

FIRE ALARM PLAN NOTES

120VAC (BY OTHERS)

DRAWING INDEX

FA.100 COVER SHEET
FA.101 FIRE ALARM FLOOR PLAN
FA.600 PROJECT CALCULATIONS & LINE DIAGRAM

APPLICABLE CODES

NFPA 70 – NATIONAL ELECTRIC CODE (2017)
NFPA 72 – NATIONAL FIRE ALARM & SIGNALING CODE (2016)
NFPA 101 – LIFE SAFETY CODE (2018)
INTERNATIONAL FIRE CODE – 2018
INTERNATIONAL BUILDING CODE – 2018
CONSTRUCTION: VB. OCCUPANCY: B. OCCUPANT LOAD: 43

SCOPE OF WORK:

AFP TO INSTALL A FIRE SPRINKLER MONITORING SYSTEM.
DUCT DETECTORS INSTALLED BY OTHERS WILL BE MONITORED BY FIRE ALARM SYSTEM.
SYSTEM MONITORED BY A REMOTE SUPERVISING STATION
PER NFPA 72 26.5 (2016)

ABBREVIATIONS:

WP = WEATHER RESISTANT. ETR = EXISTING TO REMAIN.
ROR = RATE OF RISE. RCP = REFLECTED CEILING PLAN.
ER = EXISTING TO BE RELOCATED. SHOWN IN NEW LOCATION.
NIC = NOT IN CONSTRUCTION. TI = TENANT IMPROVEMENT.

FIRE ALARM SYMBOLS		
ICON	DESCRIPTION	MOUNTING REQUIREMENTS
	FIRE ALARM CONTROL UNIT	SURFACE MOUNTED ENCLOSURE PROVIDED, TOP 72" AFF; CONDUIT TO CEILING
	FIRE ALARM REMOTE ANNUNCIATOR	4" SQUARE, 1-1/2" STANDARD BOX, W/ SINGLE MUD RING; 60" AFF; CONDUIT TO CEILING
	CELLULAR COMMUNICATOR	SURFACE MOUNTED ENCLOSURE PROVIDED, TOP 72" AFF; CONDUIT TO FACU
	REMOTE POWER SUPPLY PANEL	SURFACE MOUNTED ENCLOSURE PROVIDED, TOP 72" AFF; CONDUIT TO CEILING
	PHOTO SMOKE DETECTOR	4" SQUARE, 1-1/2" STANDARD BOX W/ SINGLE MUD RING; NO HIGHER THAN 30" AFF
	THERMAL DETECTOR	4" SQUARE, 1-1/2" STANDARD BOX W/ SINGLE MUD RING; NO HIGHER THAN 30" AFF
	PHOTO SMOKE DUCT DETECTOR	INSTALL PER MANUFACTURER SPECIFICATIONS
	MANUAL PULL STATION	4" SQUARE, 1-1/2" STANDARD BOX W/ SINGLE MUD RING; 48" AFF & 5" FROM DOOR; CONDUIT TO CEILING
	SINGLE MONITOR MODULE	4" SQUARE, 2-1/8" DEEP BOX; CONDUIT TO CEILING
	DUAL MONITOR MODULE	4" SQUARE, 2-1/8" DEEP BOX; CONDUIT TO CEILING
	DUAL RELAY MODULE	4" SQUARE, 2-1/8" DEEP BOX; CONDUIT TO CEILING
	ALARM STROBE, CANDELA SHOWN	WALL MOUNTED, 80"-96" AFF OR (C) = CEILING MOUNTED; 4" SQUARE, 1-1/2" STANDARD BOX W/ SINGLE MUD RING
	ALARM H/S, CANDELA SHOWN	WALL MOUNTED, 80"-96" AFF OR (C) = CEILING MOUNTED; 4" SQUARE, 1-1/2" STANDARD BOX W/ SINGLE MUD RING
	END OF LINE RESISTOR PROVIDED BY CONTROL/DEVICE	INSTALL AT THE LAST DEVICE OF THAT CIRCUIT
	SPRINKLER FLOW SWITCH BY OTHERS	HANDY BOX INSTALLED ON SWITCH; THEN INSTALL 1/2" FLEX CONDUIT TO 4" SQUARE, 2-1/8" DEEP BOX ON WALL
	SPRINKLER TAMPER SWITCH BY OTHERS	HANDY BOX INSTALLED ON SWITCH; THEN INSTALL 1/2" FLEX CONDUIT TO 4" SQUARE, 2-1/8" DEEP BOX ON WALL
	POST INDICATOR VALVE BY OTHERS	1/2" WATERTIGHT FLEX CONDUIT FROM SWITCH TO WEATHERPROOF SINGLE GANG BOX ON U.G. CONDUIT
	KITCHEN HOOD SUPPRESSION SYSTEM - BY OTHERS	4" SQUARE, 2-1/8" DEEP BOX; CONDUIT TO CEILING
	EXISTING 24VDC MAGNETIC LOCK WITH SPST POWERED RELAY	DOOR FRAME MOUNTED, OPPOSITE OF DOOR SWING
	JUNCTION OF FIRE ALARM CABLES	4" SQUARE, 2-1/8" DEEP BOX, BLANK COVER; CONDUIT TO CEILING

