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AHJ CITY OF LEE'S SUMMIT Designer NICET Level III TROY KOEHN Scale N/A Job Number 36688055 Date 09/12/2024 Description FIRE ALARM System type NOTIFIER / NFW-50XGV

Revisions

AHJ STAMP

Design Professional of Record

09/13/2024

STATE OF MISSOURI
MATTHEW
JAMES
CRUSE
NUMBER
PE-0008030093
PROFESSIONAL ENGINEER

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

STREETS OF WEST PRYOR
FIRE ALARM – TI NICK THE GREEK
1020 NORTHWEST PRYOR ROAD
LEE'S SUMMIT, MO 64081
COVER PAGE

Sheet Number

FA.0.01

ALLIANCE FIRE PROTECTION FIRE ALARM SYSTEM

STREETS OF WEST PRYOR
NICK THE GREEK - TI

LEE'S SUMMIT, MO

FIRE ALARM PLAN NOTES

1 120VAC (BY OTHERS)

DRAWING INDEX

FA.0.01	COVER SHEET
FA.1.01	FIRE ALARM FLOOR PLAN
FA.5.01	RCP – FOR REFERENCE ONLY
FA.6.01	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: II-B. OCCUPANCY: A-2. OCCUPANT LOAD: 290 INTERIOR.

SCOPE OF WORK:

APP TO INSTALL NOTIFICATION FOR TENANT IMPROVEMENT.
APP TO MONITOR KITCHEN HOOD SYSTEM. REMAINDER OF
SYSTEM IS EXISTING TO REMAIN. RTU'S ARE PART OF SHELL & ETR.
SYSTEM MONITORED BY A REMOTE SUPERVISING STATION
PER NFPA 72 26.5 (2016) BY OTHERS.

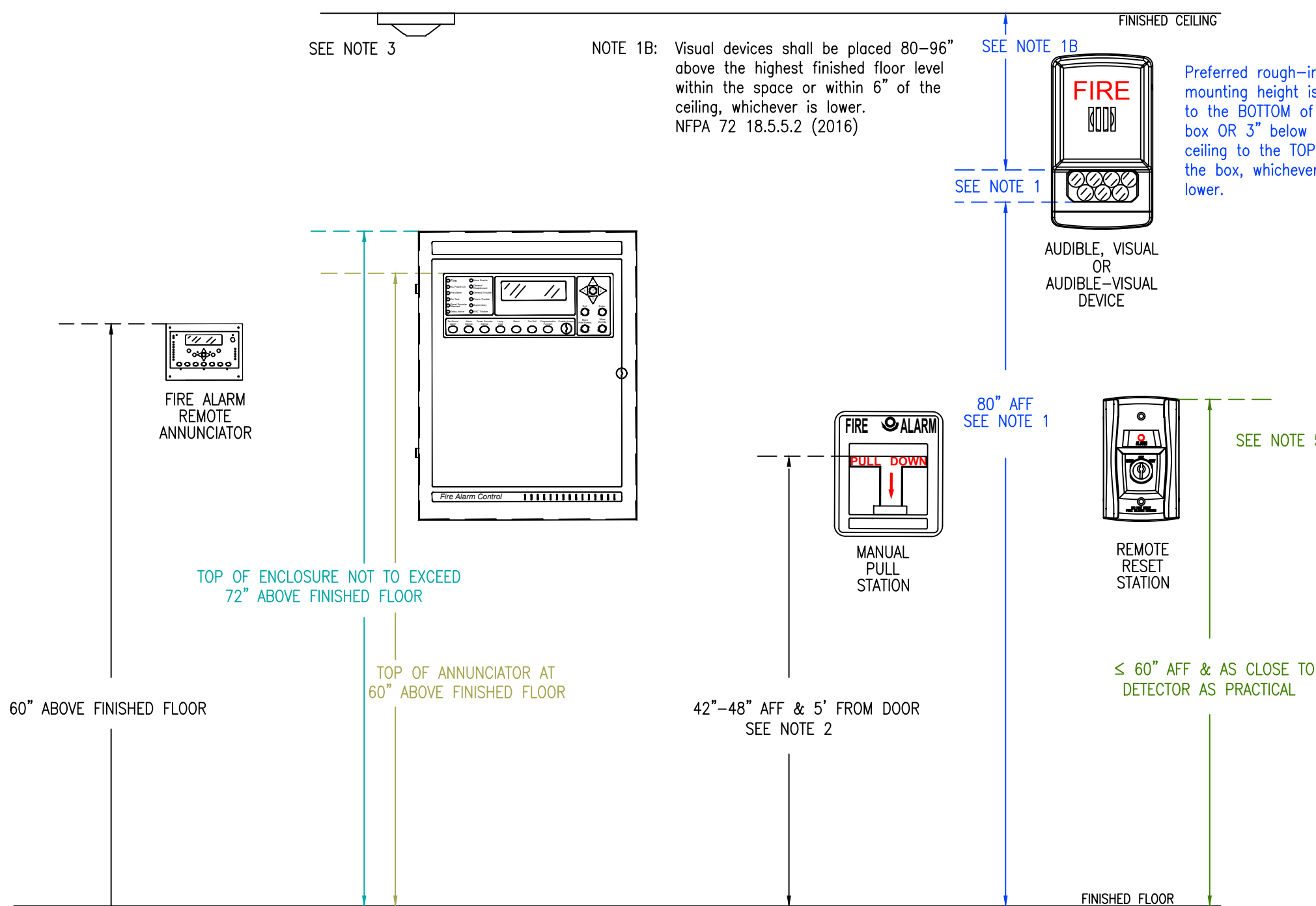
ABBREVIATIONS:

