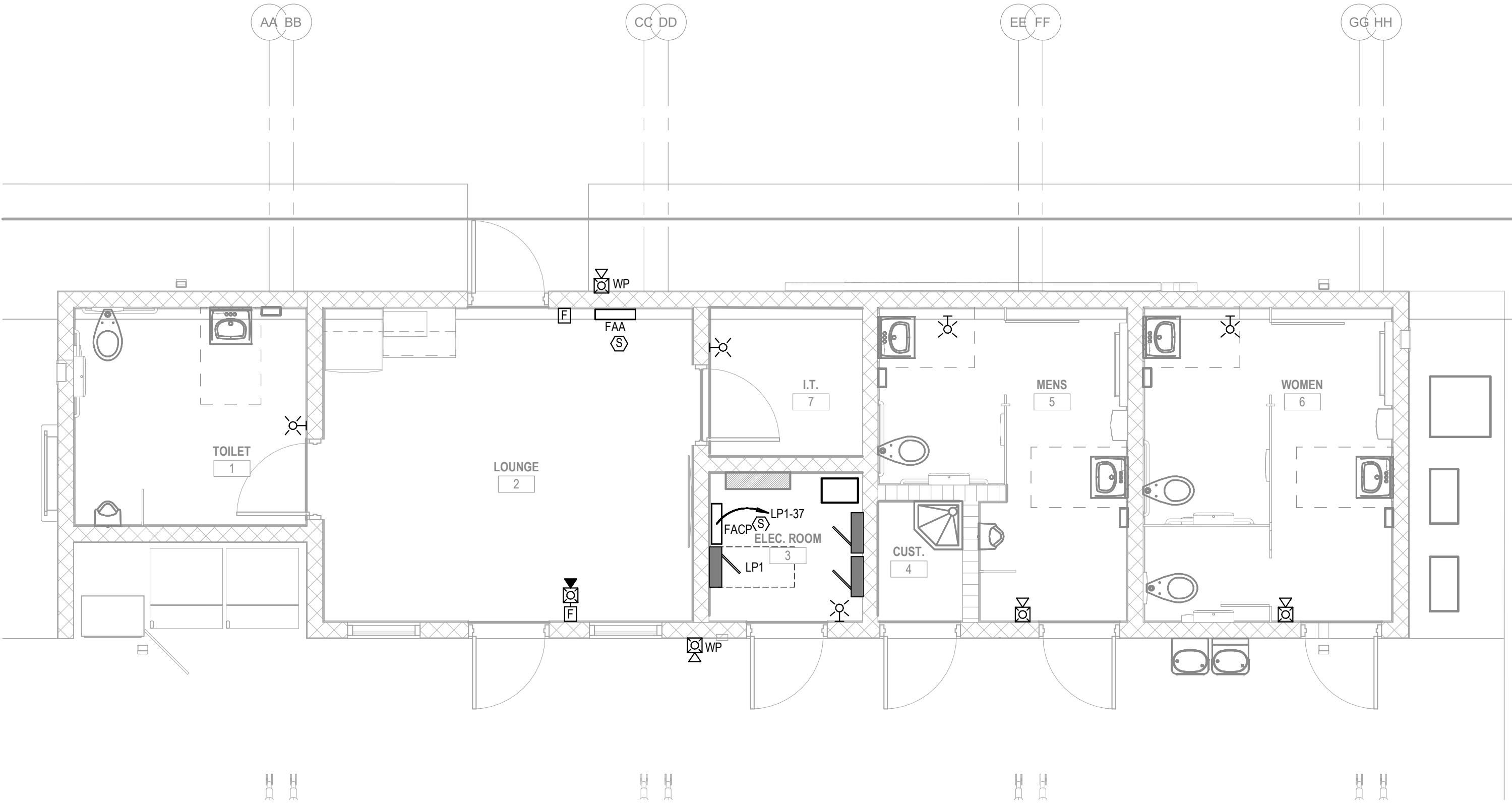


FIRE ALARM SYSTEM NOTES

- ALL FIRE ALARM EQUIPMENT IS TO BE NEW, UL LISTED FOR FIRE SERVICE, AND SHALL BE COMPATIBLE WITH THE SYSTEM BEING USED.
- ALL WIRING AND CONDUIT IS TO CONFORM TO NEC ARTICLE 760, WIRING SHALL BE UL LISTED, MINIMUM 300V TYPE FPLP PLENUM RATED SOLID COPPER OR STRANDED COPPER WITH MAXIMUM 19 STRANDS.
- LOW VOLTAGE CONDUCTORS: PROVIDE CONDUCTORS IN ACCORDANCE WITH NFPA 70 AND NFPA 72, AND AS RECOMMENDED BY THE FIRE ALARM SYSTEM MANUFACTURER. CONDUCTORS SHALL BE COPPER, MINIMUM NO. 14 AWG, TWISTED SHIELDED PAIR.
- SURVIVABILITY: A 2-HOUR RATED CABLE ASSEMBLY SHALL BE PROVIDED FOR NOTIFICATION APPLIANCE CIRCUITS AND ANY OTHER CIRCUITS NECESSARY FOR THE OPERATION OF THE NOTIFICATION APPLIANCE CIRCUITS FROM THE POINT AT WHICH THEY EXIT THE CONTROL UNIT UNTIL THE POINT THAT THEY ENTER THE NOTIFICATION ZONE THAT THEY SERVE.
- MANUAL PULL STATIONS ARE TO BE INSTALLED AT 42" TO BOTTOM OF DEVICE AND NO HIGHER THAN 48" TO HANDLE ABOVE FINISHED FLOOR.
- PROVIDE MINIMUM 3/4" CONDUIT AND WIRING BETWEEN EACH FIRE ALARM DEVICE AND FROM LAST DEVICE TO FACP UNLESS OTHERWISE NOTED.
- PROVIDE DUCT DETECTOR (AND FIRE ALARM RELAY WHERE APPLICABLE) CONNECTED TO FIRE ALARM SYSTEM, WITHIN 5' OF ALL DUCT PENETRATIONS THROUGH FIRE/SMOKE WALLS, WHETHER INDICATED ON ELECTRICAL OR MECHANICAL PLANS OR NOT.
- FIRE ALARM CONTROL PANEL IS TO BE PROVIDED WITH DEDICATED 120V CIRCUIT WITH EQUIPMENT GROUND CONNECTION PER MANUFACTURER'S RECOMMENDATIONS AND ARTICLE 760 OF THE NEC. PROVIDE MINIMUM #12 AWG FOR GROUND CONNECTION. NOTE: PANEL NEUTRAL OR CONDUIT GROUND IS NOT ACCEPTABLE.
- SECONDARY BACK-UP POWER SHALL BE PROVIDED BY INTEGRAL BATTERIES WITHIN THE FIRE ALARM CONTROL PANEL TO SUPPLY POWER TO THE SYSTEM UNDER QUIESCENT LOAD FOR A MINIMUM OF 24 HOURS, AND THEN BE CAPABLE OF AN ADDITIONAL 5 MINUTES ALARM OPERATION AT MAXIMUM CONNECTED LOAD.
- ALL FIRE ALARM POWER CIRCUITS SHALL HAVE A DEDICATED 120V 20A BREAKER THAT SHALL BE RED IN COLOR AND MECHANICALLY PROTECTED (LOCKABLE IN THE "ON" POSITION), MARKED AS "FIRE ALARM CIRCUIT".
