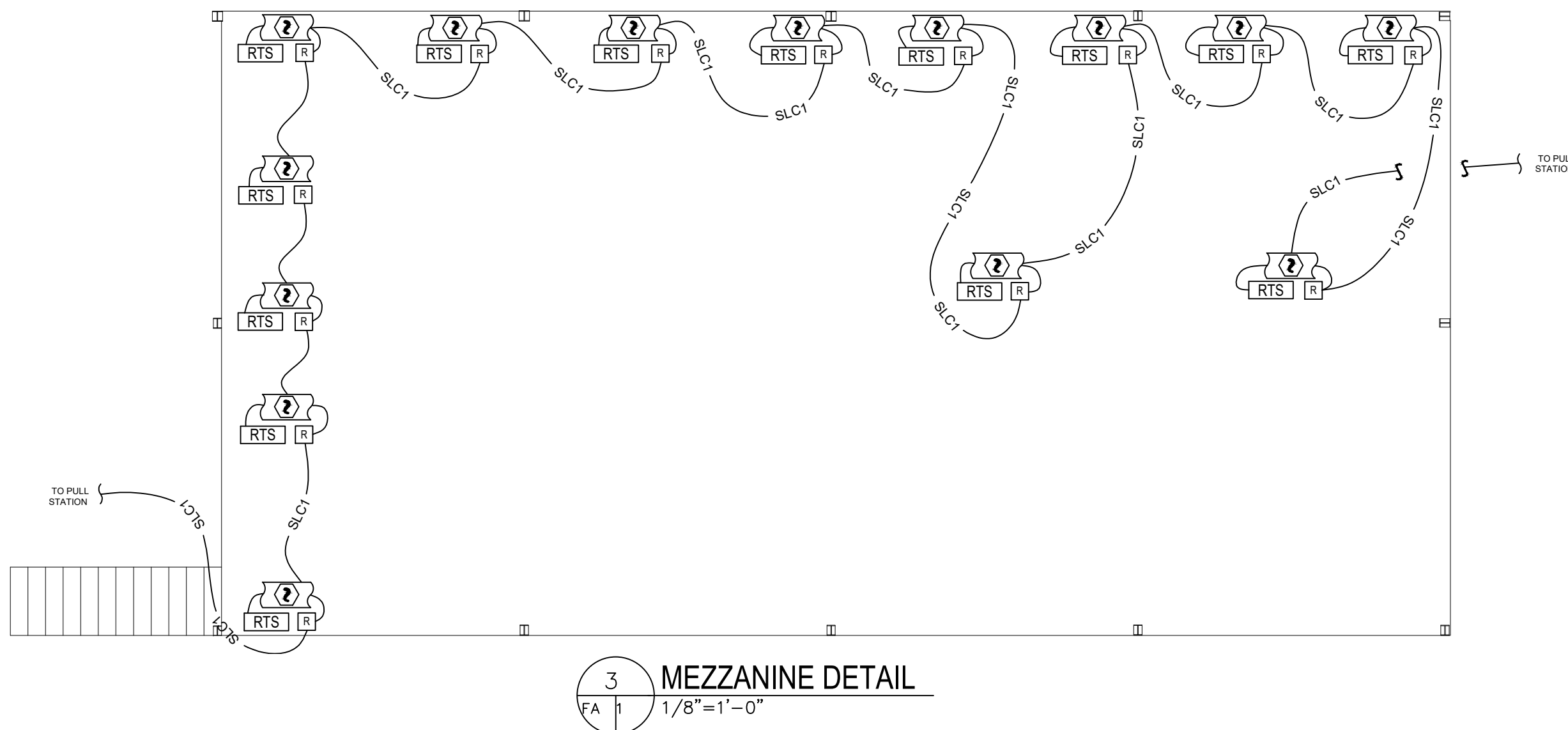


GENERAL NOTES:

- SEE DEVICE LEGEND FOR MODEL NUMBERS AND SPECIFICATIONS.
- ALL MATERIALS AND EQUIPMENT SHALL BE UL LISTED FOR THE INTENDED USE AND SHALL BE INSTALLED IN FULL COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- MATERIALS AND INSTALLATION SHALL COMPLY WITH NFPA 72 (2013), STATE BUILDING CODE, LOCAL AUTHORITY HAVING JURISDICTION, AND INSURANCE UNDERWRITER'S REQUIREMENTS FOR FIRE ALARM SYSTEMS.
- ALL FIRE ALARM SYSTEM CONDUCTORS SHALL BE RUN IN PLENUM RATED CABLE UNLESS NOTED OTHERWISE. PROVIDE ALL HANGERS, SUPPORTS, ETC. AS REQUIRED. JUNCTION BOX COVERS FOR ALL FIRE ALARM JUNCTION BOXES SHALL BE LABELED AND PAINTED RED. CIRCUITS CAN BE COMBINED IN CONDUIT AS NECESSARY.
- PROVIDE VISIBLE NOTIFICATION SYNCHRONIZATION AS REQUIRED BY NFPA AND ADA.
- A DECIBEL LEVEL OF 15 DBA ABOVE AVERAGE AMBIENT (ON NFPA 72, TABLE A.7.4.2) SHALL BE MAINTAINED IN ALL OCCUPIABLE AREAS MEASURED 5'0" ABOVE THE FLOOR USING THE A-WEIGHTED SCALE. A MINIMUM OF 90 DBA SHALL BE MAINTAINED IN ALL MECHANICAL EQUIPMENT ROOMS PER THE 2018 NORTH CAROLINA FIRE CODE, SECTION 907.5.2.11. THE TOTAL SOUND PRESSURE LEVEL PRODUCED BY COMBINING THE AMBIENT AND NOTIFICATION LEVELS SHALL NOT EXCEED 120 DBA ANYWHERE IN THE OCCUPIABLE AREA. DEVICES HAVE BEEN SHOWN TO PROVIDE GENERAL INFRASTRUCTURE TO ACHIEVE SUCH LEVELS.
- FUNCTIONAL TESTING METHOD FOR PROPER OPERATION OF SMOKE DETECTORS AND DUCT DETECTORS SHALL BE DETERMINED BY THE AHJ.
- PULL STATIONS ARE ONLY PROVIDED AT REQUIRED EXITS.
- LOCATIONS OF DEVICES SHOWN ON THESE DRAWINGS ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD.
- CONTRACTOR SHALL PROVIDE ALL TESTING AND DOCUMENTATION AS REQUIRED BY THE LOCAL FIRE MARSHAL AND STATE AND LOCAL CODES, INCLUDING BUT NOT LIMITED TO:
 - ACCEPTANCE TESTING AS REQUIRED PER SECTION 907.7, 2018 NC FIRE CODE.
 - REQUIRED INSPECTIONS, TESTING, AND MAINTENANCE AS REQUIRED BY 2018 NC FIRE CODE.
 - INSTRUCTIONS PER 907.7.3 AND RECORD OF COMPLETION PER SECTION 907.7.2, 2018 NC FIRE CODE.
- SYSTEM SHALL BE CONNECTED TO A U.L. APPROVED CENTRAL MONITORING STATION AS REQUIRED.
- THE FIRE ALARM CONTRACTOR SHALL NOT BE RESPONSIBLE FOR ANY PRE-EXISTING CODE VIOLATIONS PERTAINING TO THE EXISTING FIRE ALARM SYSTEM.



FIRE ALARM SEQUENCE OF OPERATION:

UPON CHANGE IN STATUS OF ANY DEVICE ON THE SYSTEM, THE FIRE ALARM CONTROL PANEL SHALL ACTIVATE AUDIBLE AND VISIBLE CHANGE INDICATORS AND DISPLAY THE SYSTEM POINT NUMBER, POINT DESCRIPTION, AND MESSAGE ASSOCIATED WITH THE POINT.

ACTIVATION OF ANY MANUAL PULL STATION, KITCHEN HOOD EXTINGUISHING SYSTEM, WATERFLOW DEVICE, SMOKE DETECTOR, HEAT DETECTOR, SUPERVISORY DEVICE, OR OTHER INITIATING DEVICE WILL CAUSE THE FOLLOWING FUNCTIONS TO OCCUR:

MANUAL STATION OPERATION SHALL:

- ACTIVATE AUDIBLE AND VISUAL STATUS CHANGE INDICATORS AND DISPLAY POINT NUMBER, POINT DESCRIPTION, AND MESSAGE ASSOCIATED WITH THE POINT ON THE PANEL.
- TRANSMIT AN ALARM SIGNAL TO A U.L. LISTED CENTRAL STATION.
- ACTIVATE THE AUDIBLE AND VISUAL NOTIFICATION APPLIANCES IN THE BUILDING.
- RELEASE THE DOOR LOCKING SYSTEMS OF ACCESS-CONTROLLED EGRESS DOORS.
- SHUT DOWN AIR HANDLERS.