NOTE: NOT ALL SYMBOLS APPLY TO CURRENT PROJECT

SEQUENCE OF OPERATION MATRIX									
	ALARM AT FACU	TRouble AT FACU	SUPERVISORY AT FACU	WALL MOUNTED ANNUNCIATOR	MANUAL / RPS SHUTDOWN	SMALL SENT TO OFF-SITE MONITORING	ELEVATOR PHASE 1 RECALL	ELEVATOR EQUIPMENT SHUNT TRIP	
FIRE ALARM INPUTS									
1	MANUAL PULL STATION	X		X	X	X			
2	WATER FLOW	X		X	X	X			
3	SMOKE DETECTOR	X		X	X	X			
4	HEAT DETECTOR	X		X	X	X			
5	ELEVATOR LOBBY SMOKE(S)	X		X	X	X	X		
6	ELEVATOR EQUIPMENT ROOM SMOKE	X		X	X	X	X		
7	ELEVATOR EQUIPMENT ROOM HEAT	X		X	X	X	X	X	
8	ELEVATOR SHAFT HEAT	X		X	X	X	X	X	
9	ELEVATOR SHAFT SMOKE	X		X	X	X	X	X	
10	KITCHEN HOOD / ANSUL	X		X	X	X			
SUPERVISORY ALARM INPUTS									
1	DUCT DETECTOR			X		X	X		
2	TAMPER SWITCH			X		X			
3	CARBON MONOXIDE DETECTOR			X		X			
TROUBLE CONDITIONS									
1	OPEN CIRCUIT		X				X		
2	SHORT CIRCUIT		X				X		
3	GROUND FAULT		X				X		
4	BAD DEVICE, DIRTY DEVICE, NO ANSWER		X				X		
5	LOW BATTERY		X				X		
6	MAIN POWER FAIL		X				X		

NOTE: NOT ALL CONDITIONS APPLY TO CURRENT PROJECT.