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 PANEL	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
	10 AMP 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 DEVICE 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
	PRE INDICATOR VALVE BY OTHERS	WEATHERPROOF SINGLE GANG BOX ON U.S. 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 FACP	TRouble AT FACP	SUPERVISORY AT FACP	INTRIE GENERAL BUILDING AUDIO/VISUAL DEVICES	HMVC / RFD SHUTDOWN	SIGNAL SENT TO SOUNDING	ELEVATOR RECALL	ELEVATOR EQUIPMENT SHUNT TRIP
FIRE ALARM INPUTS									
1	MANUAL PULL STATION	X		X		X	X		
2	WATER FLOW	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		
6	ELEVATOR EQUIPMENT ROOM SMOKE	X	X	X		X	X		
7	ELEVATOR EQUIPMENT ROOM HEAT	X	X	X				X	
8	ELEVATOR SHUNT HEAT	X	X	X				X	
9	ELEVATOR SHUNT SMOKE	X	X	X			X	X	
10	KITCHEN HOOD / ANSUL	X	X		X	X			
SUPERVISORY ALARM INPUTS									
1	DUCT DETECTOR			X	X	X	X		
2	TAMPER SWITCH			X	X				
3	CARBON MONOXIDE DETECTOR			X	X		X		
TROUBLE CONDITIONS									
1	OPEN CIRCUIT		X				X		
2	SHORT CIRCUIT		X						
3	GROUND FAULT		X	X			X		
4	BAD DEVICE, DIRTY DEVICE, NO ANSHER		X						
5	LOW BATTERY		X	X					
6	MAIN POWER FAIL		X				X		