WATERFLOW SWITCH OPERATION SHALL:

- ACTIVATE AUDIBLE AND VISUAL STATUS CHANGE INDICATORS AND DISPLAY POINT NUMBER, POINT DESCRIPTION, AND MESSAGE ASSOCIATED WITH THE POINT ON THE PANEL.
- TRANSMIT AN ALARM SIGNAL TO A U.L. LISTED CENTRAL STATION.
- ACTIVATE THE AUDIBLE AND VISUAL NOTIFICATION APPLIANCES IN THE BUILDING.
- RELEASE THE DOOR LOCKING SYSTEMS OF ACCESS-CONTROLLED EGRESS DOORS.
- SHUT DOWN AIR HANDLERS.

SMOKE OR HEAT DETECTOR OPERATION SHALL:

- ACTIVATE AUDIBLE AND VISUAL STATUS CHANGE INDICATORS AND DISPLAY POINT NUMBER, POINT DESCRIPTION, AND MESSAGE ASSOCIATED WITH THE POINT ON THE PANEL.
- TRANSMIT AN ALARM SIGNAL TO A U.L. LISTED CENTRAL STATION.
- ACTIVATE THE AUDIBLE AND VISUAL NOTIFICATION APPLIANCES IN THE BUILDING.
- RELEASE THE DOOR LOCKING SYSTEMS OF ACCESS-CONTROLLED EGRESS DOORS.
- SHUT DOWN AIR HANDLERS.

DUCT SMOKE DETECTOR OPERATION SHALL:

- ACTIVATE AUDIBLE AND VISUAL STATUS CHANGE INDICATORS AND DISPLAY POINT NUMBER, POINT DESCRIPTION, AND MESSAGE ASSOCIATED WITH THE POINT ON THE PANEL.
- TRANSMIT A SUPERVISORY SIGNAL TO A U.L. LISTED CENTRAL STATION.
- SHUT DOWN AIR HANDLERS.

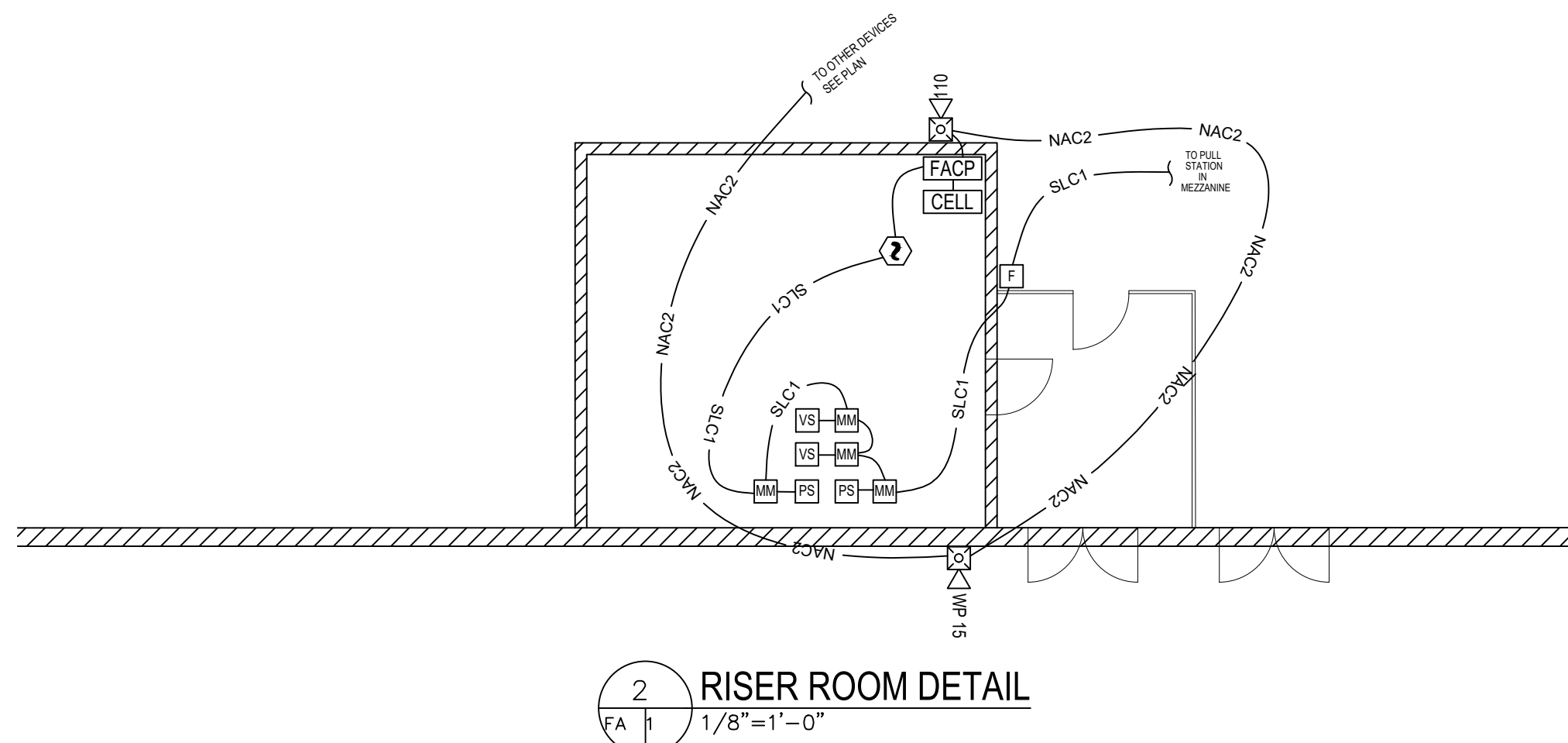
SUPERVISORY DEVICE ACTIVATION, INCLUDING VALVE SUPERVISORY DEVICES SHALL:

- ACTIVATE AUDIBLE AND VISUAL STATUS CHANGE INDICATORS AND DISPLAY POINT NUMBER, POINT DESCRIPTION, AND MESSAGE ASSOCIATED WITH THE POINT ON THE PANEL.
- TRANSMIT A SUPERVISORY SIGNAL TO A U.L. LISTED CENTRAL STATION. THIS SIGNAL SHALL BE DISTINCTLY DIFFERENT THAN A TROUBLE SIGNAL.

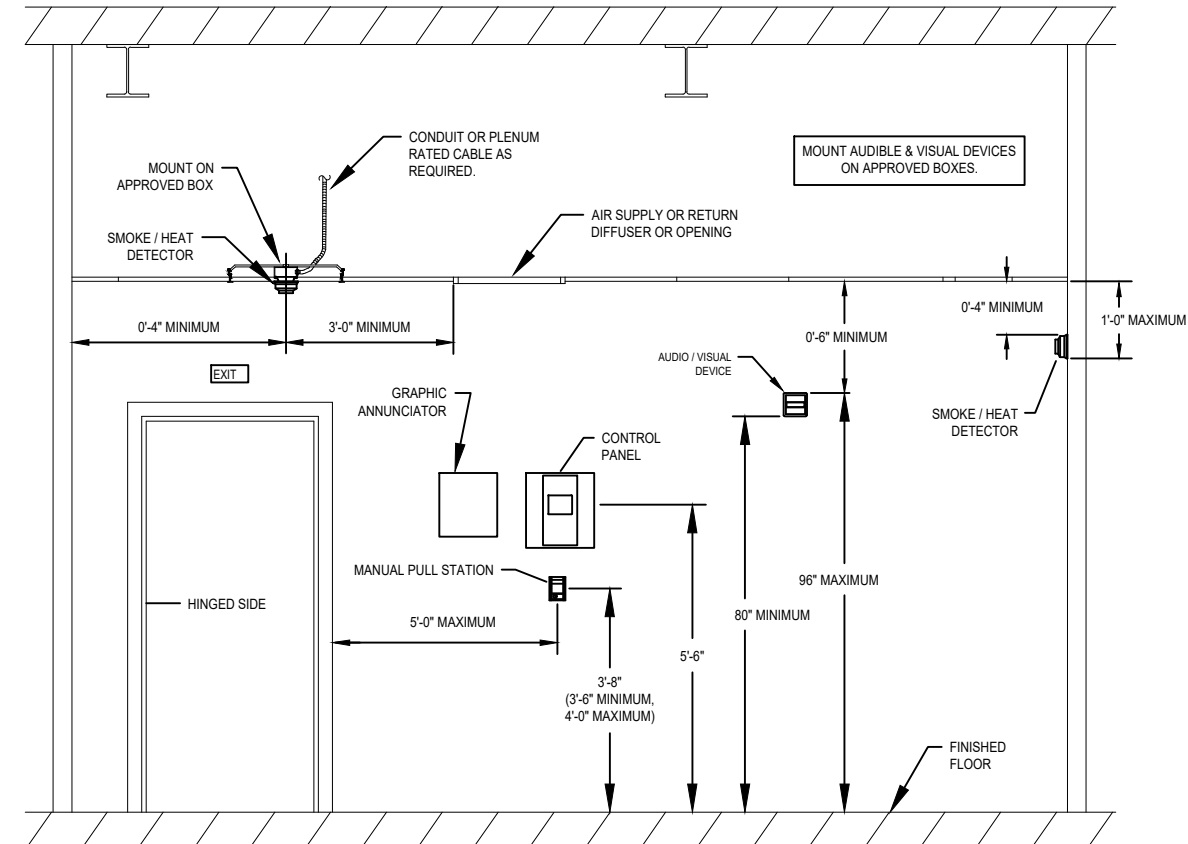
REMOVAL OF ANY DEVICE, WIRING DISARRANGEMENT, OR SYSTEM COMPONENT FAILURE SHALL DISPLAY ON THE OPERATOR TERMINAL, THE CHANGE OF STATUS, TIME, DATE, POINT DESCRIPTION ON A POINT BY POINT BASIS, AND THE MESSAGE ASSOCIATED WITH THE POINT AND TRANSMIT A TROUBLE SIGNAL TO A U.L. LISTED CENTRAL STATION.

