 - TO AVOID CONTAMINATION AND DUST ACCUMULATION IN THE SMOKE DETECTORS, IT IS RECOMMENDED THAT THE SMOKE SMOKE DETECTORS NOT BE INSTALLED UNTIL AFTER CONSTRUCTION IS COMPLETED AND THE SUBJECT AREA HAS BEEN CLEANED. THE SUPPLIER IS NOT RESPONSIBLE FOR DUST ACCUMULATION IN SMOKE DETECTORS AND WILL NOT WARRANT DEVICES THAT HAVE NOT BEEN PROPERLY MAINTAINED. WHEN DETECTORS ARE INSTALLED, PROTECTIVE COVERS SHALL BE INSTALLED OVER EACH DETECTOR AND REMOVED BY AUTHORIZED SERVICE PERSONNEL.
 - ALL FIRE ALARM SYSTEM WIRING SHALL BE CLEAR FROM SHORTS, OPENS, AND GROUNDS. A SMOKE DETECTOR MUST BE LOCATED WITHIN FIVE FEET HORIZONTALLY OF THE FIRE ALARM CONTROL PANEL.
 - DO NOT LOCATE SMOKE DETECTORS WITHIN THREE FEET OF SUPPLY AIR VENTS. SMOKE DETECTORS SHALL BE LOCATED ON THE CEILING NOT LESS THAN 4 INCHES FROM SIDEWALL.
 - SIGNALING CIRCUIT WIRE RUNS ARE CRITICAL. ANY INCREASE IN LENGTH OF WIRE MAY AFFECT CIRCUIT CONFIGURATIONS.
 - MANUAL PULL STATIONS SHOULD BE 48 INCHES ABOVE THE FINISHED FLOOR IN ACCORDANCE WITH NFPA 720 GUIDELINES.
 - HORNS WILL REMAIN ON UNTIL SILENCED AND STROBES WILL REMAIN UNTIL ALARM IS RESET.
 - SYSTEM IS AN ADDRESSABLE SUPERVISED PROTECTED PREMISES SYSTEM.
 - SEE APARTMENT PLANS FOR SMOKE/CO DETECTION WITHIN UNITS.
 - ALL DEVICES SHALL BE VISIBLE IN TYPE A - ACCESSIBLE UNITS.
 - CAPABILITY OF FUTURE ADDITIONS SHALL BE PROVIDED VIA BLANK BOXES IN BEDROOMS AS SHOWN AND WIRE SIZES WITH SIGNAL CAPACITY. ALSO REMOTE-WIRELESS UNITS CAN BE PROVIDED.
 - THIS SYSTEM COMPLIES WITH THE KANSAS ELEVATOR SAFETY ACT WHICH IS ENFORCED BY THE KANSAS STATE FIRE MARSHAL OFFICE. ELEVATORS WILL COMPLY WITH ASME A17.1 2019 EDITION.

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SHEET NAME
BUILDING 1 OVERALL
SECOND FLOOR PLAN
SHEET NO.

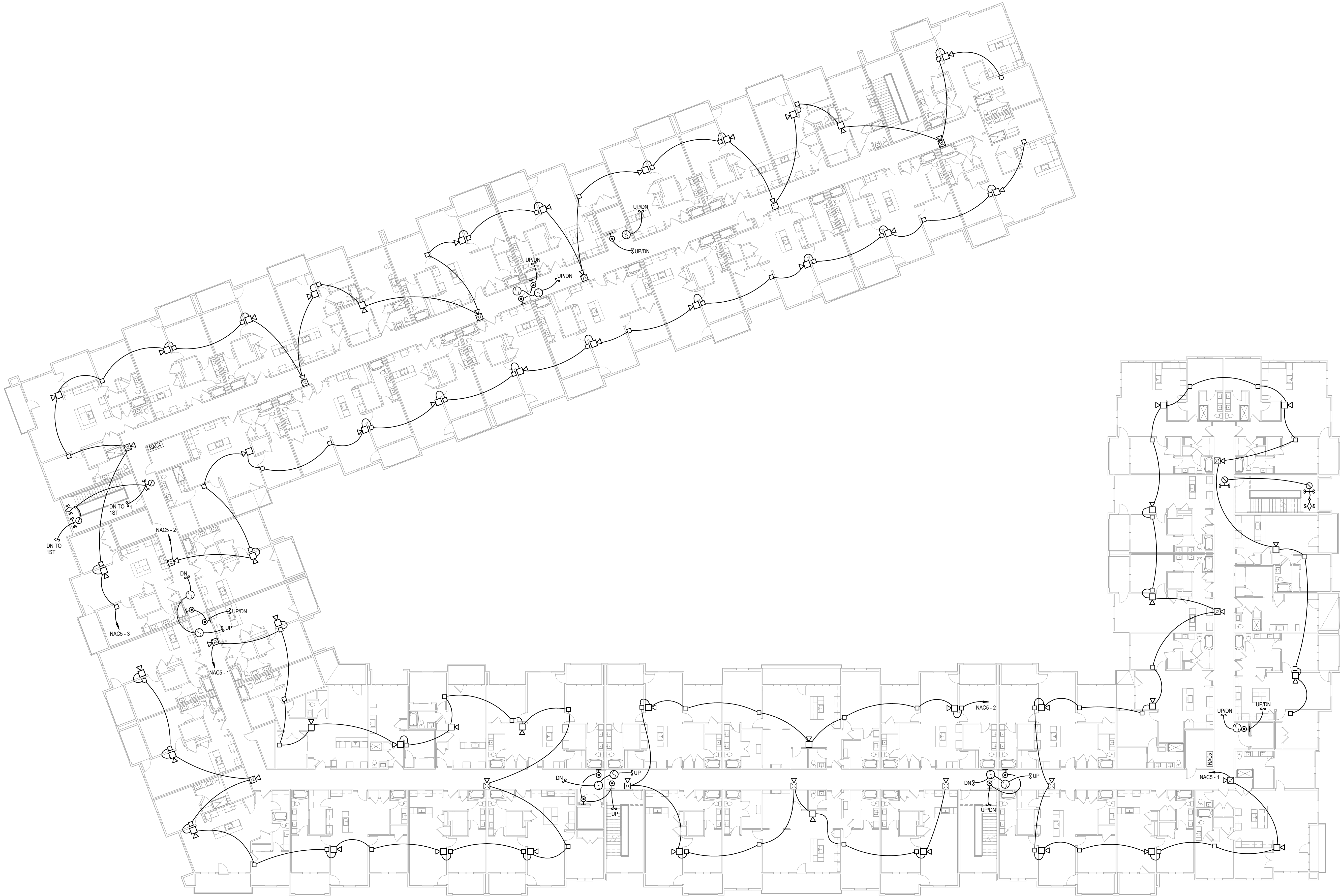
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02/28/2024



1 BUILDING 1 - OVERALL 3RD FLOOR PLAN
FIRE ALARM
1/16" = 1'-0"

NFPA SYMBOLS LEGEND	
	FIRE ALARM CONTROL PANEL
	PULL STATION
	SMOKE DETECTOR
	WALL HORN ONLY
	HORNSTROBE WALL LOW FREQUENCY
	OUTSIDE HORNSTROBE FOR WATER FLOW
	STROBE ONLY
	FLOW DETECTOR/SWITCH
	TAMPER DETECTOR
	162 CABLE SLC LOOP
	142 OR 162 AS REQUIRED, CABLE NAC LOOP
	END-OF-LINE RESISTOR
* ALL SYMBOLS SHOWN ABOVE MAY NOT APPEAR ON PLANS	