FUNCTIONAL MATRIX

ALLIANCE FIRE PROTECTION
FIRE ALARM SYSTEM

DISCOVERY ANIMAL HOSPITAL

LEE'S SUMMIT, MO

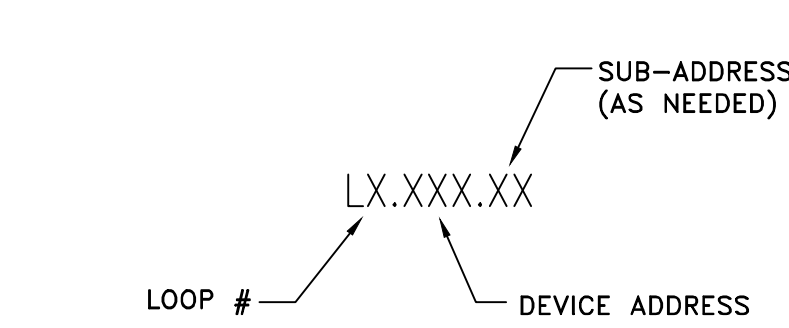
FIRE ALARM GENERAL NOTES

- WALL MOUNTED APPLIANCES SHALL BE MOUNTED SUCH THAT THE ENTIRE LENS IS NOT LESS 80" AND NOT GREATER THAN 96" ABOVE THE FINISHED FLOOR.
NFPA 72 18.5.5.1 (2016)
- MANUAL FIRE ALARM BOXES SHALL BE LOCATED WITHIN 5' OF EXIT DOORWAY.
NFPA 72 17.14.8.4 (2016)
–THE OPERABLE PART OF A MANUALLY ACTUATED ALARM INITIATING DEVICE SHALL BE NOT LESS THAN 42" AND NOT MORE THAN 48" FROM THE FINISHED FLOOR.
NFPA 72 17.14.5 (2016)
- IF THE INTENT IS TO INITIATE ACTION WHEN SMOKE/FIRE THREATENS A SPECIFIC OBJECT, THE DETECTOR SHALL BE PERMITTED TO BE INSTALLED IN CLOSE PROXIMITY TO THAT OBJECT.
NFPA 72 17.4.8 (2016)
A: IN HIGH–CEILING AREAS, DETECTION SHOULD BE PLACED ON THE WALL ABOVE AND WITHIN 60" OF THE PROTECTED ITEM.
NFPA 72 A17.4.8 (2016)
- ALL WIRING IN OPEN CEILING TO BE RUN PARALLEL AND PERPENDICULAR TO BUILDING STRUCTURE.
WIRING SHOULD BE CONCEALED FROM VIEW AS BEST POSSIBLE.
- WHERE DUCT SMOKE DETECTORS ARE NOT RESETTABLE FROM THE PROTECTED PREMISES FIRE ALARM SYSTEM, A LISTED ALARM/ SUPERVISORY INDICATOR WITH INTEGRAL RESET SWITCH SHALL BE PROVIDED IN AN ACCESSIBLE LOCATION.
NFPA 72 23.8.5.4.6.4 (2016)