FUNCTIONAL MATRIX



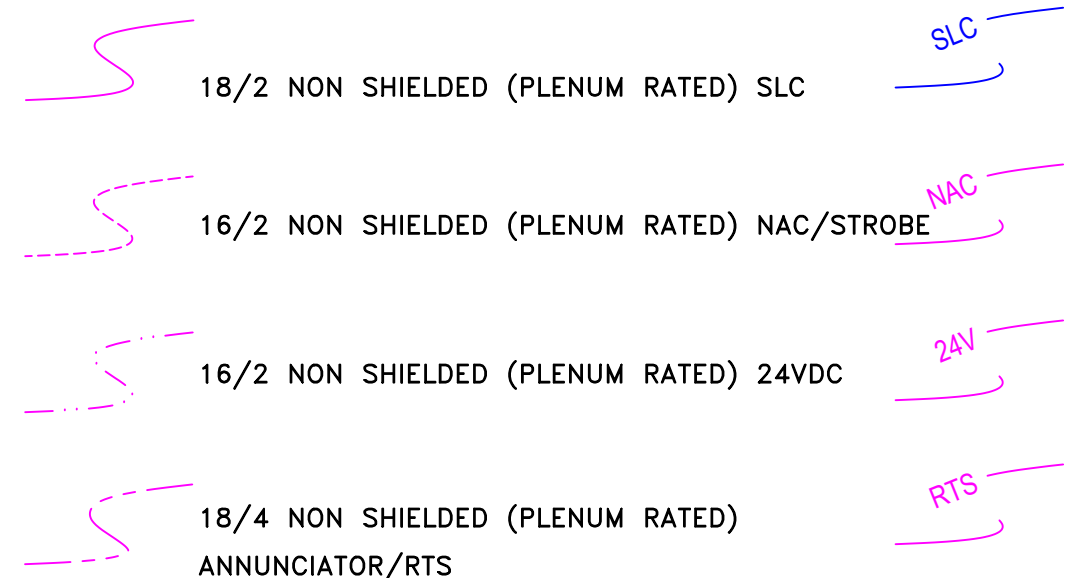
RECOMMENDED MOUNTING DETAIL

NOT TO SCALE

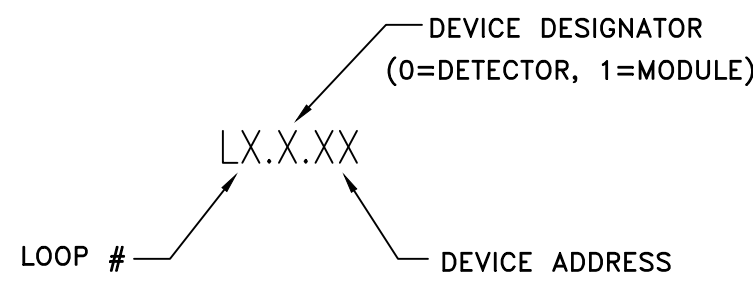
FIRE ALARM GENERAL NOTES

1. - 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)
2. - 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)
3. - 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)
4. - ALL WIRING IN OPEN CEILING TO BE RUN PARALLEL AND PERPENDICULAR TO BUILDING STRUCTURE.
WIRING SHOULD BE CONCEALED FROM VIEW AS BEST POSSIBLE.
5. - 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)

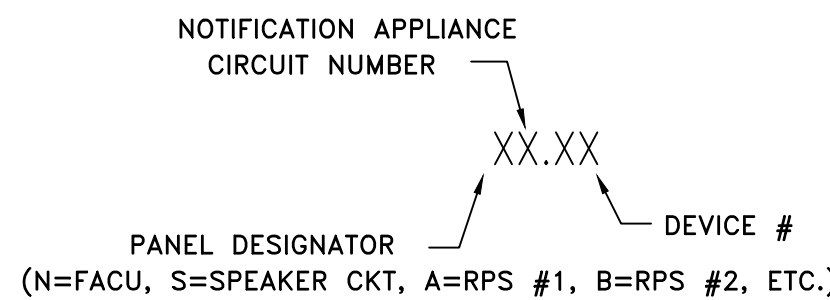
WIRING LEGEND



SIGNAL LINE CIRCUIT
DEVICE ADDRESS KEY



NOTIFICATION DEVICE ADDRESS KEY



CITY OF LEE'S SUMMIT	
Designer NICET Level III	
TROY KOEHN	
Scale	
1/8" = 1'-0"	
Job Number	
36688055	
Date	
09/12/2024	
Description	
FIRE ALARM	
System type	
NOTIFIER / NFW-50XGV	