- NOTES:
- ALL FIRE ALARM WIRING MUST BE IN STRICT COMPLIANCE WITH APPLICABLE SECTIONS OF THE NATIONAL ELECTRICAL CODE (ARTICLE 760) AND ALL APPLICABLE NFPA STANDARDS, INCLUDING CHAPTER 72.
 - INSTALLATION MUST COMPLY WITH ALL APPLICABLE FEDERAL, STATE, OR LOCAL LAWS, REGULATIONS, CODES, AND SPECIFICATIONS.
 - ALL INSTALLATIONS MUST BE APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
 - WHERE CONDUCTORS ARE RUN IN CONDUIT USE ONLY APPROVED CABLE WITHIN RACEWAYS, PIPES, OR CONDUITS. ALL SHIELDS SHALL TERMINATE AT THE FIRE ALARM CONTROL PANEL (FACP) ONLY.
 - TO AVOID CONTAMINATION AND DUST ACCUMULATION IN THE SMOKE DETECTORS, IT IS RECOMMENDED THAT THE SMOKE SMOKE DETECTORS NOT BE INSTALLED UNTIL AFTER CONSTRUCTION IS COMPLETED AND THE SUBJECT AREA HAS BEEN CLEANED. THE SUPPLIER IS NOT RESPONSIBLE FOR DUST ACCUMULATION IN SMOKE DETECTORS AND WILL NOT WARRANT DEVICES THAT HAVE NOT BEEN PROPERLY MAINTAINED. WHEN DETECTORS ARE INSTALLED, PROTECTIVE COVERS SHALL BE INSTALLED OVER EACH DETECTOR AND REMOVED BY AUTHORIZED SERVICE PERSONNEL.
 - ALL FIRE ALARM SYSTEM WIRING SHALL BE CLEAR FROM SHORTS, OPENS, AND GROUNDS. A SMOKE DETECTOR MUST BE LOCATED WITHIN FIVE FEET HORIZONTALLY OF THE FIRE ALARM CONTROL PANEL.
 - DO NOT LOCATE SMOKE DETECTORS WITHIN THREE FEET OF SUPPLY AIR VENTS. SMOKE DETECTORS SHALL BE LOCATED ON THE CEILING NOT LESS THAN 4 INCHES FROM SIDEWALL.
 - SIGNALING CIRCUIT WIRE RUNS ARE CRITICAL. ANY INCREASE IN LENGTH OF WIRE MAY AFFECT CIRCUIT CONFIGURATIONS.
 - MANUAL PULL STATIONS SHOULD BE 48 INCHES ABOVE THE FINISHED FLOOR IN ACCORDANCE WITH NFPA 7204.1 GUIDELINES.
 - HORNS WILL REMAIN ON UNTIL SILENCED AND STROBES WILL REMAIN UNTIL ALARM IS RESET.
 - SYSTEM IS AN ADDRESSABLE SUPERVISED PROTECTED PREMISES SYSTEM.
 - SEE APARTMENT PLANS FOR SMOKE/CO DETECTION WITHIN UNITS.
 - ALL DEVICES SHALL BE VISIBLE IN TYPE A - ACCESSIBLE UNITS.
 - CAPABILITY OF FUTURE ADDITIONS SHALL BE PROVIDED VIA BLANK BOXES IN BEDROOMS AS SHOWN AND WIRE SIZES WITH SPARE CAPACITY. ALSO REMOTE-WIRELESS UNITS CAN BE PROVIDED.
 - THIS SYSTEM COMPLIES WITH THE KANSAS ELEVATOR SAFETY ACT WHICH IS ENFORCED BY THE KANSAS STATE FIRE MARSHAL OFFICE. ELEVATORS WILL COMPLY WITH ASME A17.1 2019 EDITION.

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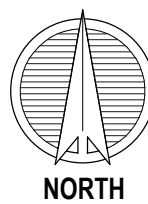
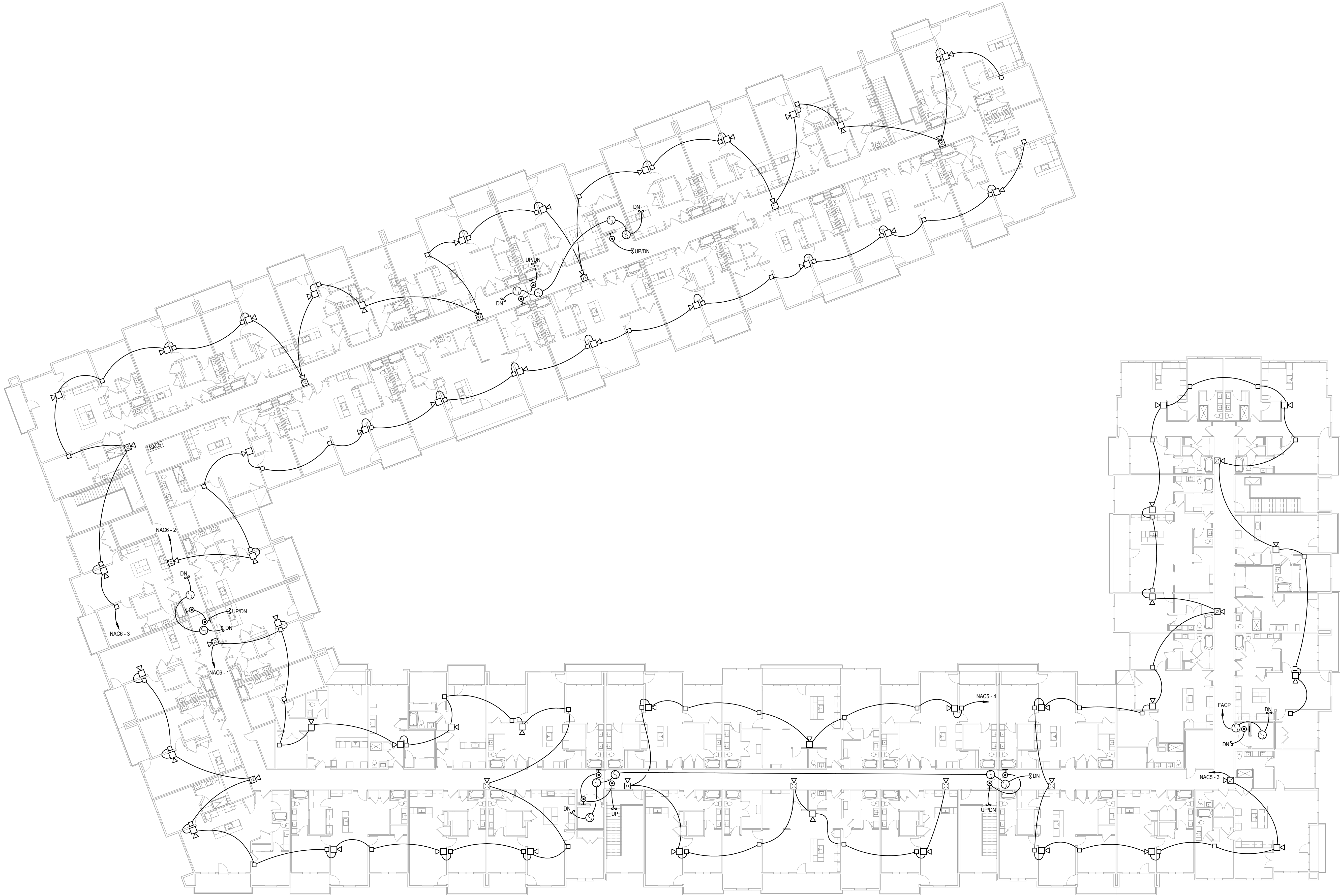
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9/15/2023

SHEET NAME
BUILDING 1 OVERALL
THIRD FLOOR PLAN
SHEET NO.

FA1.03

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1 BUILDING 1 - OVERALL 4TH FLOOR PLAN
FIRE ALARM
1/16" = 1'-0"

NFPA SYMBOLS LEGEND	
[FACP]	FIRE ALARM CONTROL PANEL
[S]	PULL STATION
[SD]	SMOKE DETECTOR
[WH]	WALL HORN ONLY
[HWP]	HORN/STROBE WALL LOW FREQUENCY
[HWP]	OUTSIDE HORN/STROBE FOR WATER FLOW
[S]	STROBE ONLY
[FDS]	FLOW DETECTOR/SWITCH
[T]	TAMPER DETECTOR
[182]	182 CABLE SLC LOOP
[142]	142 OR 182 AS REQUIRED, CABLE NAC LOOP
[EOL]	END-OF-LINE RESISTOR

* ALL SYMBOLS SHOWN ABOVE MAY NOT APPEAR ON PLANS

NOTES:

1. ALL FIRE ALARM WIRING MUST BE IN STRICT COMPLIANCE WITH APPLICABLE SECTIONS OF THE NATIONAL ELECTRICAL CODE (ARTICLE 760) AND ALL APPLICABLE NFPA STANDARDS, INCLUDING CHAPTER 72.
2. INSTALLATION MUST COMPLY WITH ALL APPLICABLE FEDERAL, STATE, OR LOCAL LAWS, REGULATIONS, CODES, AND SPECIFICATIONS.
3. ALL INSTALLATIONS MUST BE APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
4. WHERE CONDUCTORS ARE RUN IN CONDUIT USE ONLY APPROVED CABLE WITHIN RACEWAYS, PIPES, OR CONDUITS. ALL SHIELDS SHALL TERMINATE AT THE FIRE ALARM CONTROL PANEL (FACP) ONLY.
5. TO AVOID CONTAMINATION AND DUST ACCUMULATION IN THE SMOKE DETECTORS, IT IS RECOMMENDED THAT THE SMOKE SMOKE DETECTORS NOT BE INSTALLED UNTIL AFTER CONSTRUCTION IS COMPLETED AND THE SUBJECT AREA HAS BEEN CLEANED. THE SUPPLIER IS NOT RESPONSIBLE FOR DUST ACCUMULATION IN SMOKE DETECTORS AND WILL NOT WARRANT DEVICES THAT HAVE NOT BEEN PROPERLY MAINTAINED. WHEN DETECTORS ARE INSTALLED, PROTECTIVE COVERS SHALL BE INSTALLED OVER EACH DETECTOR AND REMOVED BY AUTHORIZED SERVICE PERSONNEL.
6. ALL FIRE ALARM SYSTEM WIRING SHALL BE CLEAR FROM SHORTS, SPENS, AND GROUNDS. A SMOKE DETECTOR MUST BE LOCATED WITHIN FIVE FEET HORIZONTALLY OF THE FIRE ALARM CONTROL PANEL.
7. DO NOT LOCATE SMOKE DETECTORS WITHIN THREE FEET OF SUPPLY AIR VENTS. SMOKE DETECTORS SHALL BE LOCATED ON THE CEILING, NOT LESS THAN 4 INCHES FROM SIDEWALL.
8. SIGNALING CIRCUIT WIRE RUNS ARE CRITICAL. ANY INCREASE IN LENGTH OF WIRE MAY AFFECT CIRCUIT CONFIGURATIONS.
9. MANUAL PULL STATIONS SHOULD BE 48 INCHES ABOVE THE FINISHED FLOOR IN ACCORDANCE WITH NFPA70A GUIDELINES.
10. HORNS WILL REMAIN ON UNTIL SILENCED AND STROBES WILL REMAIN UNTIL ALARM IS RESET.
11. SYSTEM IS AN ADDRESSABLE SUPERVISED PROTECTED PREMISES SYSTEM.
12. SEE APARTMENT PLANS FOR SMOKE/CO DETECTION WITHIN UNITS.
13. ALL DEVICES SHALL BE VISIBLE IN TYPE A - ACCESSIBLE UNITS.
14. CAPABILITY OF FUTURE ADDITIONS SHALL BE PROVIDED VIA BLANK BOXES IN BEDROOMS AS SHOWN AND WIRE SIZES WITH SPARE CAPACITY. ALSO REMOTE-WIRELESS UNITS CAN BE PROVIDED.
15. THIS SYSTEM COMPLIES WITH THE KANSAS ELEVATOR SAFETY ACT WHICH IS ENFORCED BY THE KANSAS STATE FIRE MARSHAL OFFICE. ELEVATORS WILL COMPLY WITH ASME A17.1 2015 EDITION.