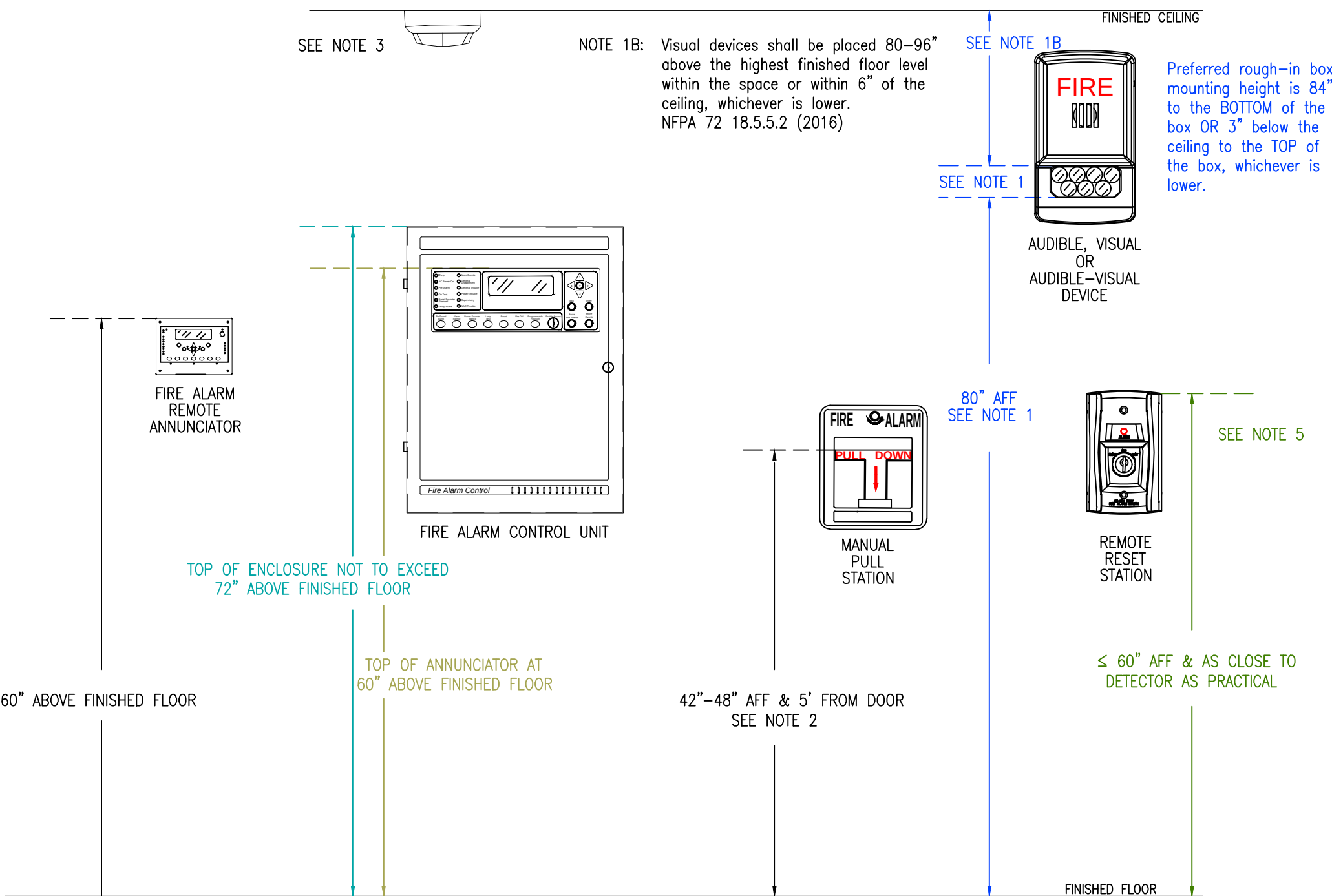
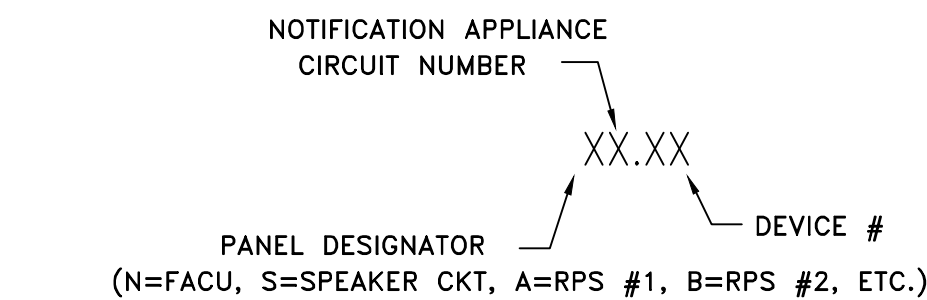
WIRING LEGEND

- 18/2 NON SHIELDED (PLENUM RATED) SLC
- 16/2 NON SHIELDED (PLENUM RATED) NAC
- 16/2 NON SHIELDED (PLENUM RATED) 24V
- 18/4 NON SHIELDED (PLENUM RATED) ANN

SIGNAL LINE CIRCUIT
DEVICE ADDRESS KEY



NOTIFICATION DEVICE ADDRESS KEY



RECOMMENDED MOUNTING DETAIL
NOT TO SCALE

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AHJ
LEE'S SUMMIT
Designer NICET Level III
TROY KOEHN
Scale
AS INDICATED
Job Number
41859788
Date
07/07/2025
Description
FIRE ALARM
System Type
VES / ELITE RS