Revisions

AHJ STAMP

Design Professional of Record
09/13/2024



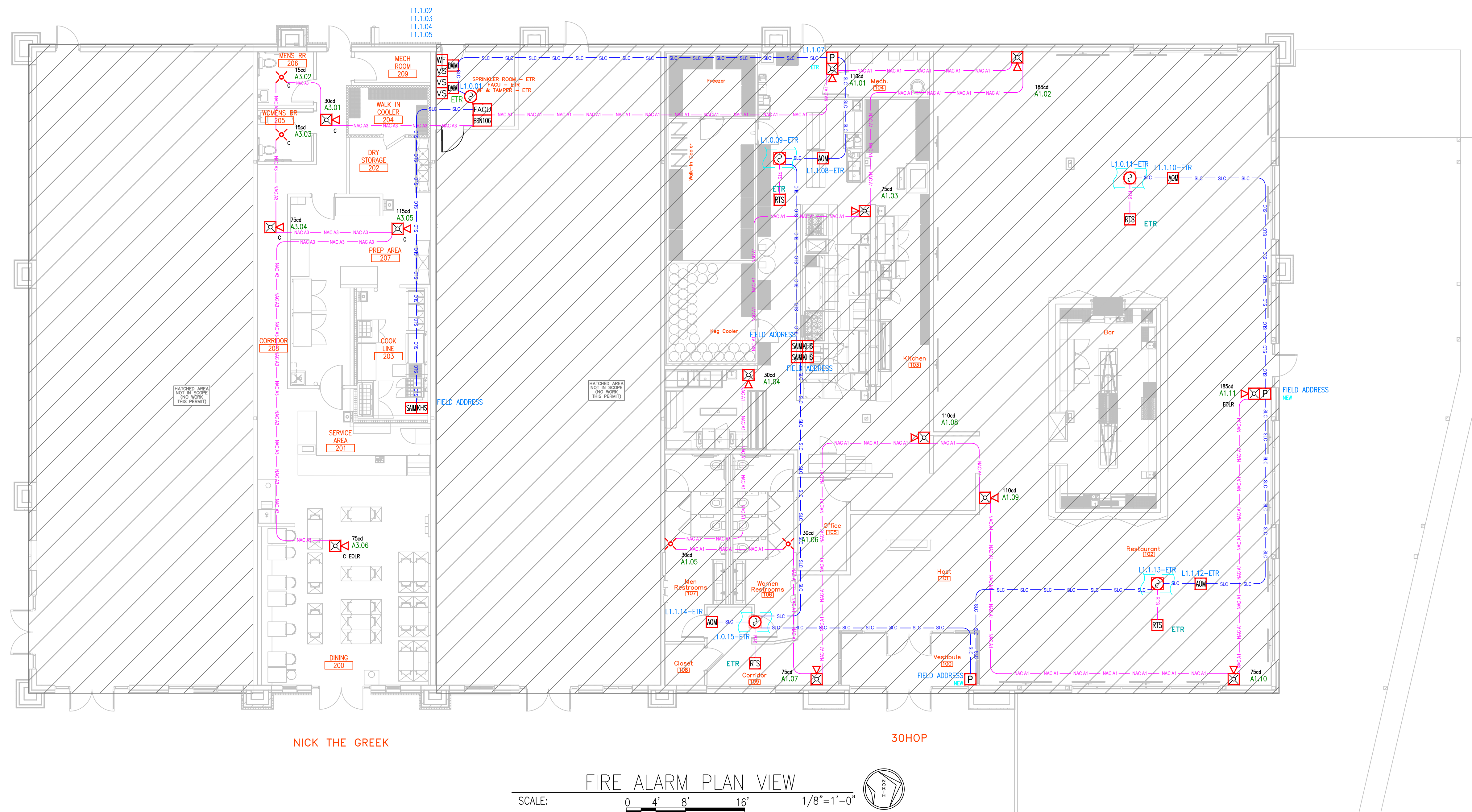
The seal is circular with a double-lined border. The outer ring contains the text "STATE OF MISSOURI" at the top and "PROFESSIONAL ENGINEER" at the bottom, separated by two stars. The inner circle contains the name "MATTHEW JAMES GRISE" in the upper half and "NUMBER PE-0008030039" in the lower half. A blue ink signature is written across the seal.