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SHEET NAME
BUILDING 1 OVERALL
FOURTH FLOOR PLAN
SHEET NO.

FA1.04

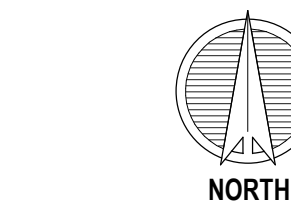
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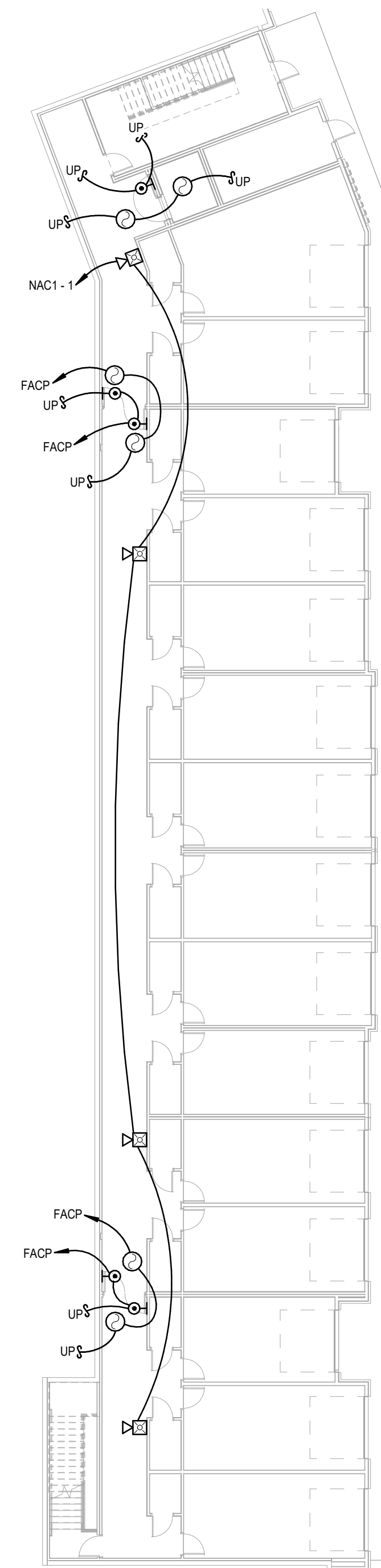


02/28/2024

800 & 810 NW WARD RD. | LEE'S SUMMIT, MO



2 BUILDING 2 - OVERALL BASEMENT FLOOR PLAN
FIRE ALARM
1/16" = 1'-0"



2 BUILDING 2 - OVERALL BASEMENT FLOOR PLAN
FIRE ALARM
1/16" = 1'-0"

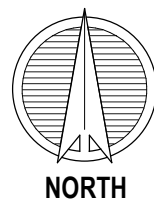
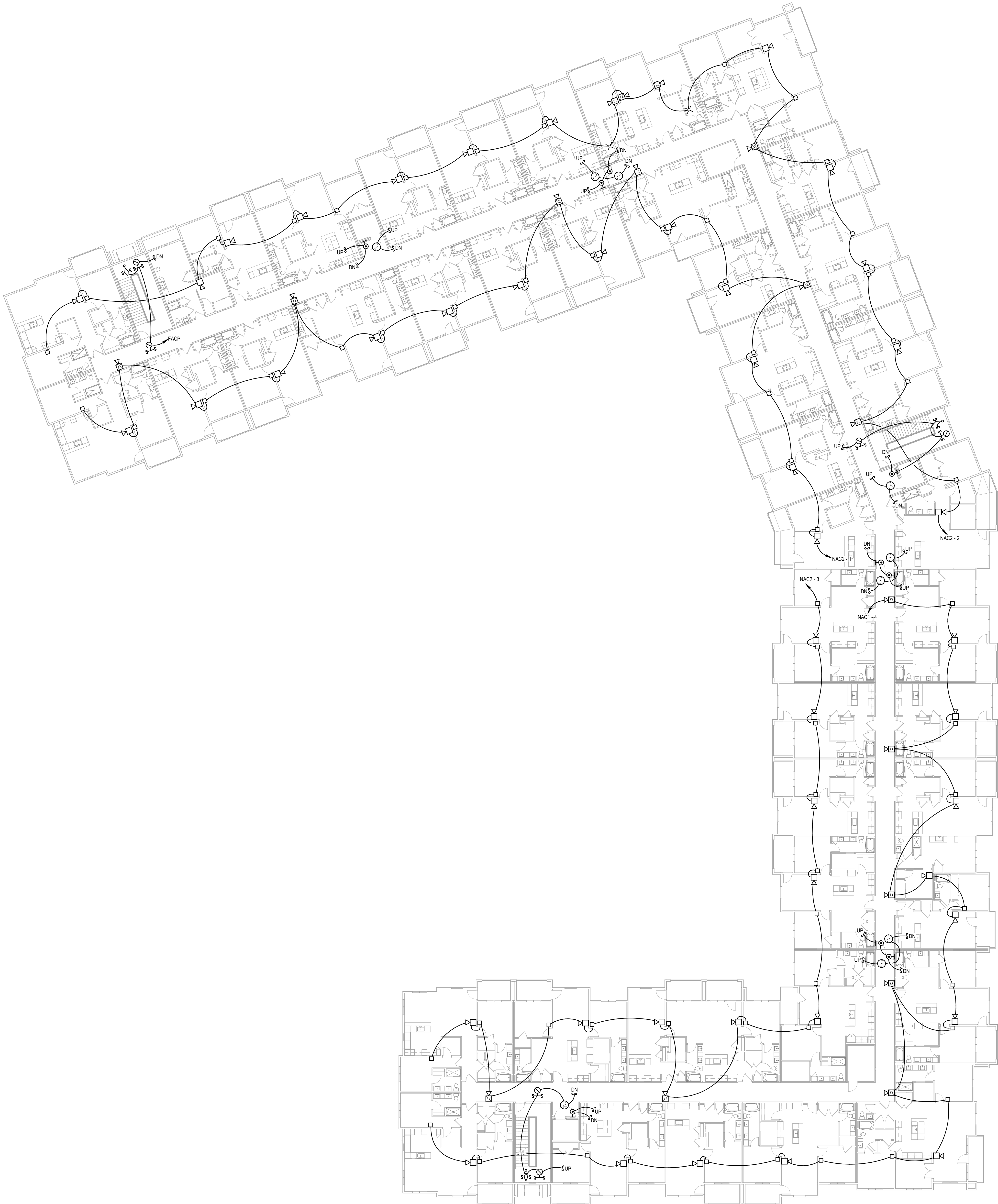
NFPA SYMBOLS LEGEND	
[FOP]	FIRE ALARM CONTROL PANEL
	PULL STATION
	SMOKE DETECTOR
	WALL HORN ONLY
	HORNSTROBO WALL LOW FREQUENCY
	OUTSIDE HORNSTROBO FOR WATER FLOW
	STROBE ONLY
	FLOW DETECTOR/SWITCH
	TAMPER DETECTOR
	182 CABLE SLG LOOP
	142 OR 162 AS REQUIRED, CABLE NAC LOOP
EOL	END-OF-LINE RESISTOR

