GENERAL MATRIX NOTE:

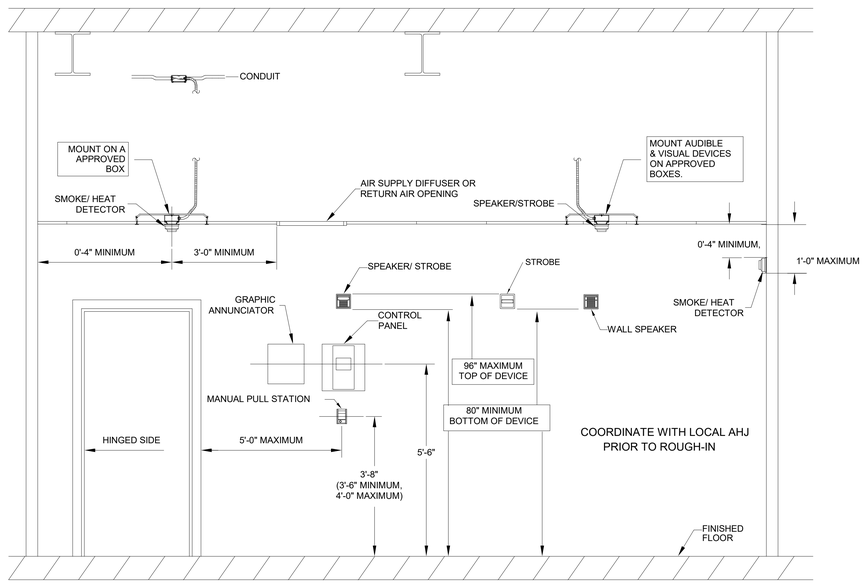
A. VERIFY OPERATION WITH LOCAL AHJ PRIOR TO PROGRAMMING.

SYSTEM INPUTS

		ACTUATE GENERAL ALARM SPEAKERS/STROBES	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE AUDIBLE COMMON TROUBLE SIGNAL	ACTUATE ALL EVACUATION SIGNALS	TRANSMIT FIRE ALARM SIGNAL TO SUPERVISING STATION	TRANSMIT TROUBLE SIGNAL TO SUPERVISING STATION	TRANSMIT SUPERVISORY SIGNAL TO SUPERVISING STATION	DISPLAY CHANGE OF STATUS AT FACP	SHUTDOWN ALL AIR HANDLING UNITS	TRANSMIT CO TROUBLE SIGNAL TO SUPERVISING STATION	ACTUATE CARBON MONOXIDE TROUBLE SIGNAL	RELEASE MAGNETICALLY HELD DOOR OPENS		
		A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	Q	R	S	T	U	V	W	X	
1	MANUAL PULL STATIONS GROUND FLOOR	o	o					o	o			o	o												1
2	MANUAL PULL STATIONS FIRST FLOOR	o	o					o	o			o	o												2
3	MANUAL PULL STATIONS MECHANICAL PLATFORM	o	o					o	o			o	o												3
4	SMOKE DETECTORS GROUND FLOOR	o	o					o	o			o	o												4
5	SMOKE DETECTORS FIRST FLOOR	o	o					o	o			o	o												5
6	SMOKE DETECTORS MECHANICAL PLATFORM	o	o					o	o			o	o												6
7	HEAT DETECTORS GROUND FLOOR	o	o					o	o			o	o												7
8	HEAT DETECTORS FIRST FLOOR	o	o					o	o			o	o												8
9	HEAT DETECTORS MECHANICAL PLATFORM	o	o					o	o			o	o												9
10	DUCT DETECTORS	o	o					o	o			o	o												10
11	AHU OVERRIDE SWITCH			o	o						o	o													11
12	TAMPER SWITCH @ PIV			o	o						o	o													12
13	TAMPER SWITCHES AT SPRINKLER RISERS			o	o						o	o													13
14	FLOW SWITCH AT SPRINKLER RISERS	o	o					o	o			o	o												14
15	FIRE ALARM SYSTEM AC POWER FAILURE					o	o			o		o													15
16	FIRE ALARM SYSTEM LOW BATTERY					o	o			o		o													16
17	NAC PANELS LOW BATTERY					o	o			o		o													17
18	OPEN CIRCUIT					o	o			o		o													18
19	GROUND FAULT					o	o			o		o													19
20	NOTIFICATION APPLIANCE SHORT CIRCUIT					o	o			o		o													20
21	TEMPERATURE SENSOR @ FIRELINE BACKFLOW PREVENTER					o	o			o		o													21
22	CARBON MONOXIDE DETECTOR											o			o	o									22
23	BDA - LOSS OF NORMAL AC POWER			o							o	o													23
24	BDA - SYSTEM BATTERY CHARGER FAILURE			o							o	o													24
25	BDA - MALFUNCTION OF DONOR ANTENNAS			o							o	o													25
26	BDA - FAILURE OF ACTIVE RF EMITTING DEVICES			o							o	o													26
27	BDA - LOW BATTERY CAPACITY AT 70% REDUCTION OF OPERATING CAPACITY			o							o	o													27
28	BDA - FAILURE OF CRITICAL EQUIPMENT COMPONENTS			o							o	o													28
29	BDA - OSCILLATION OF ACTIVE OF RF EMITTING DEVICES			o							o	o													29
30	BDA - COMMUNICATION LINE BETWEEN FIRE ALARM SYSTEM AND THE IN BUILDING TWO-WAY EMERGENCY RESPONDER COMMUNICATIONS COVERAGE SYSTEM			o							o	o													30