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FLOOR PLAN

Sheet Number

FA.1.01



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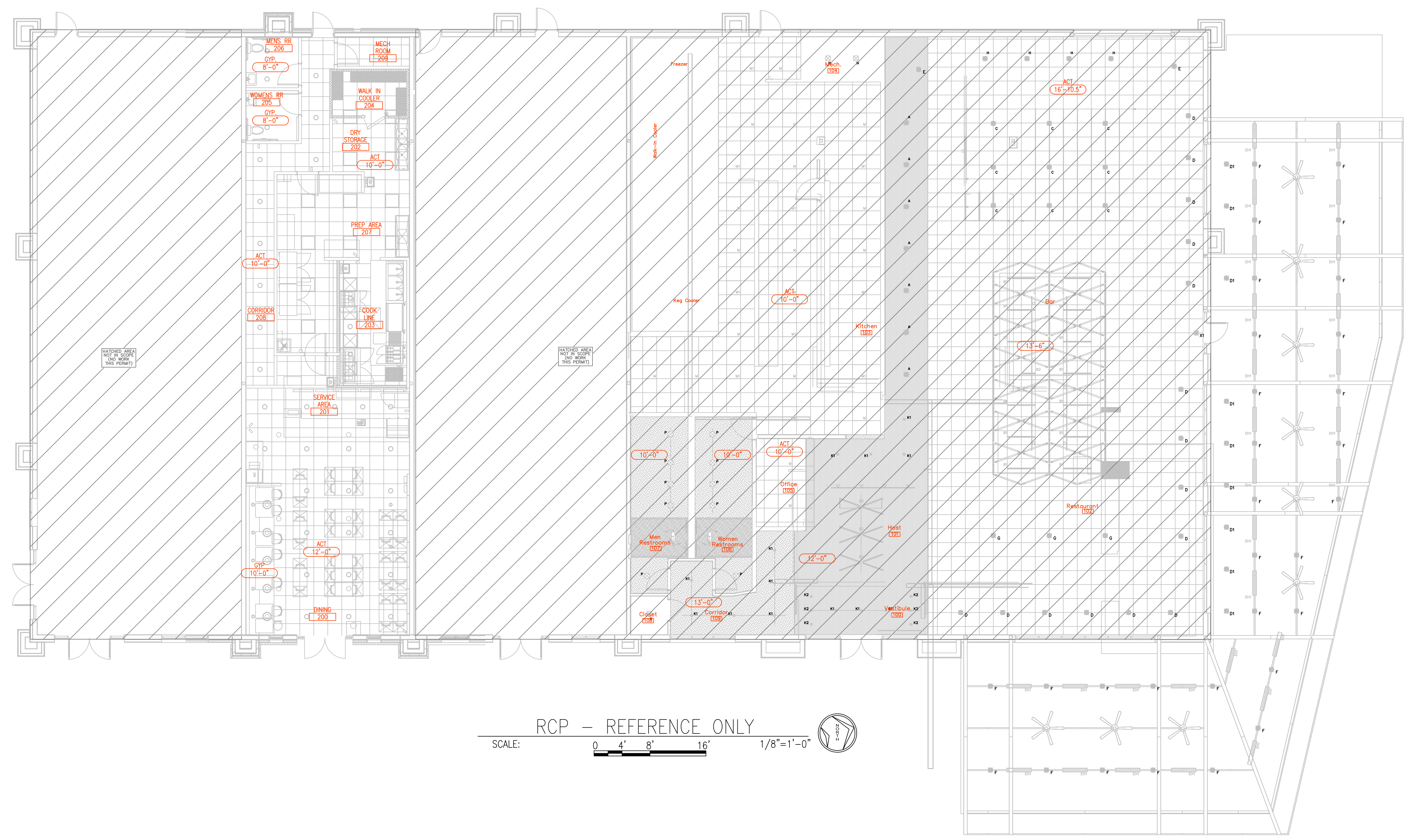
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RCP - REFERENCE ONLY