* ALL SYMBOLS SHOWN ABOVE MAY NOT APPEAR ON PLANS

NOTES

1. ALL FIRE ALARM WIRING MUST BE IN STRICT COMPLIANCE WITH APPLICABLE SECTIONS OF THE NATIONAL ELECTRICAL CODE (ARTICLE 760) AND ALL APPLICABLE NFPA STANDARDS, INCLUDING CHAPTER 7-2.
2. ALL INSTALLATIONS MUST COMPLY WITH ALL APPLICABLE FEDERAL, STATE, OR LOCAL LAW, REGULATIONS, CODES, AND SPECIFICATIONS.
3. ALL INSTALLATIONS MUST BE APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
4. WHERE CONDUCTORS ARE RUN IN CONDUIT USE ONLY APPROVED CABLE WITH RACEWAYS, PIPES, OR CONDUITS. ALL SHIELDS SHALL TERMINATE AT THE FIRE ALARM CONTROL PANEL. PANEL ONLY.
5. TO AVOID CONTAMINATION AND DUST ACCUMULATION IN THE SMOKE DETECTORS IT IS RECOMMENDED THAT THE SMOKE SMOKE DETECTORS BE INSTALLED UNTIL THE SMOKE DETECTOR IS COMPLETED AND THE SUBJECT AREA HAS BEEN CLEANED. THE SUPPLIER IS NOT RESPONSIBLE FOR DUST ACCUMULATION IN SMOKE DETECTOR AND NOT WARRANTED FOR DUST ACCUMULATION IN SMOKE DETECTOR. WHEN DETECTORS ARE INSTALLED, PROTECTIVE COVERS SHALL BE INSTALLED OVER EACH DETECTOR AND REMOVED BY AUTHORIZED SERVICE PERSONNEL.
6. ALL FIRE ALARM SYSTEM WIRING SHALL BE CLEAR FROM SHORTS, OPEN CIRCUITS, AND A SMOKE DETECTOR SHALL BE MOUNTED WITH FIVE FEET HORIZONTALLY OF THE FIRE ALARM CONTROL PANEL.
7. DO NOT LOCATE SMOKE DETECTORS WITHIN THREE FEET OF SUPPLY AIR VENTS. SMOKE DETECTORS SHALL BE LOCATED ON THE CEILING NOT LESS THAN 4 INCHES FROM SIDEWALL.
8. SIGNALING CIRCUIT WIRE RUNS ARE CRITICAL. ANY INCREASE IN LENGTH OF WIRE MAY AFFECT CIRCUIT CONFIGURATION.
9. MANUAL PULL STATIONS SHOULD BE 48 INCHES ABOVE THE FINISHED FLOOR IN ACCORDANCE WITH NFPA 720 GUIDELINES.
10. HORNS WILL REMAIN ON UNTIL SILENCED AND STROBES WILL REMAIN UNTIL ALARM IS RESET.
11. SYSTEM IS AN ADDRESSABLE SUPERVISED PROTECTED PREMISES SYSTEM.
12. SEE APPERTAIN PLAN FOR SMOKE/CO DETECTION WITHIN UNITS.
13. ALL DEVICES SHALL BE VISIBLE IN TYPE A - ACCESSIBLE UNITS.
14. CAPABILITY OF FUTURE ADDITIONS SHALL BE PROVIDED VIA BLANK BOXES IN REMODES AS SHOWN AND WIRE SIZES WITH SPARE CAPACITY. ALSO BEDROOMS ARE WIRELESS UNITS CAN BE PROVIDED.
15. THIS SYSTEM COMPLIES WITH THE KANSAS ELEVATOR SAFETY ACT WHICH IS ENFORCED BY THE KANSAS DEPARTMENT OF REVENUE. ELEVATORS WILL COMPLY WITH ASME A17.1 2019 EDITION.

1 BUILDING 2 - OVERALL 1ST FLOOR PLAN
FIRE ALARM
1/16" = 1'-0"



1 BUILDING 2 - OVERALL 2ND FLOOR PLAN
FIRE ALARM
1/16" = 1'-0"

NFPA SYMBOLS LEGEND	
[FACP]	FIRE ALARM CONTROL PANEL
[PULL STATION]	PULL STATION
[SMOKE DETECTOR]	SMOKE DETECTOR
[WALL HORN ONLY]	WALL HORN ONLY
[HORNSTROBE WALL LOW FREQUENCY]	HORNSTROBE WALL LOW FREQUENCY
[OUTSIDE HORNSTROBE FOR WATER FLOW]	OUTSIDE HORNSTROBE FOR WATER FLOW
[STROBE ONLY]	STROBE ONLY
[FLOW DETECTOR/SWITCH]	FLOW DETECTOR/SWITCH
[TAMPER DETECTOR]	TAMPER DETECTOR
[18/2 CABLE SLC LOOP]	18/2 CABLE SLC LOOP
[14/2 OR 18/2 AS REQUIRED, CABLE NAC LOOP]	14/2 OR 18/2 AS REQUIRED, CABLE NAC LOOP
[EOL]	END-OF-LINE RESISTOR

* ALL SYMBOLS SHOWN ABOVE MAY NOT APPEAR ON PLANS

NOTES:

- ALL FIRE ALARM WIRING MUST BE IN STRICT COMPLIANCE WITH APPLICABLE SECTIONS OF THE NATIONAL ELECTRICAL CODE (ARTICLE 760) AND ALL APPLICABLE NFPA STANDARDS, INCLUDING CHAPTER 72.
- INSTALLATION MUST COMPLY WITH ALL APPLICABLE FEDERAL, STATE, OR LOCAL LAWS, REGULATIONS, CODES, AND SPECIFICATIONS.
- ALL INSTALLATIONS MUST BE APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
- WHERE CONDUCTORS ARE RUN IN CONDUIT USE ONLY APPROVED CABLE WITHIN RACEWAYS, PIPES, OR CONDUITS. ALL SHIELDS SHALL TERMINATE AT THE FIRE ALARM CONTROL PANEL (FACP) ONLY.
- TO AVOID CONTAMINATION AND DUST ACCUMULATION IN THE SMOKE DETECTORS, IT IS RECOMMENDED THAT THE SMOKE SMOKE DETECTORS NOT BE INSTALLED UNTIL AFTER CONSTRUCTION IS COMPLETED AND THE SUBJECT AREA HAS BEEN CLEANED. THE SUPPLIER IS NOT RESPONSIBLE FOR DUST ACCUMULATION IN SMOKE DETECTORS AND WILL NOT WARRANT DEVICES THAT HAVE NOT BEEN PROPERLY MAINTAINED. WHEN DETECTORS ARE INSTALLED, PROTECTIVE COVERS SHALL BE INSTALLED OVER EACH DETECTOR AND REMOVED BY AUTHORIZED SERVICE PERSONNEL.
- ALL FIRE ALARM SYSTEM WIRING SHALL BE CLEAR FROM SHORTS, OPENES, AND GROUNDS. A SMOKE DETECTOR MUST BE LOCATED WITHIN FIVE FEET HORIZONTALLY OF THE FIRE ALARM CONTROL PANEL.
- DO NOT LOCATE SMOKE DETECTORS WITHIN THREE FEET OF SUPPLY AIR VENTS. SMOKE DETECTORS SHALL BE LOCATED ON THE CEILING, NOT LESS THAN 4 INCHES FROM SIDEWALL.
- SIGNALING CIRCUIT WIRE RUNS ARE CRITICAL. ANY INCREASE IN LENGTH OF WIRE MAY AFFECT CIRCUIT CONFIGURATIONS.
- MANUAL PULL STATIONS SHOULD BE 48 INCHES ABOVE THE FINISHED FLOOR IN ACCORDANCE WITH NFPA/ADA GUIDELINES.
- HORNS WILL REMAIN ON UNTIL SILENCED AND STROBES WILL REMAIN UNTIL ALARM IS RESET.
- SYSTEM IS AN ADDRESSABLE SUPERVISED PROTECTED PREMISES SYSTEM.
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DRAWN BY Author
9/15/2023

SHEET NAME
BUILDING 2 OVERALL
SECOND FLOOR PLAN
SHEET NO.