Revisions

AHJ STAMP

Design Professional of Record
07/15/2025

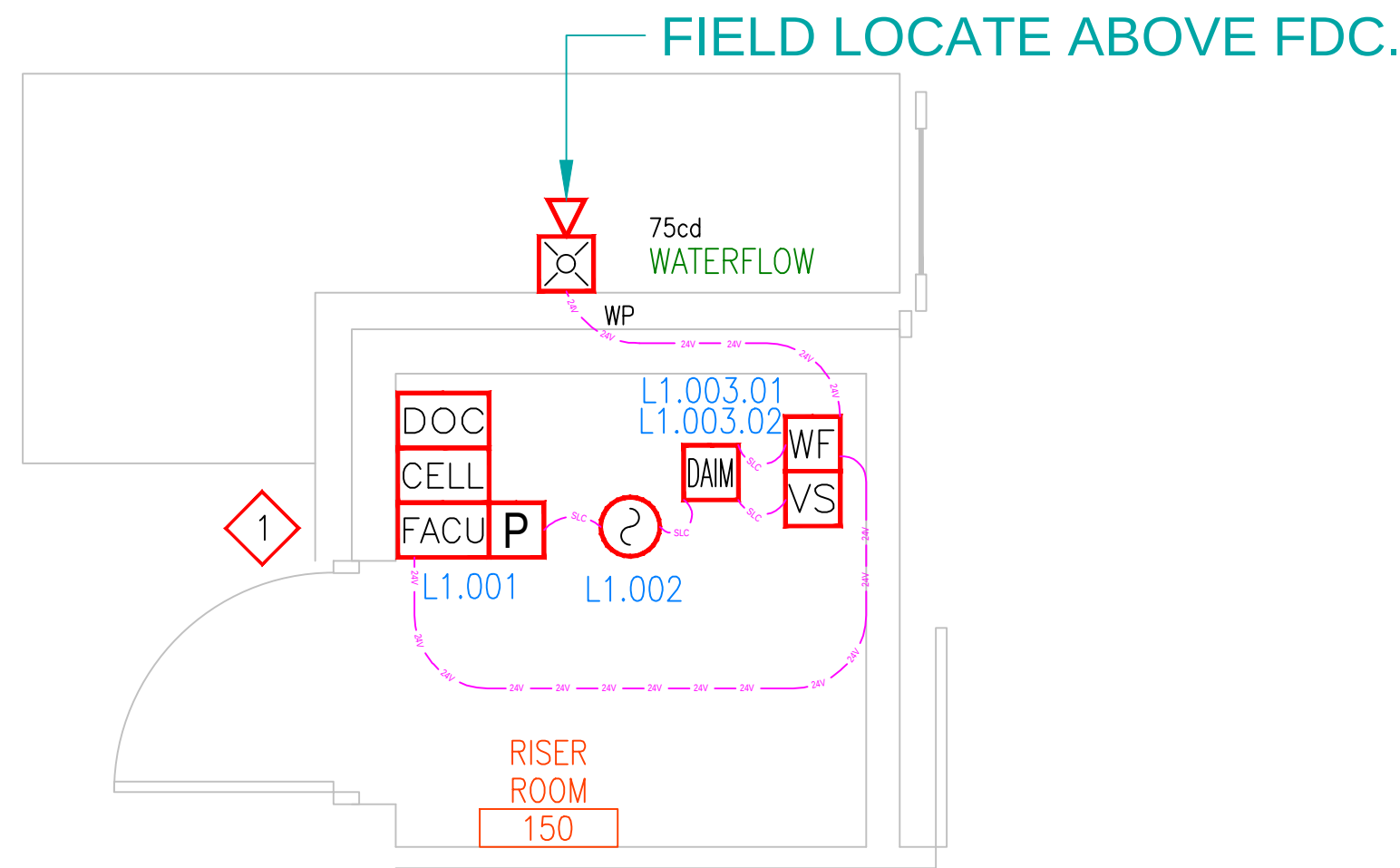
STATE OF MISSOURI
JAMES CRUSE
NUMBER
PE-008030093
PROFESSIONAL ENGINEER

Alliance
FIRE PROTECTION
130 W 9th Ave. Suite 101
North Kansas City, MO 64116
PH: 913-888-0647 FAX: 913-888-0618