3 FIRE ALARM SYSTEM OPERATIONAL MATRIX DETAIL
NOT TO SCALE

NFPA 72 AND ADA DEVICE INSTALLATION REQUIREMENTS



FIRE ALARM DEVICE MOUNTING

2 FIRE ALARM DEVICE MOUNTING DETAIL
NOT TO SCALE

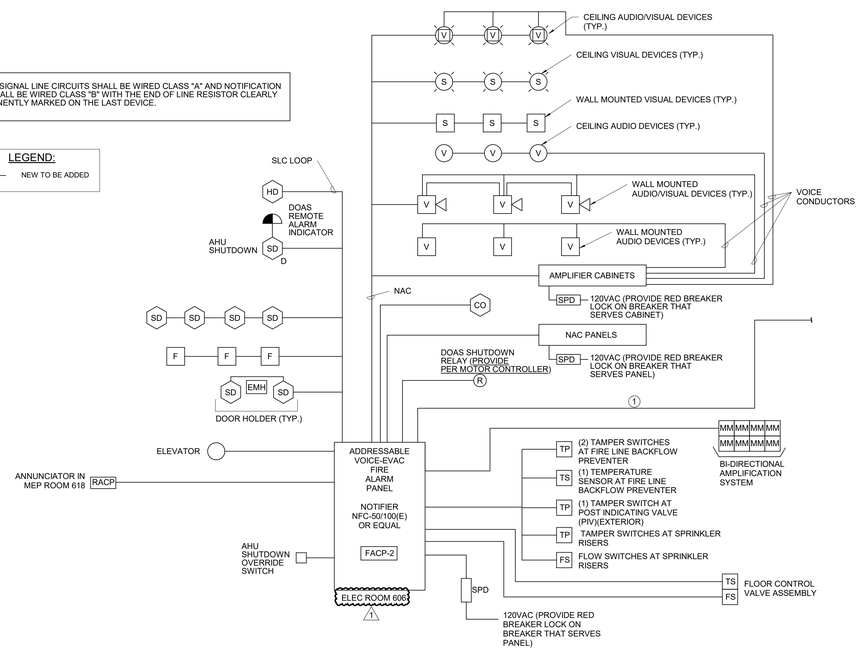
GENERAL FIRE ALARM RISER NOTES:

1. REFER TO ARCHITECT'S SPECIFICATIONS 012300 FOR OWNER'S PREFERRED MANUFACTURER, NOTIFIER, FOR FIRE ALARM SYSTEM.
2. SEE PLANS FOR LOCATIONS AND QUANTITIES OF ALL DEVICES.
3. ALL WIRING SHALL BE IN MINIMUM 3/4" CONDUIT.
4. BATTERY CALCULATIONS ARE REQUIRED WITH ALL SUBMITTALS.
5. TEST RESULTS ARE REQUIRED FOR ALL DEVICES.
6. PROVIDE SHUT-DOWN DEVICES FOR NEW AIR HANDLERS, FAN COIL UNITS AND SUPPLY FANS OF ALL MECHANICAL EQUIPMENT.
7. VERIFY ROOM NUMBERS WITH ARCHITECT PRIOR TO PROGRAMMING SYSTEM.
8. RAAP SHALL BE SEMI-RECESSED WITH INTEGRAL PUSH-TO-TALK MICROPHONE AND ZONE SELECTION SWITCHES.
9. A SMOKE DETECTOR SHALL BE MOUNTED WITHIN 15'-0" OF FACP, RACP, AMP AND NAC PANELS.
10. IF ANY ARCHITECTURAL CHANGES ARE MADE THAT SHALL AFFECT ANY DEVICE PLACEMENT, THIS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO INSTALLATION.
11. THE MANUFACTURER'S AUTHORIZED REPRESENTATIVE SHALL BE NICET LEVEL 3 CERTIFIED AND HAVE AT LEAST 2 YEARS OF EXPERIENCE INSTALLING FIRE ALARM SYSTEMS. NOTE: PROJECT MANAGER SHALL BE NICET LEVEL 4 CERTIFIED AND HAVE AT LEAST 5 YEARS EXPERIENCE INSTALLING FIRE ALARM SYSTEMS.
12. THE SHOP DRAWINGS SUBMITTALS FOR DEVICE LOCATIONS SHALL BE SUBMITTED TO ENGINEER AND LOCAL (AHJ) FIRE MARSHALL PRIOR TO ANY INSTALLATION/ROUGH-IN FOR FIRE ALARM DEVICES.
13. WIRING DIAGRAMS, LOCATION DRAWINGS, DEVICE CUT SHEETS AND VOLTAGE DROP CALCULATIONS ARE REQUIRED WITH ALL SUBMITTALS.
14. THE FIRE ALARM SYSTEM PROVIDER SHALL PROVIDE ALL DOCUMENTATION AS SPECIFIED IN THE INTERNATIONAL FIRE CODE SECTION 907 REQUIREMENTS AS PART OF HIS SHOP DRAWING SUBMITTALS.