- A SUPERVISORY SIGNAL SHALL BE ANNUNCIATED UPON ANY TAMPER SWITCH ACTIVATION FAILURE OR REMOVAL OF ANY DETECTION OR MANUAL DEVICE SHALL ACTIVATE A TROUBLE SIGNAL.
- A CERTIFICATION OF COMPLETION AND UL LISTING SHALL BE ISSUED AND INSTALLED ON THE FIRE ALARM CONTROL PANEL. SUBMIT NFPA RECORD OF COMPLETION FORM ALONG WITH SMOKE DETECTOR SENSITIVITY REPORT FOR ALL DETECTORS WITHIN THE PROJECT AREA TO ENGINEER AND MAKE AVAILABLE AT FINAL INSPECTION.
- PROVIDE SYNCHRONIZATION OF STROBES IN ALL ADJACENT AREAS WHERE STROBES ARE VISIBLE TO EACH OTHER.
- ALL STROBES SHALL ACTIVATE UPON INITIATION OF THE GENERAL ALARM.
- ALL STROBES SHALL BE INSTALLED PER ADA MOUNTING HEIGHT REQUIREMENTS. WALL MOUNTED STROBES SHALL BE INSTALLED SO THAT THE BOTTOM OF THE STROBE LENS IS 80" AFF.
- STROBES SHALL BE INSTALLED WITHIN 15' OF THE ENDS OF ALL CORRIDORS.
- FIRE ALARM DEVICES INSTALLED OUTSIDE OR IN AREAS OPEN TO THE EXTERIOR SHALL BE WEATHERPROOF DEVICES IN APPROVED BACKBOXES.
- SMOKE DETECTORS SHALL BE PHOTO-ELECTRIC ADDRESSABLE TYPE, UNLESS SPECIFICALLY NOTED OTHERWISE.
- SMOKE DETECTORS ARE TO BE INSTALLED PER NFPA 72. WALL MOUNTED SMOKE DETECTORS SHALL BE MOUNTED 4"-12" BELOW THE CEILING AND AWAY FROM CORNERS.
- DUCT DETECTORS SHALL BE PHOTO-ELECTRIC ADDRESSABLE TYPE, AND RATED FOR VELOCITIES UP TO 5000 FT/MIN.
- HEAT DETECTORS SHALL BE ADDRESSABLE, FIXED TYPE @ 135 DEG F, UNLESS OTHERWISE NOTED.
- PROVIDE AN ADDRESSABLE FIRE ALARM SYSTEM PER NFPA AND ALL STATE AND LOCAL CODE REQUIREMENTS. COMPLY WITH NFPA 72 AND ADA REQUIREMENTS.
- FIELD VERIFY LOCATION OF AREA SMOKE DETECTORS AND HEAT DETECTORS. DO NOT LOCATE WITHIN 36" OF AN HVAC DIFFUSER (SUPPLY OR RETURN), IN DIRECT AIR FLOW PATH, OR WITHIN 24" OF A SPRINKLER HEAD UNLESS NOTED OTHERWISE.
- PROVIDE LABELS FOR REMOTE ALARM INDICATORS FOR DUCT MOUNTED SMOKE DETECTORS (I.E., AHU-1 SUPPLY, AHU-2 RETURN, FIRE/SMOKE DAMPER, ETC.). DUCT DETECTORS SHOULD BE LOCATED WITHIN 6 TO 10 EQUIVALENT DIAMETERS OF STRAIGHT, UNINTERRUPTED DUCTWORK. DUCT DETECTORS FOR FIRE/SMOKE DAMPERS SHOULD BE LOCATED BETWEEN THE LAST INLET OR OUTLET UPSTREAM OF THE DAMPER AND THE FIRE INLET OR OUTLET DOWNSTREAM OF THE DAMPER, AND WITHIN FIVE FEET OF THE FIRE/SMOKE WALL.
