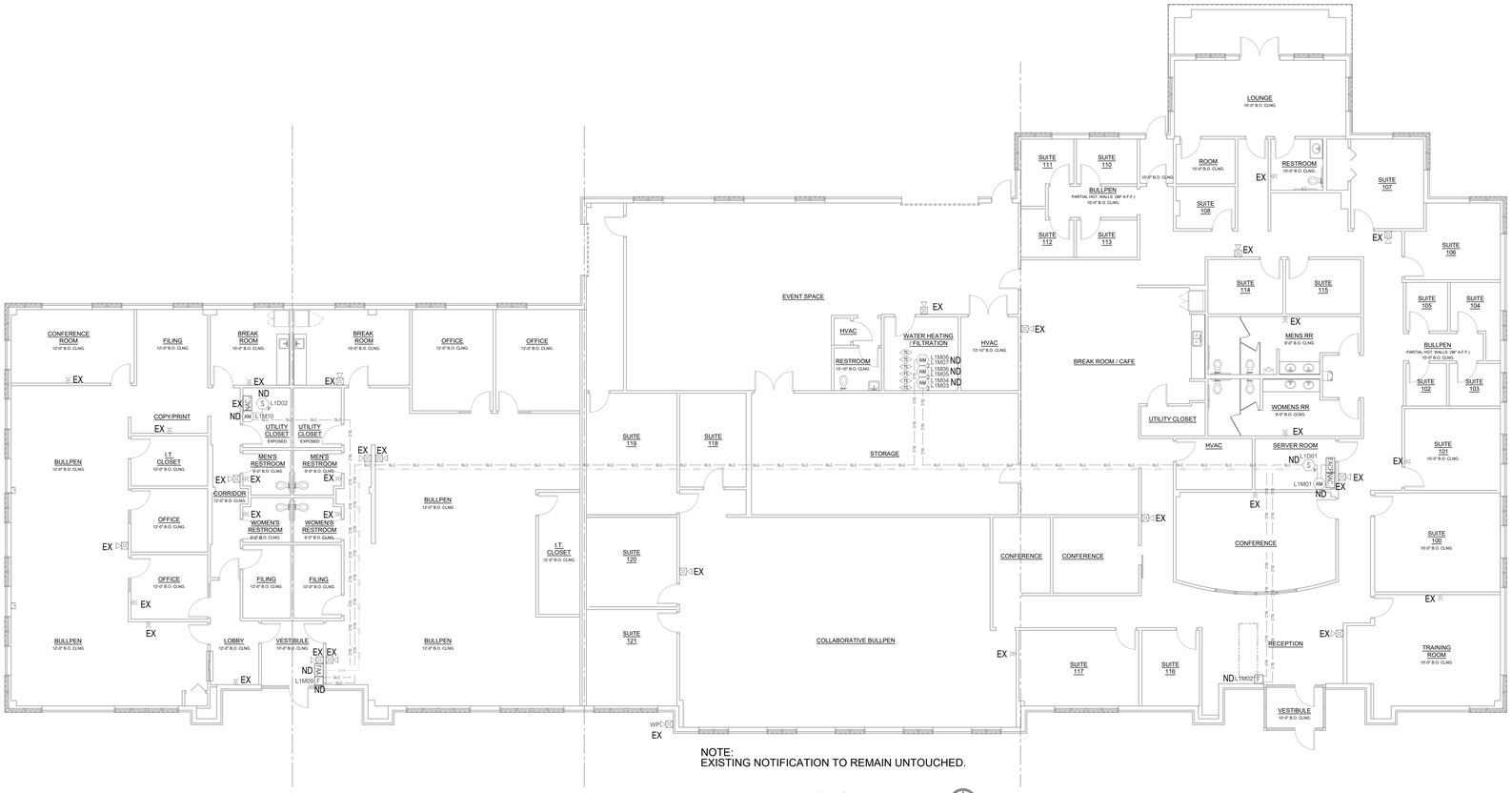


NOTE:
EXISTING NOTIFICATION TO REMAIN UNTOUCHED.

FIRE ALARM SYSTEM PLAN

Scale: 1/8" = 1'-0" 0' 2' 4' 8' 16'