   THIS INCLUDES:
   A. LOCATION DRAWINGS OF ALARM INITIATING AND NOTIFICATION DEVICES.
   B. WIRING DIAGRAMS WITH CONDUCTOR TYPE AND SIZES.
   C. LOCATIONS OF ALARM CONTROL AND TROUBLE SIGNALLING EQUIPMENT.
   D. POWER CONNECTION DETAILS AND WIRING SCHEMATICS
   E. BATTERY CALCULATIONS
   F. VOLTAGE DROP CALCULATIONS
   G. MANUFACTURER'S MODEL NUMBERS, LISTING INORMATION FOR EQUIPMENT, DEVICES AND MATERIALS.
   H. THE INTERFACE OF FIRE SAFETY CONTROL FUNCTIONS.
15. REFER TO SPECIFICATION.
16. FIRE ALARM SIGNAL LINE CIRCUITS SHALL BE WIRED CLASS "A" AND NOTIFICATION CIRCUITS SHALL BE WIRED CLASS "B" WITH THE END OF LINE RESISTOR CLEARLY AND PERMANENTLY MARKED ON THE LAST DEVICE.
17. PROVIDE SPARE PARTS AS DEFINED IN SPECIFICATION.
18. ALL FIRE ALARM SYSTEM WORK SHALL BE APPROVED BY THE JOHNSTON COUNTY FIRE MARSHALL PRIOR TO COMMENCING ANY FIRE ALARM WORK.
19. FIRE ALARM SYSTEM SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 72, 2013.
20. COORDINATE WITH THE FIRE PROTECTION CONTRACTOR FOR VOLTAGE, RELAY, ETC. FOR CONNECTIONS OF SPRINKLER BELL. ALL WIRING, CONDUIT, RELAY, AND INTERCONNECTIONS SHALL BE BY THE ELECTRICAL & FIRE ALARM CONTRACTORS.
21. SPEAKER AMPLIFIER CABINETS SHALL BE ADDED AS NEEDED. ALL 120VAC POWER FOR CABINET SHALL BE PROVIDED FROM THE NEAREST 120V PANEL. BREAKER HASPS SHALL BE PROVIDED ON BREAKER SERVING CABINET.
22. ELECTRICAL CONTRACTOR SHALL COORDINATE CLOSELY WITH FIRE ALARM SUB-CONTRACTOR FOR ALL 120V AC POWER REQUIRED FOR THIS SYSTEM. IF ANY ADDITIONAL CIRCUITS ARE REQUIRED THAT ARE NOT IDENTIFIED ON PLANS, THE ELECTRICAL CONTRACTOR SHALL PROVIDE THAT CIRCUIT FROM THE NEAREST 120V PANEL. AS-BUILTS SHALL BE UPDATED TO REFLECT THE INSTALLED CONDITION. THIS SHALL BE DONE AT NO ADDITIONAL COST TO THE PROJECT.
23. THE NEW VOICE/EVAC FIRE ALARM PANEL IN THE NEW BUILDING SHALL BE INTERCONNECTED WITH THE EXISTING MAIN FACP AT THE MAIN BUILDING. DIAL-OUT SHALL BE VIA EXISTING DACT AT THAT MAIN PANEL. COORDINATE ALL WORK, PRIOR TO ROUGH-IN.
24. ELECTRICAL CONTRACTOR'S FIRE ALARM SUB-CONTRACTOR SHALL COORDINATE CLOSELY WITH THE HVAC CONTROLS CONTRACTOR.
25. LOCAL CARBON MONOXIDE ALARM CANNOT BE SILENCED. RE-VERIFY WITH FIRE MARSHALL.
26. "CO" DETECTOR SHALL BE PROVIDED WITH TEMPORAL 4 SOUNDER BASE FOR DISTINCT SOUND IN AREA OF ALARM. COORDINATE WITH OWNER TO ESTABLISH WRITTEN EMERGENCY RESPONSE PLAN IN THE EVENT OF CARBON MONOXIDE ALARM.
27. THE FIRE ALARM SYSTEM SHALL BE INTERCONNECTED WITH ALL SOUND SYSTEMS, INCLUDING BUILDING PAGING SYSTEM SO THAT UPON GENERAL ALARM CONDITION THE SOUND SYSTEM MUTES. REFER TO PLANS FOR SOUND SYSTEM LOCATIONS.