- EQUIPMENT SHUT DOWN FIRE ALARM RELAYS SHALL BE LOCATED WITHIN THREE (3) FEET OF THE EQUIPMENT CONTROLS AND THE WIRING TO THE RELAY SHALL BE MONITORED BY THE FIRE ALARM SYSTEM.
- ALL FIRE ALARM CABLE SHALL BE INSTALLED IN CONDUIT. NO FIRE ALARM CONDUIT SHALL BE INSTALLED UNDER SLAB. PROVIDE MANUFACTURED RED CONDUIT UNLESS OTHERWISE NOTED.
- MINIMIZE EXPOSURE OF DETECTORS TO DIRT AND DUST FROM CONSTRUCTION. PROVIDE PLASTIC COVERS DURING CONSTRUCTION.
- STATE CERTIFIED AND LICENSED FIRE ALARM CONTRACTOR SHALL PREPARE AND SUBMIT SIGNED AND SEALED DRAWINGS FOR THE LOCAL AUTHORITY HAVING JURISDICTION/ FIRE MARSHALL.
- ALL NOTIFICATIONS DEVICES SHALL BE RED.
- FIRE ALARM CIRCUITS SHALL BE CLASS "B".
- NOTIFICATION DEVICES SHALL BE ADDRESSABLE ELECTRIC-VIBRATING-POLARIZED HORNS, SELECTABLE FOR HIGH OR LOW dBA OUTPUT. THEY SHALL HAVE A SOUND PRESSURE LEVEL OF 90dBA MEASURED 10 FEET FROM HORN, USING CODED SIGNAL PER NFPA 72.
- FIRE ALARM CONTRACTOR/VENDOR SHALL PREPARE FLORIDA LICENSE P.E. WORKING DRAWINGS INCORPORATING THE FIRE ALARM CRITERIA DESIGN AND CONFIRMING TO AHJ REQUIREMENTS. CONTRACTOR SHALL PROVIDE ALL MATERIAL REQUIRED PER AHJ AND DESIGN CRITERIA FOR A FULLY FUNCTIONING AND PERMITTABLE FIRE ALARM SYSTEM. SUBMIT TO DESIGN PROFESSIONAL AS A SHOP DRAWING FOR REVIEW. SUBMIT COMPLETE SIGNED & SEALED DRAWINGS TO PERMITTING AGENCY AND FOR CERTIFICATE OF OCCUPANCY. COMPLETED FIRE ALARM CERTIFICATION SHALL BE PROVIDED TO OWNER AT COMPLETION OF CONSTRUCTION.
- FIRE ALARM DESIGN IS IN ACCORDANCE WITH FLORIDA STATUTES CHAPTER 616.15-32, WHERE A FIRE ALARM RISER IS INDICATED, IT IS DIAGRAMMATIC IN NATURE AND NOT INTENDED TO REPRESENT A COMPLETE WIRING AND DEVICE DISPLAY. ALL WIRING AND DEVICES SHALL BE IN ACCORDANCE WITH SELECTED VENDOR'S POINT-BY-POINT WIRING DIAGRAM. REFER TO FLOOR PLAN FOR DESIGN INTENT AND PROPOSED QUANTITY OF FIRE ALARM SYSTEM COMPONENTS.