INDICATION EVACUATION TONE SHALL BE THREE BEAT TEMPORAL PATTERN, UNLESS HIGH RISE OR LARGE ASSEMBLY.

FIRE ALARM SYSTEM INPUT/OUTPUT MATRIX	SYSTEM OUTPUTS																										
	FACP ANNUNCIATION													NOTIFICATION													
SYSTEM INPUTS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y		
1 FIRE ALARM SYSTEM AC POWER FAILURE																											
2 FIRE ALARM SYSTEM LOW BATTERY																											
3 OPEN CIRCUIT																											
4 GROUND FAULT																											
5 NOTIFICATION APPLIANCE CIRCUIT SHORT																											
6 BUILDING MANUAL PULL STATIONS																											
7 CORRIDOR SMOKE DETECTORS																											
8 AREA SMOKE DETECTORS																											
9 HVAC AIR DUCT SMOKE DETECTORS																											
10 AREA HEAT DETECTORS																											
11 HOOD OR ROOM FIRE SUPPRESSION SYSTEM ALARM																											
12 SPRINKLER TAMPER SWITCH																											
13 SPRINKLER WATER FLOW IN BUILDING																											
14 SPRINKLER WATER FLOW IN ELEV EQUIP RM OR SHAFT																											
15 ELEV EQUIP RM AREA SMOKE DETECTOR																											
16 ELEV SHAFT AND ELEV EQUIP RM HEAT DETECTORS																											
17 ELEV LOBBY SMOKE DETECTORS - UPPER FLOORS																											
18 ELEV LOBBY SMOKE DETECTOR - RECALL FLOOR																											
19 ELEV CONTROLLER POWER SHUNT TRIP STATUS																											
20 FIRE PUMP POWER FAILURE/PHASE REVERSAL																											
21 FIRE PUMP RUNNING																											
22 FIRE PUMP SYSTEM NOT IN AUTOMATIC																											
23 LEGALLY REQUIRED GENERATOR SYSTEM LOW FUEL																											
24 LEGALLY REQUIRED GENERATOR NOT IN AUTOMATIC																											
25 AREA OF REFUGE TWO-WAY COMMUNICATIONS STATUS																											
26																											
27																											



NFPA 72 & ADA DEVICE INSTALLATION REQUIREMENTS



1 MOUNTING HEIGHTS DETAIL
NTS

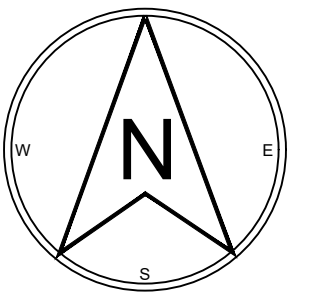
FIRE ALARM LINETYPE LEGEND

—————	NEW DEVICE OR RELOCATED EXISTING DEVICE	
- - - - -	EXISTING DEVICE TO REMAIN	
.....	EXISTING DEVICE TO BE DEMO'D	
—————	NAC1	NEW NAC WIRING. NUMBER INDICATES CIRCUIT IN NAC POWER EXTENDER PANEL.
—————	SLC1	NEW SLC WIRING. NUMBER INDICATES CIRCUIT IN CONTROL PANEL.
- - - - -	NAC1	EXISTING NAC WIRING TO REMAIN. NUMBER INDICATES CIRCUIT IN NAC POWER EXTENDER PANEL.
- - - - -	SLC1	EXISTING SLC WIRING TO REMAIN. NUMBER INDICATES CIRCUIT IN CONTROL PANEL.