FA1.06

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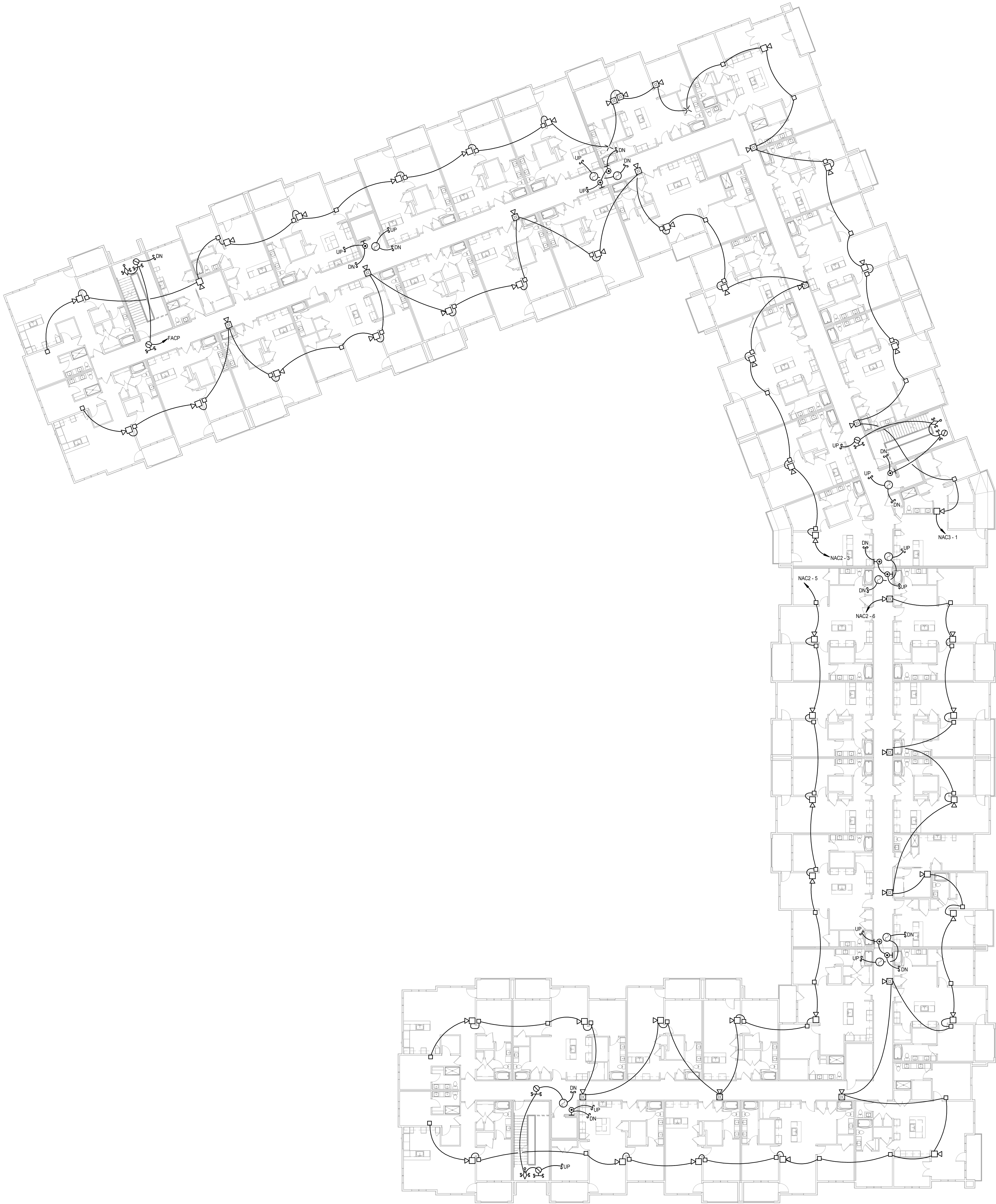
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02/28/2024



1

BUILDING 2 - OVERALL 3RD FLOOR PLAN
FIRE ALARM
1/16" = 1'-0"

NFPA SYMBOLS LEGEND	
	FIRE ALARM CONTROL PANEL
	PULL STATION
	SMOKE DETECTOR
	WALL HORN ONLY
	HORN/STROBE WALL LOW FREQUENCY
	OUTSIDE HORN/STROBE FOR WATER FLOW
	STROBE ONLY
	FLOW DETECTOR/SWITCH
	TAMPER DETECTOR
	102 CABLE SLC LOOP
	142 OR 102 AS REQUIRED, CABLE NAC LOOP
	END-OF-LINE RESISTOR
* ALL SYMBOLS SHOWN ABOVE MAY NOT APPEAR ON PLANS	

- NOTES:
- ALL FIRE ALARM WIRING MUST BE IN STRICT COMPLIANCE WITH APPLICABLE SECTIONS OF THE NATIONAL ELECTRICAL CODE (ARTICLE 760) AND ALL APPLICABLE NFPA STANDARDS, INCLUDING CHAPTER 75.
 - INSTALLATION MUST COMPLY WITH ALL APPLICABLE FEDERAL, STATE, OR LOCAL LAWS, REGULATIONS, CODES, AND SPECIFICATIONS.
 - ALL INSTALLATIONS MUST BE APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
 - WHERE CONDUCTORS ARE RUN IN CONDUIT USE ONLY APPROVED CABLE WITHIN RACEWAYS, PIPES, OR CONDUITS. ALL SHIELDS SHALL TERMINATE AT THE FIRE ALARM CONTROL PANEL (FACP) ONLY.
 - TO AVOID CONTAMINATION AND DUST ACCUMULATION IN THE SMOKE DETECTORS, IT IS RECOMMENDED THAT THE SMOKE SMOKE DETECTORS NOT BE INSTALLED UNTIL AFTER CONSTRUCTION IS COMPLETED AND THE SUBJECT AREA HAS BEEN CLEANED. THE SUPPLIER IS NOT RESPONSIBLE FOR DUST ACCUMULATION IN SMOKE DETECTORS AND WILL NOT WARRANT DEVICES THAT HAVE NOT BEEN PROPERLY MAINTAINED. WHEN DETECTORS ARE INSTALLED, PROTECTIVE COVERS SHALL BE INSTALLED OVER EACH DETECTOR AND REMOVED BY AUTHORIZED SERVICE PERSONNEL.
 - ALL FIRE ALARM SYSTEM WIRING SHALL BE CLEAR FROM SHORTS, OPENS, AND GROUNDS. A SMOKE DETECTOR MUST BE LOCATED WITHIN FIVE FEET HORIZONTALLY OF THE FIRE ALARM CONTROL PANEL.
 - DO NOT LOCATE SMOKE DETECTORS WITHIN THREE FEET OF SUPPLY AIR VENTS. SMOKE DETECTORS SHALL BE LOCATED ON THE CEILING NOT LESS THAN 4 INCHES FROM SIDEWALL.
 - SIGNALING CIRCUIT WIRE RUNS ARE CRITICAL. ANY INCREASE IN LENGTH OF WIRE MAY AFFECT CIRCUIT CONFIGURATIONS.
 - MANUAL PULL STATIONS SHOULD BE 48 INCHES ABOVE THE FINISHED FLOOR IN ACCORDANCE WITH NFPA 720 GUIDELINES.
 - HORNS WILL REMAIN ON UNTIL SILENCED AND STROBES WILL REMAIN UNTIL ALARM IS RESET.
 - SYSTEM IS AN ADDRESSABLE SUPERVISED PROTECTED PREMISES SYSTEM.
 - SEE APARTMENT PLANS FOR SMOKE/CO DETECTION WITHIN UNITS.
 - ALL DEVICES SHALL BE VISIBLE IN TYPE A - ACCESSIBLE UNITS.
 - CAPABILITY OF FUTURE ADDITIONS SHALL BE PROVIDED VIA BLANK BOXES IN BEDROOMS AS SHOWN AND WIRE SIZES WITH SPARE CAPACITY. ALSO REMOTE-WIRELESS UNITS CAN BE PROVIDED.
 - THIS SYSTEM COMPLIES WITH THE KANSAS ELEVATOR SAFETY ACT WHICH IS ENFORCED BY THE KANSAS STATE FIRE MARSHAL OFFICE. ELEVATORS WILL COMPLY WITH ASME A17.1 2019 EDITION.

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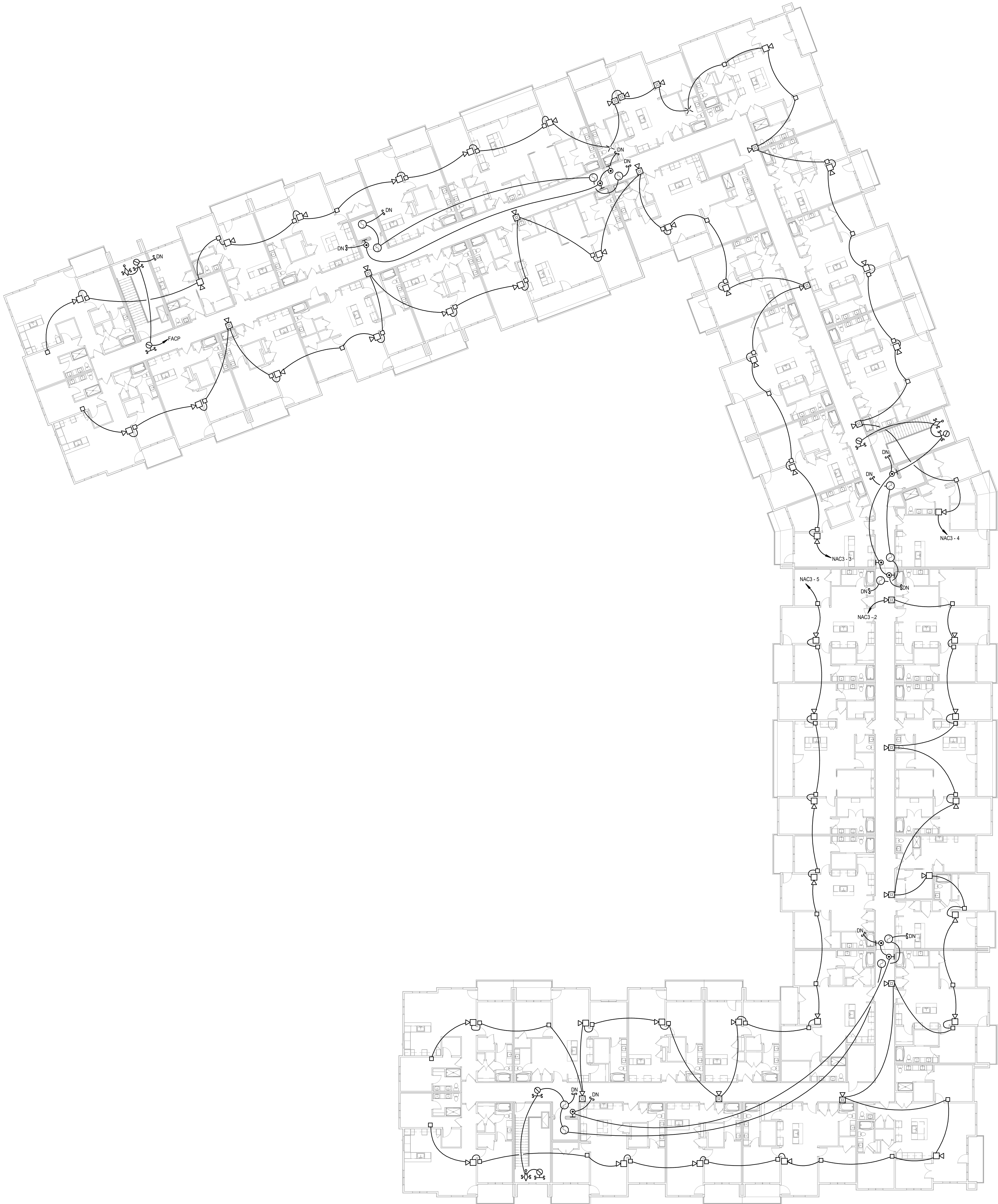
JOB NO. 705921
DATE 03.15.2023
DRAWN BY Author
9/15/2023