FIRE ALARM SIGNAL LINE CIRCUITS SHALL BE WIRED CLASS "A" AND NOTIFICATION CIRCUITS SHALL BE WIRED CLASS "B" WITH THE END OF LINE RESISTOR CLEARLY AND PERMANENTLY MARKED ON THE LAST DEVICE.

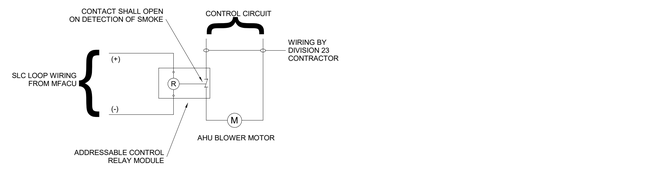
LEGEND:
—— NEW TO BE ADDED



KEYNOTES:

1. INTERCONNECT NEW VOICE-EVAC PANEL AT NEW BUILDING WITH THE EXISTING NOTIFIER NFS-640 MAIN BUILDING PANEL FACP-1. THESE SYSTEMS SHALL BE CAPABLE OF OPERATING/SILENCING THE SYSTEMS FROM EITHER THE MAIN FACP IN ADMIN AREA OR THE VOICE-EVAC FACP IN THE NEW BUILDING. THIS ALSO INCLUDES ANY LCD ANNUNCIATOR LOCATIONS. PROVIDE ALL NECESSARY NETWORK CARDS, ETC. FOR A COMPLETE SYSTEM.

1 FIRE ALARM RISER - GYMNASIUM
NOT TO SCALE



FIRE ALARM INTERLOCK

THE FIRE ALARM CONTRACTOR SHALL PROVIDE A FIRE ALARM RELAY FOR THE SUPPLY FAN(S) AT EACH AHU. THE RELAY SHALL BE WIRED DIRECTLY TO THE FAN VARIABLE FREQUENCY DRIVE FOR AHU SHUTDOWN BY THE BAS CONTRACTOR.

THE RELAY SHALL ALSO HAVE AN AUXILIARY CONTACT. THE BAS CONTRACTOR SHALL WIRE FROM THE AUXILIARY CONTACT TO THE BAS CONTROLLER TO MONITOR FA SHUTDOWN FOR THAT FAN ON THE BAS FRONT END.

FOR AHU RETURN FANS, THE SCOPE SHALL BE THE SAME AS FOR THE SUPPLY FANS. RETURN FANS DO NOT REQUIRE AN AUXILIARY CONTACT OR BAS MONITORING OF FA SHUTDOWN STATUS.

4 DOAS SHUTDOWN
NOT TO SCALE

boomerang DESIGN
rethink, repurpose, results

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PROJECT TITLE

"CLIENT'S PROJECT" # - XXX

02/19/2024
TBUTKOVICH@PDCENGINEERS.COM

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2. MATERIALS, DIMENSIONS AND ALL OTHER CONDITIONS WHICH ARE NOT OTHERWISE DEFINED ON THIS DRAWING SHALL BE CONSTRUED AS HAVING THE SAME MEANING AS SIMILARLY INDICATED CONDITIONS WHICH ARE MORE FULLY DEFINED ELSEWHERE ON THIS PROJECT OR OTHER DRAWINGS OF THIS PROJECT.
3. DO NOT SCALE OFF DIMENSIONS.

REVISIONS

NO.	DATE	DESCRIPTION
1.	02/20/2024	ADDENDUM 01

BID SET
PROJECT PHASE

2307
BOOMERANG DESIGN PROJECT NUMBER

02.07.2024
DRAWING RELEASE DATE

NEW FIRE ALARM RISER/MATRIX, DETAILS
SHEET TITLE

E503
SHEET

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