WIRE: SLC - 18/2 FPLP
NAC - 16/2 FPLP
RTS - 18/2 FPLP
RISER - FPLR

FIRE ALARM DEVICE LEGEND

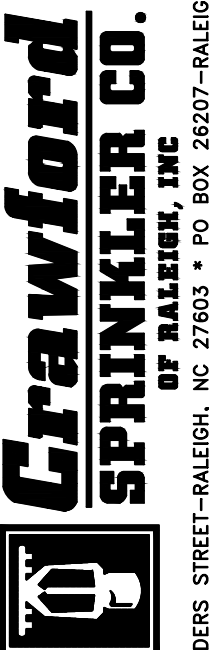
SYMBOL	#	DESCRIPTION	MODEL NUMBER	NOTES
FACP	1	FIRE ALARM CONTROL PANEL	FIRE-LITE #ES-200X	SEE CUT SHEET FOR PANEL SPECS, INSTALLATION DETAILS, AND OPERATING INSTRUCTIONS.
CELL	1	CELLULAR COMMUNICATOR	STARLINK #SLE-LTEA-FIRE	STARLINK CELLULAR COMMUNICATOR. SEE CUT SHEET.
XX	4	WALL MOUNTED FIRE ALARM HORN STROBE - WHITE	SYSTEM SENSOR L-SERIES #P2WL	MOUNT BOTTOM OF BOX AT 84" MINIMUM OR TOP OF BOX AT 96" MAXIMUM ABOVE FINISHED FLOOR. CONNECT AS REQUIRED. CANDELA STROBE AS INDICATED ON PLANS.
WP XX	1	WALL MOUNTED FIRE ALARM HORN STROBE - WHITE - WEATHERPROOF	SYSTEM SENSOR #P2WK	MOUNT BOTTOM OF BOX AT 84" MINIMUM OR TOP OF BOX AT 96" MAXIMUM ABOVE FINISHED FLOOR. CONNECT AS REQUIRED. CANDELA STROBE AS INDICATED ON PLANS.
XX	2	CEILING MOUNTED FIRE ALARM STROBE - WHITE	SYSTEM SENSOR L-SERIES #SCWL	CENTER DEVICE IN CEILING TILE. DEVICE SHALL BE U.L. LISTED FOR USE IN CEILINGS. CONNECT AS REQUIRED. STROBE AS INDICATED ON PLANS.
XX	1	CEILING MOUNTED FIRE ALARM HORN STROBE - WHITE	SYSTEM SENSOR L-SERIES #PC2WL	CENTER DEVICE IN CEILING TILE. DEVICE SHALL BE U.L. LISTED FOR USE IN CEILINGS. CONNECT AS REQUIRED. STROBE AS INDICATED ON PLANS.
?	1	SMOKE DETECTOR	FIRE-LITE #SD365	ADDRESSABLE
?	16	DUCT SMOKE DETECTOR	FIRE-LITE #SD365R	ADDRESSABLE - CONNECT AS SHOWN ON PLANS. #DNR HOUSING W/ #SD365R DETECTOR HEAD - REMOTE TEST CAPABLE.
RTS	16	REMOTE TEST STATION	SYSTEM SENSOR #RTS151KEY	MOUNT 5' - 7" ABOVE FINISHED FLOOR
F	4	MANUAL PULL STATION	FIRE-LITE #BG-12LX	ADDRESSABLE - MOUNT CENTER OF BOX AT 44" ABOVE FINISHED FLOOR.
MM	4	MONITOR MODULE	FIRE-LITE #MMF-300	CONNECT AS SHOWN ON PLANS
R	16	RELAY MODULE	FIRE-LITE #CRF-300	CONNECT AS SHOWN ON PLANS
PS HP VS TS	-	SPRINKLER MONITORING SWITCHES	PROVIDED BY SPRINKLER CONTRACTOR	CONNECT AS SHOWN ON PLANS



IMPORTANT: FIRE ALARM SYSTEMS CONSIST OF ELECTRICAL COMPONENTS THAT SHOULD BE INSTALLED AND MODIFIED ONLY BY QUALIFIED INDIVIDUALS. CRAWFORD SPRINKLER COMPANY IS NOT LIABLE FOR ANY INJURY OR DAMAGE TO PROPERTY INCURRED FROM TAMPERING BY UNQUALIFIED PERSONS.