SHEET NAME
BUILDING 2 OVERALL
THIRD FLOOR PLAN
SHEET NO.

FA1.07

LS&A
Consulting Engineers & Associates P.A.
3039 SW Summerfield Drive, Suite A
Topeka, Kansas 66614-3974
6625 College Boulevard, Suite 102
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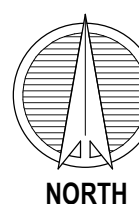


NFPA SYMBOLS LEGEND	
[FACP]	FIRE ALARM CONTROL PANEL
[P]	PULL STATION
[S]	SMOKE DETECTOR
[W]	WALL HORN ONLY
[W]	HORN/STROBE WALL LOW FREQUENCY
[W]	OUTSIDE HORN/STROBE FOR WATER FLOW
[X]	STROBE ONLY
[S]	FLOW DETECTOR/SWITCH
[S]	TAMPER DETECTOR
[S]	182 CABLE SLC LOOP
[S]	142 OR 162 AS REQUIRED, CABLE NAC LOOP
[EOL]	END-OF-LINE RESISTOR

* ALL SYMBOLS SHOWN ABOVE MAY NOT APPEAR ON PLANS

NOTES:

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- SIGNALING CIRCUIT WIRE RUNS ARE CRITICAL. ANY INCREASE IN LENGTH OF WIRE MAY AFFECT CIRCUIT CONFIGURATIONS.
- MANUAL PULL STATIONS SHOULD BE 48 INCHES ABOVE THE FINISHED FLOOR IN ACCORDANCE WITH NFPA 7204 GUIDELINES.
- HORNS WILL REMAIN ON UNTIL SILENCED AND STROBES WILL REMAIN UNTIL ALARM IS RESET.
- SYSTEM IS AN ADDRESSABLE SUPERVISED PROTECTED PREMISES SYSTEM.
- SEE APARTMENT PLANS FOR SMOKE/CO DETECTION WITHIN UNITS.
- ALL DEVICES SHALL BE VISIBLE IN TYPE A - ACCESSIBLE UNITS.
- CAPABILITY OF FUTURE ADDITIONS SHALL BE PROVIDED VIA BLANK BOXES IN BEDROOMS AS SHOWN AND WIRE SIZES WITH SPARE CAPACITY. ALSO REMOTE WIRELESS UNITS CAN BE PROVIDED.
- THIS SYSTEM COMPLIES WITH THE KANSAS ELEVATOR SAFETY ACT WHICH IS ENFORCED BY THE KANSAS STATE FIRE MARSHAL OFFICE. ELEVATORS WILL COMPLY WITH ASME A17.1 2019 EDITION.



1

BUILDING 2 - OVERALL 4TH FLOOR PLAN
FIRE ALARM
1/16" = 1'-0"



JOB NO. 705921
DRAWN BY Author
9/15/2023

SHEET NAME
BUILDING 2 OVERALL
FOURTH FLOOR PLAN
SHEET NO.

FA1.08

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SHEET NAME
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FOURTH FLOOR PLAN
SHEET NO.

FA1.08

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02/28/2024



NOTES:

1. ALL FIRE ALARM WIRING MUST BE IN STRICT COMPLIANCE WITH APPLICABLE SECTIONS OF THE NATIONAL ELECTRICAL CODE (ARTICLE 760) AND ALL APPLICABLE NFPA STANDARDS, INCLUDING CHAPTER 72.
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5. TO AVOID CONTAMINATION AND DUST ACCUMULATION IN THE SMOKE DETECTOR SITES IT IS RECOMMENDED THAT THE SMOKE SMOKE DETECTOR BE INSTALLED UNTIL AFTER CONSTRUCTION IS COMPLETED AND THE SUBJECT AREA HAS BEEN CLEANED. THE SUPPLIER IS NOT RESPONSIBLE FOR DAMAGE OR DAMAGE TO SMOKE DETECTORS AND WILL NOT WARRANT DEVICES THAT HAVE NOT BEEN PROPERLY MAINTAINED. WHEN DETECTORS ARE TO BE INSTALLED IN SMOKE DETECTOR SITES, THEY SHALL BE INSTALLED OVER EACH DETECTOR AND REMOVED BY AUTHORIZED SERVICE PERSONNEL.
6. ALL FIRE ALARM SYSTEM WIRING SHALL BE CLEAR FROM SHORTS, OPENS, AND GROUNDS. A SMOKE DETECTOR MUST BE LOCATED WITHIN FIVE FEET HORIZONTALLY OF THE FIRE ALARM CONTROL PANEL.
7. DO NOT LOCATE SMOKE DETECTORS WITHIN THREE FEET OF THE SUPPLY AIR VENTS. SMOKE DETECTORS SHALL BE LOCATED ON CEILING, NOT LESS THAN 4 INCHES FROM SIDEWALL.
8. SIGNALING CIRCUIT WIRE RUNS ARE CRITICAL. ANY INCREASE IN LENGTH OF WIRE MAY AFFECT CIRCUIT CONFIGURATIONS.
9. MANUAL PULL STATIONS SHOULD BE 48 INCHES ABOVE THE FINISHED FLOOR IN ACCORDANCE WITH NFPA7204 GUIDELINES.
10. HORNS WILL REMAIN ON TILT. SILENCED AND STROBES WILL REMAIN UNTIL ALARM IS RESET.
11. SYSTEM IS AN ACCESSIBLE PROTECTED PROMPTED MESSAGE SYSTEM.
12. SEE APARTMENT PLANS FOR SMOKE/CO DETECTION WITHIN UNITS.
13. ALL DEVICES SHALL BE VISIBLE IN TYPE A - ACCESSIBLE UNITS.
14. CAPABILITY OF FUTURE ADDITIONS SHALL BE PROVIDED VIA BLANK BOXES IN BEDROOMS AS SHOWN AND WIRE SIZES WITH SPARE CAPACITY. ALSO REMOTE CONTROLLED DIMMER SWITCHES.
15. THIS SYSTEM COMPLIES WITH THE KANSAS ELEVATOR ACT WHICH IS ENFORCED BY THE KANSAS STATE FIRE MARSHAL OFFICE. ELEVATORS WILL COMPLY WITH ASME A17.1 2019 EDITION.