FA.5.01



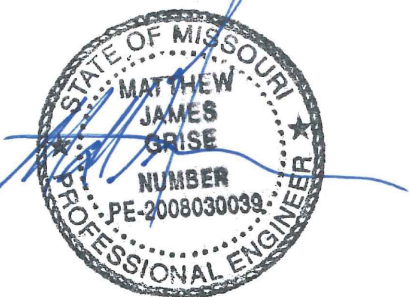
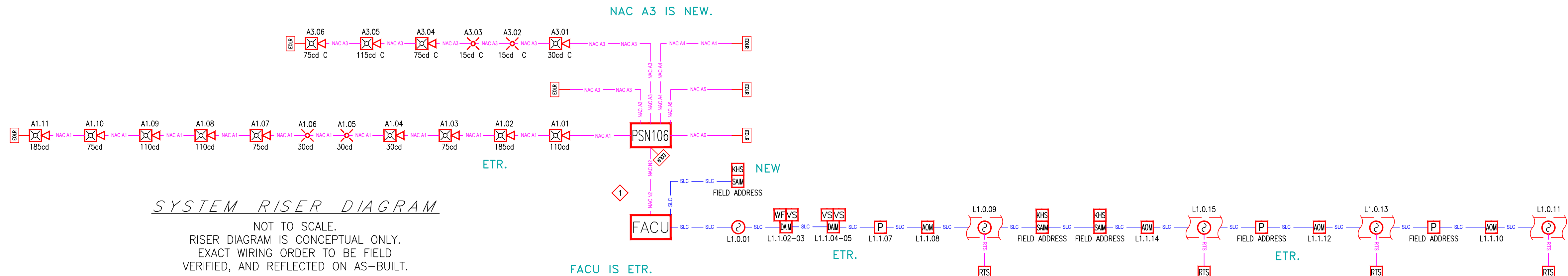
RCP – REFERENCE ONLY

SCALE: 0 4' 8' 16' 1/8"=1'-0"



FIRE ALARM BATTERY BACK-UP CALCULATION WORK SHEET FOR REMOTE POWER SUPPLY

RPS MODEL NUMBER: PSN-106				RPS# : A		DATE: 12-Sep-2024						
ITEM	DESCRIPTION	STANDBY CURRENT PER UNIT (AMPS)	QTY		TOTAL STANDBY CURRENT PER ITEM	ALARM CURRENT PER UNIT (AMPS)	QTY		TOTAL ALARM CURRENT PER ITEM	MAX AMP 10.000 PASS		
RPS	MAIN BOARD	0.0750	X	1	=	0.0750	0.0750	X	1		=	0.0750
CKT #1	CIRCUIT #A1	0.0000	X	1	=	0.0000	1.0050	X	1		=	1.0050
CKT #2	CIRCUIT #A2	0.0000	X	1	=	0.0000	0.0000	X	1		=	0.0000
CKT #3	CIRCUIT #A3	0.0000	X	1	=	0.0000	0.3580	X	1		=	0.3580
CKT #4	CIRCUIT #A4	0.0000	X	1	=	0.0000	0.0000	X	1		=	0.0000
CKT #5	CIRCUIT #A5	0.0000	X	1	=	0.0000	0.0000	X	1		=	0.0000
CKT #6	CIRCUIT #A6	0.0000	X	1	=	0.0000	0.0000	X	1		=	0.0000
CKT #7	CIRCUIT #A7	0.0000	X	1	=	0.0000	0.0000	X	1		=	0.0000
AUX	AUX POWER	0.0000	X	1	=	0.0000	0.0000	X	1		=	0.0000
TOTAL SYSTEM STANDBY CURRENT (AMPS)						0.0750	TOTAL SYSTEM ALARM CURRENT (AMPS)				1.4480	
SITE: STREETS OF WEST PRYOR, 1020 NW PRYOR ROAD, LEE'S SUMMIT, MO 64081		REQUIRED STANDBY TIME (HRS)	TOTAL SYSTEM STANDBY CURRENT (AMPS)	REQUIRED STANDBY CAPACITY (AMP HOURS)	REQUIRED ALARM TIME (HRS) 5 MIN=0.084 15 MIN=0.25	TOTAL SYSTEM ALARM CURRENT (AMPS)	REQUIRED ALARM CAPACITY (AMP-HOURS)					
		24	X	0.0750	=	1.8000	0.084	X	1.4480	=	0.1216	
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)	REQUIRED ALARM CAPACITY (AMP HOURS)	TOTAL CAPACITY (AMP HOURS)	TOTAL CAPACITY (AMP HOURS)	SAFETY FACTOR	ADJUSTED BATTERY CAPACITY (AMP-HOURS)	BATTERY AMP-HOURS SUPPLIED				
		1.80	X	0.1216	=	1.9216	1.9216	X	120% =	2.31		
BATTERY QTY: 2												

[illegible]

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CALCULATIONS & RISER DIAGRAM