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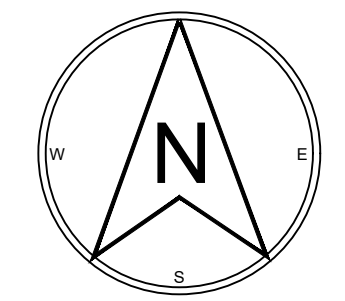
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KRIGEN PHARMA
FIRE ALARM SHOP DRAWING
800 EDWARDS BROTHERS DR
LILLINGTON, NC 27546

UNDERWRITERS: -
INDEX NO.
REVISIONS:

DESIGN CRITERIA

SYSTEM TYPE	ADDRESSABLE
SYSTEM DESIGN	CALCULATED
DESIGN CRITERIA	NFPA 72
SYSTEM SCOPE	NOTIFICATION
SQUARE FOOTAGE	53,994 SQFT
DRAWN BY: NWH	DATE: 2/4/21
CHECK BY: GEH	DATE:
SCALE: AS NOTED	
CONTRACT NO: F216005	
FILE NO:	
DWG NO: FA1	
N.C License No. 33232 SP-FALV	



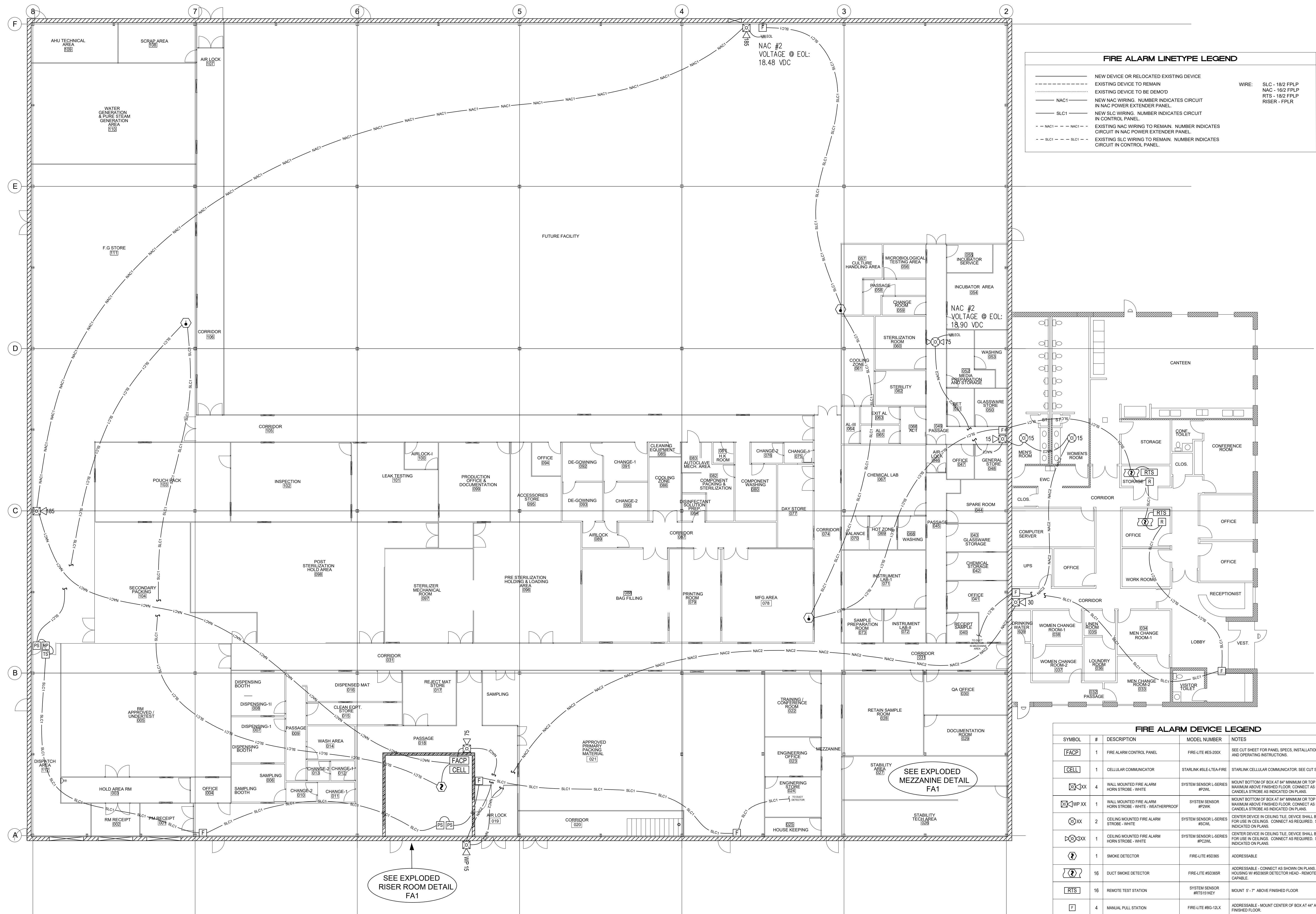
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FIRE ALARM LINETYPE LEGEND