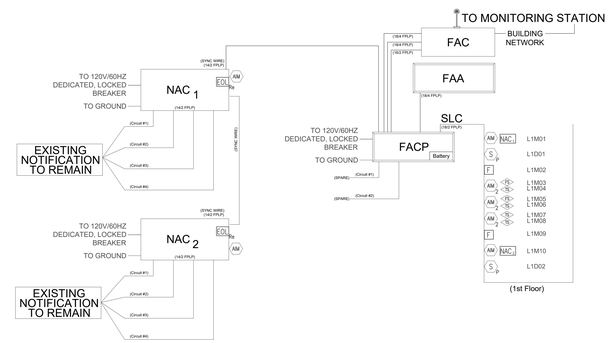
Fire Alarm Device Legend

	Symbol	Qty.	Description	Manufacturer/Part Number	Mounting Requirements
	FACP	01	Fire Alarm Control Panel	KIDDE VS1-GD	Surface mounted enclosure provided Top 72" AFF conduit to ceiling
	FAC	01	Commercial Fire Alarm Communicator	KIDDE B465 W/ B444	Surface mounted enclosure provided Within 3' of FACP
	FAA	01	Fire Alarm Annunciator Alpha Keypad	KIDDE K1-RLCD-C	Single or double Gang, 4" square box 60" AFF conduit to ceiling
EXISTING	NAC	02	Notification Power Supply	ALTRONIX AL802ULADA	Surface mounted enclosure provided Top 72" AFF conduit to ceiling
	S	02	Smoke Detector Photo Electric	KIDDE KI-OSD	Single Gang, 4" Octagon or Square in the ceiling
	F	02	Manual Pull Station	KIDDE GSA-M278	Single Gang, 4" Octagon or Square Wall Mounted 48" L of Backbox
	AM	02	Monitor Module	KIDDE GSA-CC1S	Surface mounted enclosure provided Within 3' of Device
	AM	03	Dual Monitor Module	KIDDE GSA-CT2	Surface mounted enclosure provided Within 3' of Device
EXISTING		02	Water Flow Switch	Supplied by Sprinkler Contractor	Connection Only
EXISTING		04	Sprinkler Valve Tamper Switch	Supplied by Sprinkler Contractor	Connection Only
EXISTING		14	Horn/Strobe, Wall Candela Indicated	SYSTEM SENSOR EXISTING	Mount Device Top 90" of the finished floor 4" Octagon or Square
EXISTING		16	ADA/Strobe Wall Candela Indicated	SYSTEM SENSOR EXISTING	Mount Device Top 90" of the finished floor 4" Octagon or Square
EXISTING		01	Horn/Strobe, Wall, Weather Proof Candela Indicated	SYSTEM SENSOR EXISTING	Mount above the FDC, locate on site 4" Weather Proof Back Box
		01	Document Cabinet Required per NFPA 72	Space Age Electronics FDB-ACE-11	Surface mounted enclosure provided Top 72" AFF

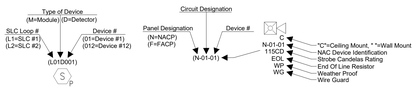
Fire Alarm Wire Legend

Wire Designations	Wire Types
B-C B-C B-C	Signal Line Circuit - 18/2 FPLP
NAC NAC NAC NAC	Notification Appliance Circuit - 14/2 FPLP
ANN ANN ANN	Annunciator Circuit - 18/4 FPLP

Addressable System Riser



Device Designation Legend



DEVICE INSTALLATION LEGEND

- ND - NEW DEVICE
- EX - EXISTING TO REMAIN
- X0 - EXISTING TO BE REMOVED
- XN - EXISTING TO BE REPLACED WITH NEW
- XR - EXISTING RELOCATED
- XRR - EXISTING TO BE REMOVED AND RELOCATED

CODE INFORMATION

OCCUPANCY CLASS	B - BUISNESS
OCCUPANCY LOAD	UNKNOWN OCCUPANTS
CONSTRUCTION TYPE	II-B
CODE SUMMARY	IBC-2018, IPC-2018, IMC-2018, NEC-2017, IFC-2018, NFPA72-2019.
SPRINKLER SCOPE OF WORK	FULLY SPRINKLED INSTALLATION OF NEW INITIATING DEVICES AND FIRE ALARM PANEL ONLY. POWER SUPPLIES AND INDICATING DEVICES TO REMAIN AS PREVIOUSLY APPROVED.
NUMBER OF FLOORS	1 FLOOR
TENANT AREA (SQ. FT.)	17,942 SQ. FT.
TOTAL BUILDING AREA (SQ. FT.)	17,942 SQ. FT.

FIRE ALARM MATRIX WITH OCCUPANT NOTIFICATION

	ANNUNCIATES ALARM AT A CONTROL PANEL AND REMOTE ANNUNCIATOR	ANNUNCIATES ALARM AT A CONTROL PANEL AND SUITE ANNUNCIATOR	ANNUNCIATES ALARM AT A CONTROL PANEL AND REMOTE ANNUNCIATOR	TRANSMITS A FIRE ALARM SIGNAL TO CENTRAL STATION	ANNUNCIATES ALARM AT CONTROL PANEL AND TRANSMITS A FIRE ALARM SIGNAL TO CENTRAL STATION	TRANSMITS A SUPERVISORY SIGNAL TO CENTRAL STATION	TRANSMITS A TROUBLE SIGNAL TO CENTRAL STATION	ACTIVATES INTERIOR HORNS/STROBES	ACTIVATES EXTERIOR HORNS/STROBES	ALL ABOVE FDC						
SPRINKLER SYSTEM																
- WATERFLOW SWITCH	●			●			●	●								
- VALVE TAMPER SWITCH		●			●											
SMOKE DETECTOR	●			●			●									
MANUAL PULL STATION	●			●			●									
POWER SUPPLY - TROUBLE			●			●										
COMMUNICATOR - COMMUNICATION FAIL			●													
COMMUNICATOR - TROUBLE			●			●										
ABNORMAL CONTROL, CIRCUIT OR DEVICE			●			●										
LOSS OF POWER			●			●										