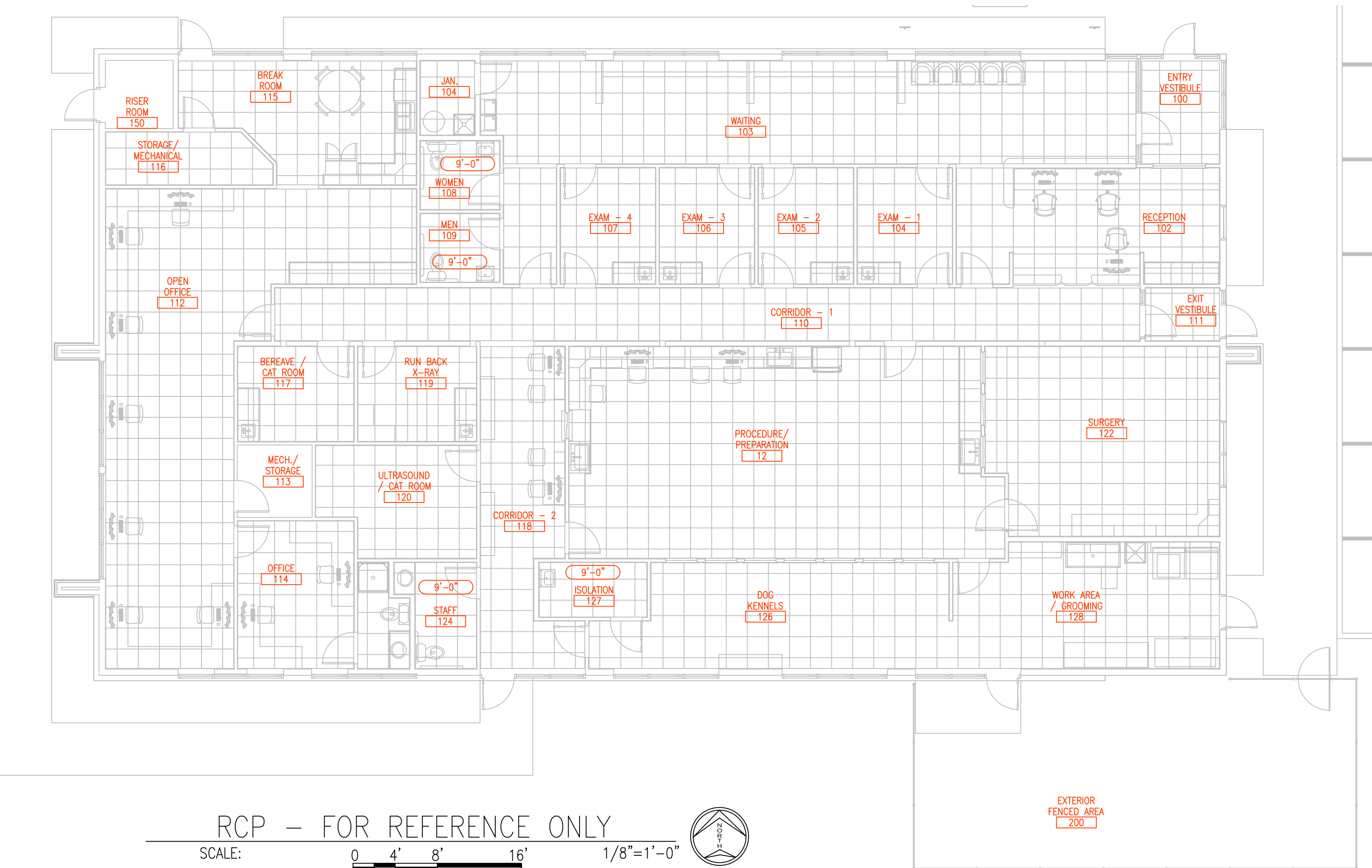
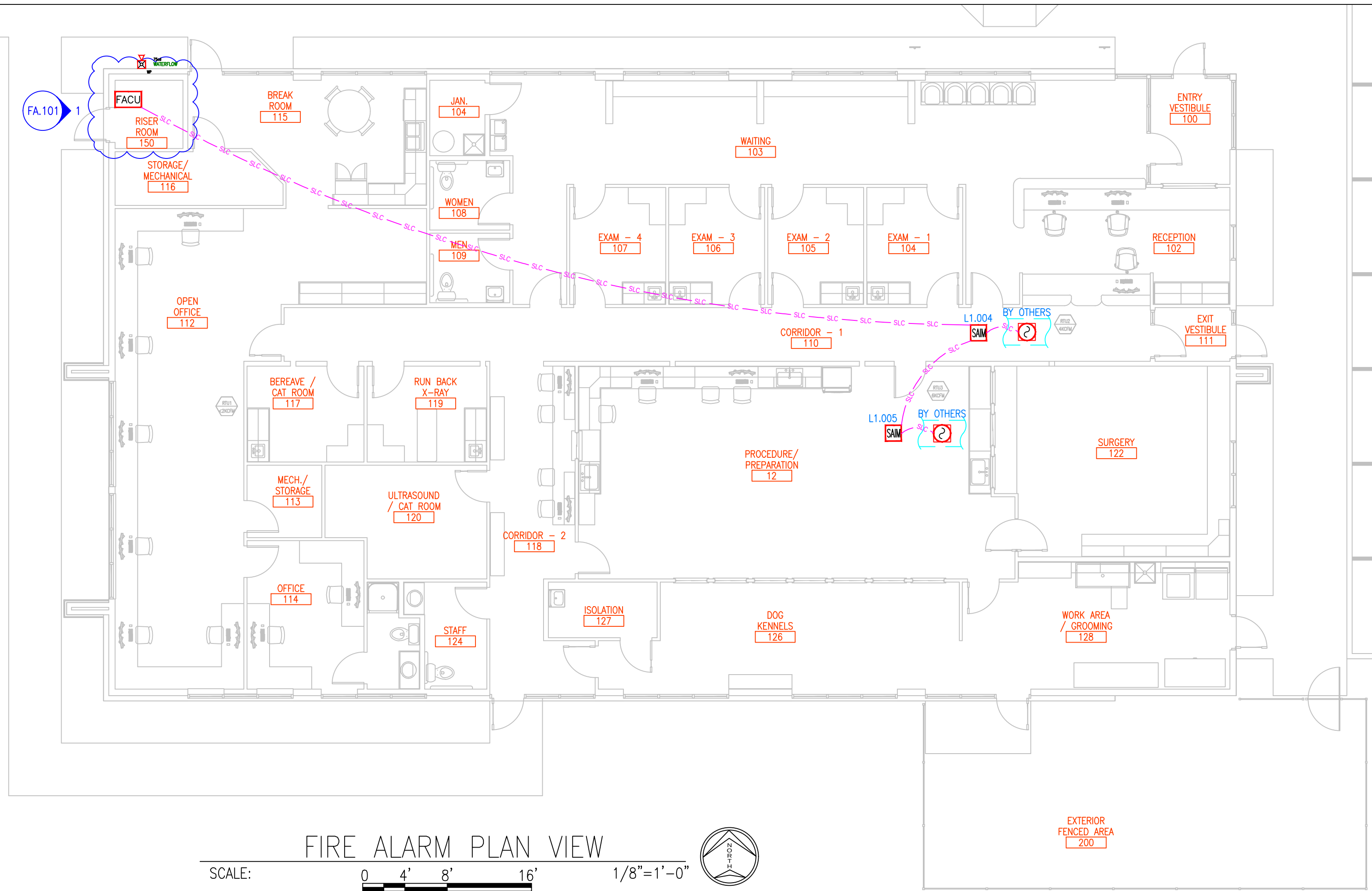
DISCOVERY ANIMAL HOSPITAL
FIRE ALARM
1901 NE TRAILS EDGE BOULEVARD
LEE'S SUMMIT, MO 64086
COVER PAGE