—	NEW DEVICE OR RELOCATED EXISTING DEVICE	WIRE: SLC - 18/2 FPLP
- - -	EXISTING DEVICE TO REMAIN	NAC - 16/2 FPLP
- · - · -	EXISTING DEVICE TO BE DEMO'D	RTS - 18/2 FPLP
—	NEW NAC WIRING. NUMBER INDICATES CIRCUIT IN NAC POWER EXTENDER PANEL.	RISER - FPLR
—	NEW SLC WIRING. NUMBER INDICATES CIRCUIT IN CONTROL PANEL.	
- - -	EXISTING NAC WIRING TO REMAIN. NUMBER INDICATES CIRCUIT IN NAC POWER EXTENDER PANEL.	
- · - · -	EXISTING SLC WIRING TO REMAIN. NUMBER INDICATES CIRCUIT IN CONTROL PANEL.	



1 FIRE ALARM PLAN
 FA 2 3/32"=1'-0"

FIRE ALARM DEVICE LEGEND

SYMBOL	#	DESCRIPTION	MODEL NUMBER	NOTES
[FACP]	1	FIRE ALARM CONTROL PANEL	FIRE-LITE RES-200X	SEE OUT SHEET FOR PANEL SPECS, INSTALLATION DETAILS, AND OPERATING INSTRUCTIONS.
[CELL]	1	CELLULAR COMMUNICATOR	STARLINK KSL-E-TA-FIRE	STARLINK CELLULAR COMMUNICATOR. SEE OUT SHEET.
[XX]	4	WALL MOUNTED FIRE ALARM HORN STROBE - WHITE	SYSTEM SENSOR L-SERIES #P2WL	MOUNT BOTTOM OF BOX AT 84" MINIMUM OR TOP OF BOX AT 96" MAXIMUM ABOVE FINISHED FLOOR. CONNECT AS REQUIRED. CANDELA STROBE AS INDICATED ON PLANS.
[WP XX]	1	WALL MOUNTED FIRE ALARM HORN STROBE - WHITE - WEATHERPROOF	SYSTEM SENSOR #P2WK	MOUNT BOTTOM OF BOX AT 84" MINIMUM OR TOP OF BOX AT 96" MAXIMUM ABOVE FINISHED FLOOR. CONNECT AS REQUIRED. CANDELA STROBE AS INDICATED ON PLANS.
[XX]	2	CEILING MOUNTED FIRE ALARM STROBE - WHITE	SYSTEM SENSOR L-SERIES #SCWL	CENTER DEVICE IN CEILING TILE. DEVICE SHALL BE UL LISTED FOR USE IN CEILING. CONNECT AS REQUIRED. STROBE AS INDICATED ON PLANS.
[XX]	1	CEILING MOUNTED FIRE ALARM HORN STROBE - WHITE	SYSTEM SENSOR L-SERIES #PCNL	CENTER DEVICE IN CEILING TILE. DEVICE SHALL BE UL LISTED FOR USE IN CEILING. CONNECT AS REQUIRED. STROBE AS INDICATED ON PLANS.
[2]	1	SMOKE DETECTOR	FIRE-LITE #SD365	ADDRESSABLE
[2]	16	DUCT SMOKE DETECTOR	FIRE-LITE #SD368R	ADDRESSABLE. CONNECT AS SHOWN ON PLANS. #0NR HOUSING W/ #SD30XR DETECTOR HEAD - REMOTE TEST CAPABLE.
[RTS]	16	REMOTE TEST STATION	SYSTEM SENSOR #RTS151KEY	MOUNT 8" - 7" ABOVE FINISHED FLOOR
[P]	4	MANUAL PULL STATION	FIRE-LITE #MP-12X	ADDRESSABLE - MOUNT CENTER OF BOX AT 44" ABOVE FINISHED FLOOR.
[M]	4	MONITOR MODULE	FIRE-LITE #MMF-300	CONNECT AS SHOWN ON PLANS
[R]	16	RELAY MODULE	FIRE-LITE #CRF-300	CONNECT AS SHOWN ON PLANS
[PS]	-	SPRINKLER MONITORING SWITCHES	PROVIDED BY SPRINKLER CONTRACTOR	CONNECT AS SHOWN ON PLANS

DESIGN CRITERIA

SYSTEM TYPE	ADDRESSABLE
SYSTEM DESIGN	CALCULATED
DESIGN CRITERIA	NFPA 72
SYSTEM SCOPE	NOTIFICATION
SQUARE FOOTAGE	53,994 SQFT
DRAWN BY: NWH	DATE: 2/4/21
CHECK BY: GEH	DATE:
SCALE: AS NOTED	
CONTRACT NO: F21 6005	
FILE NO:	
DWG. NO: FA2	
N.C License No. 33232 SP-FA/LV	

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