Standby Battery Calculations
KIDDE
VS1-GD

Monte Christo II,
3350 Ralph Powell Rd
Lee's Summit, MO 64064

Part Number	Description	Quantity	Standby Per Device	Current All Devices	Alarm Per Device	Current All Devices
VS1-GD	1 Loop System, 64 Analog Point Capacity, 2 Class B NA	1	0.155000	0.155000	0.204000	0.204000
K-RLCD-C	LCD text annunciator w th common controls. English	1	0.099000	0.099000	0.115000	0.115000
KI-OSD	Optical Smoke Detector	2	0.000320	0.000640	0.000450	0.000900
GSA-M278	Double Action Single Stage Manual Pull Station	2	0.000250	0.000500	0.000399	0.000798
GSA-CC1S	Synchronization Output Module (One-gang standard mc	2	0.000223	0.000446	0.000323	0.000646
GSA-CT2	Dual Input Module	3	0.000396	0.001188	0.000680	0.002040
				0.000000		0.000000
				0.000000		0.000000
				0.000000		0.000000
				0.000000		0.000000
TA.C-DC	Total Alarm Current Max IDC		0.000000	0.000000	0.040000	0.000000
TA.C-SLC	Total Alarm Current Max SLC		0.000000	0.000000	0.400000	0.000000
				0.257	Alarm	0.323
Total Aux current	Maximum Amps:	1.0000				

Signal Circuits

Circuit	Device	Quantity	Alarm Per Device	Current All Devices
Circuit 1				0.000
				0.000
				0.000
				0.000
				0.000
				0.000
Total 1	Maximum Amps:	2.5000		0.000
Circuit 2				0.000
				0.000
				0.000
				0.000
				0.000
				0.000
Total 2	Maximum Amps:	2.5000		0.000
			Notification Alarm	0.000
Totals	Maximum Amps:	6.0000	Total Alarm Amps	0.323

	Circuit 1	Circuit 2
Max Wire Run Distance For AWG	14	
Actual Wire run Distance		
Voltage Drop for 14 AWG w ire		

Voltage Drop = 2 * Wire Run Distance * 3.07 Ohms Per 1000 ft 14 AWG * Total Current for Circuit / 1000

Standby Hours	24
Standby Battery Draw	0.257
Standby A mp Hrs	6.163

Alarm Minutes	5
Alarm Current	0.647
Alarm Current by Minutes	0.054

Battery Size Required w ith Alarm Time Minutes and 20% Reserve	7.460

Batteries Size Supplied	12	Amp Hours

Current Draws for Fire Communicator
BOSCH

Device	Device Standby Current	Device Alarm Current	Quantity	Total Standby Draw	Total Alarm Draw
B444	0.035	0.1	1	0.035	0.1
B465	0.15	0.23	1	0.15	0.23
				0	0
				0	0
				0	0

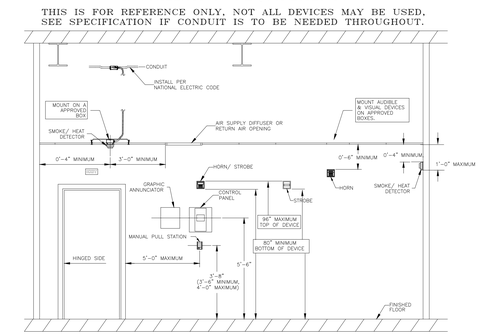
Wire Size	Alarm Min
18	15

Standby Hours	24
Alarm Current	0.330
Battery size Required	5.427
Batteries Supplied (AH)	7

Total Battery Calculation Standby: 4.440
Alarm Current Min: 0.082

NFPA 72 AND ADA DEVICE INSTALLATION REQUIREMENTS

THIS IS FOR REFERENCE ONLY, NOT ALL DEVICES MAY BE USED, SEE SPECIFICATION IF CONDUIT IS TO BE NEEDED THROUGHOUT.



MISSOURI PE COA #2009003629

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PLAN TYPE:

FIRE ALARM SYSTEM DEVICE LOCATIONS

BC ENGINEERS INCORPORATED
5720 Reeder Shawnee, Ks. 66203 (913)262-1772

ARCHWAY SYSTEMS
17020 E. 40 Hwy. Ste 1
Independence, MO 64055
Office: (816) 709-3358

6415 UNIVERSAL AVE.
KANSAS CITY, MO 64120
855-452-2288

MONTE CHRISTO II
3350 RALPH POWELL RD.
LEE'S SUMMIT, MO 64064

3/23/2023

STATE OF MISSOURI
DARIN T. SEIDEL
NUMBER PE-2009003629
PROFESSIONAL ENGINEER

NO	REVISION	DATE

DATE: 03/22/2023
LAYOUT BY:
DANIEL HEBBLETHWAITE, ET
NICET #107102
SCALE: 1/8" = 1'-0"

FA-1
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FA-1