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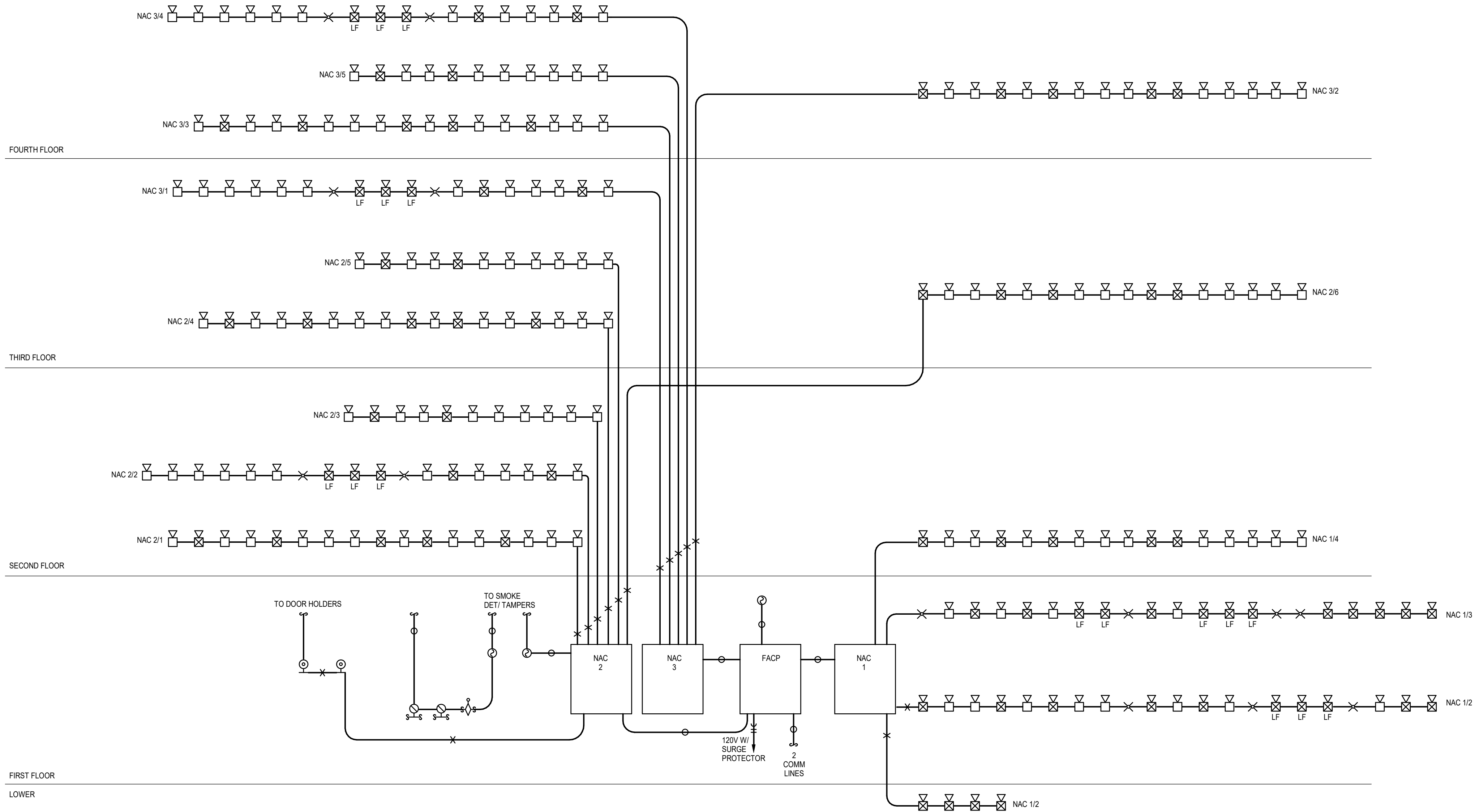
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JOB NO. **705921** DATE **03.15.2023**
DRAWN BY **Author**
9/15/2023

SHEET NAME
**BUILDING 1 FIRE ALARM
RISER**
SHEET NO.

FA2.01





1 BUILDING 2
NOT TO SCALE

NFPA SYMBOLS LEGEND	
	FIRE ALARM CONTROL PANEL
	PULL STATION
	SMOKE DETECTOR
	WALL HORN ONLY
	HORNSTROBE WALL LOW FREQUENCY
	OUTSIDE HORNSTROBE FOR WATER FLOW
	STROBE ONLY
	FLOW DETECTOR/SWITCH
	TAMPER DETECTOR
	162 CABLE SLC LOOP
	142 OR 162 AS REQUIRED CABLE NAC LOOP
	END-OF-LINE RESISTOR
* ALL SYMBOLS SHOWN ABOVE MAY NOT APPEAR ON PLANS	

- NOTES:
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NAC CIRCUIT VOLTAGE DROP				NAC CIRCUIT VOLTAGE DROP				NAC CIRCUIT VOLTAGE DROP			
Bldg 1 - NAC 1-1				Bldg 1 - NAC 1-2				Bldg 1 - NAC 1-3			
APPLIANCE	QTY	AMPS EACH	TOTAL AMPS	APPLIANCE	QTY	AMPS EACH	TOTAL AMPS	APPLIANCE	QTY	AMPS EACH	TOTAL AMPS
HORN/STROBE - 75	3	0.2	0.6	HORN/STROBE - 75		0.2	0	HORN/STROBE - 75	9	0.2	1.8
STROBE - 15/75		0.077	0	STROBE - 15/75	3	0.077	0.231	STROBE - 15/75		0.077	0
LF HORN	9	0.08	0.72	LF HORN	8	0.08	0.64	LF HORN		0.08	0
LF HORN/STROBE		0.1	0	LF HORN/STROBE	5	0.1	0.5	LF HORN/STROBE		0.1	0
TOTAL			1.32	TOTAL			1.371	TOTAL			1.8
LOOP LENGTH	500	WIRE SIZE	#14	LOOP LENGTH	450	WIRE SIZE	#14	LOOP LENGTH	470	WIRE SIZE	#14
NOM. VOLTS	LOSS	FINAL VOLTS	MIN. VOLTS	NOM. VOLTS	LOSS	FINAL VOLTS	MIN. VOLTS	NOM. VOLTS	LOSS	FINAL VOLTS	MIN. VOLTS
24	3.37	20.63	16	24	3.15	20.85	16	24	4.31	19.69	16

NAC CIRCUIT VOLTAGE DROP				NAC CIRCUIT VOLTAGE DROP				NAC CIRCUIT VOLTAGE DROP			
Bldg 1 - NAC 2-1				Bldg 1 - NAC 2-2				Bldg 1 - NAC 2-3			
APPLIANCE	QTY	AMPS EACH	TOTAL AMPS	APPLIANCE	QTY	AMPS EACH	TOTAL AMPS	APPLIANCE	QTY	AMPS EACH	TOTAL AMPS
HORN/STROBE - 75	4	0.2	0.8	HORN/STROBE - 75	11	0.2	2.2	HORN/STROBE - 75	5	0.2	1
STROBE - 15/75		0.077	0	STROBE - 15/75	9	0.077	0.693	STROBE - 15/75	9	0.077	0.693
LF HORN	8	0.08	0.64	LF HORN		0.08	0	LF HORN		0.08	0
LF HORN/STROBE		0.1	0	LF HORN/STROBE		0.1	0	LF HORN/STROBE		0.1	0
TOTAL			1.44	TOTAL			2.893	TOTAL			1.693
LOOP LENGTH	400	WIRE SIZE	#14	LOOP LENGTH	490	WIRE SIZE	#14	LOOP LENGTH	320	WIRE SIZE	#14
NOM. VOLTS	LOSS	FINAL VOLTS	MIN. VOLTS	NOM. VOLTS	LOSS	FINAL VOLTS	MIN. VOLTS	NOM. VOLTS	LOSS	FINAL VOLTS	MIN. VOLTS
24	2.94	21.06	16	24	7.23	16.77	16	24	2.76	21.24	16

NAC CIRCUIT VOLTAGE DROP				NAC CIRCUIT VOLTAGE DROP				NAC CIRCUIT VOLTAGE DROP			
Bldg 1 - NAC 2-4				Bldg 1 - NAC 3-1, 4-1, 6-1				Bldg 1 - NAC 3-2, 4-2, 6-2			
APPLIANCE	QTY	AMPS EACH	TOTAL AMPS	APPLIANCE	QTY	AMPS EACH	TOTAL AMPS	APPLIANCE	QTY	AMPS EACH	TOTAL AMPS
HORN/STROBE - 75	5	0.2	1	HORN/STROBE - 75	3	0.2	0.6	HORN/STROBE - 75	1	0.2	0.2
STROBE - 15/75		0.077	0	STROBE - 15/75		0.077	0	STROBE - 15/75		0.077	0
LF HORN	13	0.08	1.04	LF HORN	11	0.08	0.88	LF HORN	10	0.08	0.8
LF HORN/STROBE		0.1	0	LF HORN/STROBE		0.1	0	LF HORN/STROBE		0.1	0
TOTAL			2.04	TOTAL			1.48	TOTAL			1
LOOP LENGTH	650	WIRE SIZE	#14	LOOP LENGTH	580	WIRE SIZE	#14	LOOP LENGTH	450	WIRE SIZE	#14
NOM. VOLTS	LOSS	FINAL VOLTS	MIN. VOLTS	NOM. VOLTS	LOSS	FINAL VOLTS	MIN. VOLTS	NOM. VOLTS	LOSS	FINAL VOLTS	MIN. VOLTS
24	6.76	17.24	16	24	4.38	19.62	16	24	2.30	21.71	16