Sheet Number
FA.100

FA.101



RISER ROOM DETAIL
NOT TO SCALE



ALL CEILINGS ARE 9'-11" AFF UNLESS NOTED OTHERWISE

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DISCOVERY ANIMAL HOSPITAL
FIRE ALARM
1901 NE TRAILS EDGE BOULEVARD
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FLOOR PLAN / RCP / DETAILS

Sheet Number

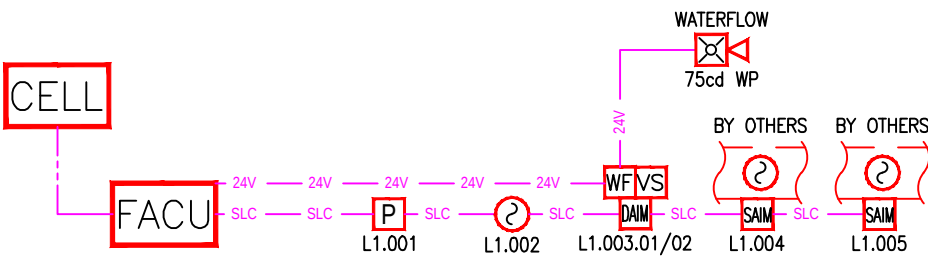
FA.101

FACU MODEL: Elite-RS						DATE: 11-Jul-2025								
ITEM	DESCRIPTION	STANDBY CURRENT PER UNIT (AMPS)		QTY		TOTAL STANDBY CURRENT PER ITEM	ALARM CURRENT PER UNIT (AMPS)		QTY		TOTAL ALARM CURRENT PER ITEM			
FACU	FACU - 1 SLC Loop	0.2000	X	1	=	0.2000	0.2200	X	1	=	0.2200			
SLC	SECOND SLC OPTION	0.0700	X	0	=	0.0000	0.0700	X	0	=	0.0000			
MPS	MANUAL PULL STATION	0.0005	X	1	=	0.0005	0.0007	X	1	=	0.0007			
SMOKE	PHOTO SMOKE	0.0005	X	1	=	0.0005	0.0005	X	1	=	0.0005			
MCS	MULTI CRITERIA SENSOR	0.0005	X	0	=	0.0000	0.0300	X	0	=	0.0000			
DIM	DUAL INPUT MODULE	0.0005	X	1	=	0.0005	0.0300	X	1	=	0.0300			
DRM	DUAL RELAY MODULE	0.0004	X	0	=	0.0000	0.0004	X	0	=	0.0000			
SRM	SUPERVISED RELAY MOD	0.0002	X	0	=	0.0000	0.0050	X	0	=	0.0000			
DD	DUCT DETECTOR	0.0100	X	0	=	0.0000	0.0550	X	0	=	0.0000			
ANN	REMOTE ANNUNCIATOR	0.0300	X	0	=	0.0000	0.1100	X	0	=	0.0000			
CELL	CELL UNIT-RS	0.0420	X	1	=	0.0420	0.1100	X	1	=	0.1100			
SIM	SINGLE INPUT MODULE	0.0005	X	2	=	0.0011	0.0300	X	2	=	0.0600			
NAC1	CKT N1 OR AUX	0.0000	X	0	=	0.0000	0.0000	X	0	=	0.0000			
NAC2	CKT N2 OR AUX	0.0000	X	0	=	0.0000	0.0000	X	0	=	0.0000			
AUX	EXTERIOR HORN/STROBE	0.0000	X	1	=	0.0000	0.1050	X	1	=	0.1050			
		0.0000	X	0	=	0.0000	0.0000	X	0	=	0.0000			
TOTAL SYSTEM STANDBY CURRENT (AMPS)						0.2447	TOTAL SYSTEM ALARM CURRENT (AMPS)						0.5262	MAX AMP 5.250 PASS
SITE: DISCOVERY ANIMAL HOSPITAL, 1901 NE TRAILS EDGE BLVD., LEE'S SUMMIT, WE MO 64086		REQUIRED STANDBY TIME (HRS)		TOTAL SYSTEM STANDBY CURRENT (AMPS)		REQUIRED STANDBY CAPACITY (AMP-HOURS)		REQUIRED ALARM TIME (HOURS)		TOTAL SYSTEM ALARM CURRENT (AMPS)		REQUIRED ALARM CAPACITY (AMP-HOURS)		
		24	X	0.2447		5.8728		5 MIN=0.084 15 MIN=0.25 0.084	X	0.5262		0.0442		
Prepared by: Troy Koehn, NICET# 111458, Level III Fire Alarm Systems. Alliance Fire Protection, LLC, 130 West 9th Ave, Suite 101, North Kansas City, MO 64116		REQUIRED STANDBY CAPACITY (AMP-HOURS)		REQUIRE D ALARM CAPACITY (AMP-HOURS)		TOTAL CAPACITY (AMP-HOURS)		TOTAL CAPACITY (AMP-HOURS)		SAFETY FACTOR		ADJUSTED BATTERY CAPACITY (AMP-HOURS)	BATTERY AMP-HOURS SUPPLIED.	
		5.8728	+	0.0442	=	5.9170		5.9170	X	120%	=	7.10	12	

BATTERY QTY: 2

SYSTEM RISER DIAGRAM

NOT TO SCALE.
RISER DIAGRAM IS CONCEPTUAL ONLY.
EXACT WIRING ORDER TO BE FIELD
VERIFIED, AND REFLECTED ON AS-BUILT.



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