NAC CIRCUIT VOLTAGE DROP				NAC CIRCUIT VOLTAGE DROP				NAC CIRCUIT VOLTAGE DROP			
Bldg 1 - NAC 3-3, 4-3, 6-3				Bldg 1 - NAC 5-1, 5-3				Bldg 1 - NAC 5-2, 5-4			
APPLIANCE	QTY	AMPS EACH	TOTAL AMPS	APPLIANCE	QTY	AMPS EACH	TOTAL AMPS	APPLIANCE	QTY	AMPS EACH	TOTAL AMPS
HORN/STROBE - 75	6	0.2	1.2	HORN/STROBE - 75	4	0.2	0.8	HORN/STROBE - 75	3	0.2	0.6
STROBE - 15/75		0.077	0	STROBE - 15/75		0.077	0	STROBE - 15/75		0.077	0
LF HORN	11	0.08	0.88	LF HORN	11	0.08	0.88	LF HORN	6	0.08	0.48
LF HORN/STROBE		0.1	0	LF HORN/STROBE		0.1	0	LF HORN/STROBE		0.1	0
TOTAL			2.08	TOTAL			1.68	TOTAL			1.08
LOOP LENGTH	700	WIRE SIZE	#14	LOOP LENGTH	550	WIRE SIZE	#14	LOOP LENGTH	420	WIRE SIZE	#14
NOM. VOLTS	LOSS	FINAL VOLTS	MIN. VOLTS	NOM. VOLTS	LOSS	FINAL VOLTS	MIN. VOLTS	NOM. VOLTS	LOSS	FINAL VOLTS	MIN. VOLTS
24	7.43	16.57	16	24	4.71	19.29	16	24	2.31	21.69	16

NAC CIRCUIT VOLTAGE DROP				NAC CIRCUIT VOLTAGE DROP				NAC CIRCUIT VOLTAGE DROP			
Bldg 2 - NAC 1-1				Bldg 2 - NAC 1-2				Bldg 2 - NAC 1-3			
APPLIANCE	QTY	AMPS EACH	TOTAL AMPS	APPLIANCE	QTY	AMPS EACH	TOTAL AMPS	APPLIANCE	QTY	AMPS EACH	TOTAL AMPS
HORN/STROBE - 75	4	0.2	0.8	HORN/STROBE - 75	7	0.2	1.4	HORN/STROBE - 75	5	0.2	1
STROBE - 15/75		0.077	0	STROBE - 15/75	2	0.077	0.154	STROBE - 15/75	3	0.077	0.231
LF HORN		0.08	0	LF HORN	7	0.08	0.56	LF HORN	4	0.08	0.32
LF HORN/STROBE		0.1	0	LF HORN/STROBE	3	0.1	0.3	LF HORN/STROBE	5	0.1	0.5
TOTAL			0.8	TOTAL			2.414	TOTAL			2.051
LOOP LENGTH	200	WIRE SIZE	#14	LOOP LENGTH	640	WIRE SIZE	#14	LOOP LENGTH	700	WIRE SIZE	#14
NOM. VOLTS	LOSS	FINAL VOLTS	MIN. VOLTS	NOM. VOLTS	LOSS	FINAL VOLTS	MIN. VOLTS	NOM. VOLTS	LOSS	FINAL VOLTS	MIN. VOLTS
24	0.82	23.18	16	24	7.88	16.12	16	24	7.32	16.68	16

NAC CIRCUIT VOLTAGE DROP				NAC CIRCUIT VOLTAGE DROP				NAC CIRCUIT VOLTAGE DROP			
Bldg 2 - NAC 1-4, 2-6, 3-2				Bldg 2 - NAC 2-1, 2-3, 3-3				Bldg 2 - NAC 2-2, 3-1, 3-4			
APPLIANCE	QTY	AMPS EACH	TOTAL AMPS	APPLIANCE	QTY	AMPS EACH	TOTAL AMPS	APPLIANCE	QTY	AMPS EACH	TOTAL AMPS
HORN/STROBE - 75	5	0.2	1	HORN/STROBE - 75	5	0.2	1	HORN/STROBE - 75	2	0.2	0.4
STROBE - 15/75		0.077	0	STROBE - 15/75		0.077	0	STROBE - 15/75		0.077	0
LF HORN	11	0.08	0.88	LF HORN	12	0.08	0.96	LF HORN	12	0.08	0.96
LF HORN/STROBE		0.1	0	LF HORN/STROBE		0.1	0	LF HORN/STROBE		0.1	0
TOTAL			1.88	TOTAL			1.96	TOTAL			1.36
LOOP LENGTH	550	WIRE SIZE	#14	LOOP LENGTH	560	WIRE SIZE	#14	LOOP LENGTH	620	WIRE SIZE	#14
NOM. VOLTS	LOSS	FINAL VOLTS	MIN. VOLTS	NOM. VOLTS	LOSS	FINAL VOLTS	MIN. VOLTS	NOM. VOLTS	LOSS	FINAL VOLTS	MIN. VOLTS
24	5.27	18.73	16	24	5.60	18.40	16	24	4.30	19.70	16

NAC CIRCUIT VOLTAGE DROP			
Bldg 2 - NAC 2-3, 2-5, 3-5			
APPLIANCE	QTY	AMPS EACH	TOTAL AMPS
HORN/STROBE - 75	7	0.2	1.4
STROBE - 15/75		0.077	0
LF HORN	9	0.08	0.72
LF HORN/STROBE		0.1	0
TOTAL			2.12
LOOP LENGTH	420	WIRE SIZE	#14
NOM. VOLTS	LOSS	FINAL VOLTS	MIN. VOLTS
24	4.54	19.46	16

Jobsite Information: Summit Square 3 Bldg 1

FCPS-24FS6 / 8 Battery Calculation

Entries only to be made in the Yellow cell locations

Regulated Load in Standby

Device Type	Number of Devices		Current (Amps)		Total Current (Amps)
Main PC Board	1	X	0.065	=	0.065
Power Supervision Relays		X	0.025	=	0
Auxiliary Current Draw from TB4 Terminals 9 & 10		X		=	0
STANDBY LOAD			= 0.065		

Regulated Load in ALARM

Device Type	Number of Devices		Current (Amps)		Total Current (Amps)
Main PC Board without AC	1	X	0.145	=	0.145
Power Supervision Relays		X	0.025	=	0
Auxiliary Current Draw from TB4 Terminals 9 & 10		X		=	0
NAC / Output # 1 Strobes	21	X	0.08	=	1.68
NAC / Output # 2 Horn/Strobes	85	X	0.08	=	6.8
NAC / Output # 3 LF Horns	165	X	0.1	=	16.5
NAC / Output # 4 Spare		X		=	0
ALARM LOAD			= 25.125		

Battery Amp Hour Calculation

Standby Load Current (Amps)	0.065	X	Required Standby Time (Typically 24 or 60 Hours)	24	=	1.56	AH
Alarm Load Current (Amps)	25.125	X	Required Alarm Time (Typically 5 or 10 Minutes)	10	=	4.19	AH
Sub Total Standby / Alarm Amp Hours			5.75				AH
Multiply by the Derating Factor X			1.2				AH
Total Ampere Hours Required =			7				

* Derating Factor required to compensate for the non-linear discharge characteristic of a battery.

Jobsite Information: Summit Square 3 Bldg 2

FCPS-24FS6 / 8 Battery Calculation

Entries only to be made in the Yellow cell locations

Regulated Load in Standby

Device Type	Number of Devices		Current (Amps)		Total Current (Amps)
Main PC Board	1	X	0.065	=	0.065
Power Supervision Relays		X	0.025	=	0
Auxiliary Current Draw from TB4 Terminals 9 & 10		X		=	0
STANDBY LOAD			= 0.065		

Regulated Load in ALARM

Device Type	Number of Devices		Current (Amps)		Total Current (Amps)
Main PC Board without AC	1	X	0.145	=	0.145
Power Supervision Relays		X	0.025	=	0
Auxiliary Current Draw from TB4 Terminals 9 & 10		X		=	0
NAC / Output # 1 Strobes	5	X	0.08	=	0.4
NAC / Output # 2 Horn/Strobes	48	X	0.08	=	3.84
NAC / Output # 3 LF Horns	143	X	0.1	=	14.3
NAC / Output # 4 Spare		X		=	0
ALARM LOAD			= 18.685		

Battery Amp Hour Calculation

Standby Load Current (Amps)	0.065	X	Required Standby Time (Typically 24 or 60 Hours)	24	=	1.56	AH
Alarm Load Current (Amps)	18.685	X	Required Alarm Time (Typically 5 or 10 Minutes)	10	=	3.11	AH
Sub Total Standby / Alarm Amp Hours			4.67				AH
Multiply by the Derating Factor X			1.2				AH
Total Ampere Hours Required =			6				

* Derating Factor required to compensate for the non-linear discharge characteristic of a battery.

FIRE ALARM SEQUENCE OF OPERATION MATRIX

SYSTEM INPUTS		SYSTEM OUTPUTS													level
		audible alarms activation	actuate strobes	transmit alarm to remote display	display alarm signal	display supervisory signal	display trouble signal	transmit supervisory signal	transmit trouble signal	record event at FACP	activate outside flow bell	release magnetic door holders	recall elevator to lowest level	recall elevator to alternate level	
1	manual pull station	X	X	X	X							X	X	X	1
2	area smoke detector	X	X	X	X							X	X	X	2
3	fire sprinkler system water flow	X	X	X	X							X	X	X	3
4	fire sprinkler system tamper					X						X			4
5	fire alarm AC power failure					X		X	X						5
6	fire alarm low battery					X		X	X						6
7	fire alarm open circuit					X		X	X						7
8	fire alarm ground fault					X		X	X						8
9	notification appliance circuit fault					X		X	X						9
10	fire alarm panel clear									X					10
		A	B	C	D	E	F	G	H	I	J	K	L	M	