FIRE ALARM / DETECTION SYSTEM	
SYMBOL	DESCRIPTION
NFPA / LEGACY	
	MANUAL PULL STATION
	CEILING SMOKE DETECTOR, PHOTOELECTRIC TYPE UNLESS OTHERWISE NOTED E = ELEVATOR WITH RECALL CONTACTS I = IONIZATION
	DUCT SMOKE DETECTOR R = RETURN S = SUPPLY
	BEAM SMOKE DETECTOR BR OR R = BEAM DETECTOR RECEIVER BT OR T = BEAM DETECTOR TRANSMITTER
	HEAT DETECTOR 135°F FIXED TEMPERATURE, UNLESS OTHERWISE NOTED, CEILING MOUNTED
	SUPERVISED ADDRESSABLE FIRE ALARM CONTROL RELAY
	DUCT SMOKE DETECTOR REMOTE TEST SWITCH WITH INDICATING LAMP, WALL MOUNTED AT 48" AFF, UNLESS OTHERWISE NOTED
	COMBINATION HORN/STROBE, WALL MOUNTED CD = CANDELA RATING
	HORN ONLY, WALL MOUNTED
	STROBE, CEILING MOUNTED CD = CANDELA RATING
	COMBINATION HORN/STROBE, CEILING MOUNTED CD = CANDELA RATING
	SPEAKER ONLY, CEILING MOUNTED
	SPEAKER ONLY, WALL MOUNTED
	STROBE, WALL MOUNTED
	FIREMAN'S PHONE JACK
	SPRINKLER TAMPER SWITCH CONNECTION
	SPRINKLER WATERFLOW SWITCH CONNECTION
	PRESSURE SWITCH CONNECTION
	ELECTROMAGNETIC DOOR HOLD OPEN DEVICE
	FIRE ALARM CONTROL PANEL
	FIRE ALARM TERMINAL CABINET
	FIRE ALARM ANNUNCIATOR PANEL - FLUSH MOUNTED
	VOICE EVACUATION PANEL
	MASS NOTIFICATION SYSTEM PANEL
	MASS NOTIFICATION SYSTEM PANEL



1 FLOOR PLAN - FIRE ALARM
1/4" = 1'-0"

FIRE ALARM SYSTEM WIRE SCHEDULE

- SIGNALING LINE CIRCUIT: (2) CONDUCTOR #18 AWG, SOLID, SHIELDED, TWISTED PAIRS. TYPE "FPLR" CABLE, CLASS B - SURVIVABILITY LEVEL 0. (INTRA-BUILDING)
- NOTIFICATION APPLIANCE CIRCUIT: 2 CONDUCTOR #14 AWG, SOLID, SHIELDED CABLE. TYPE "FPLR" CABLE, CLASS B - SURVIVABILITY LEVEL 0.
- INITIATING DEVICE CIRCUIT (IDC): 2 CONDUCTOR #18 AWG, SOLID, SHIELDED TWISTED PAIRS. TYPE "FPLR" CABLE, CLASS B, SURVIVABILITY LEVEL 0.

NOTE:

- FIRE ALARM SYSTEM WIRING SHALL BE POWER LIMITED.
- ALL WIRING BELOW GRADE TO BE LISTED FOR WET LOCATIONS.
- REFER TO POWER AND SYSTEMS PLANS FOR DEVICE LOCATION AND QUANTITY.

FIRE ALARM SYSTEM SEQUENCE OF OPERATION

No Scale

TYPE OF SYSTEM:

- FULLY ADDRESSABLE FIRE ALARM SYSTEM AND STANDBY BATTERY MONITORED BY REMOTE SUPERVISING-MONITORING STATION
- 24 HOURS OF STANDBY, 5 MINUTES OF ALARM USED FOR BATTERY CALCULATIONS
- VOICE EVACUATION WITH PRE-RECORDED DIGITAL MESSAGE AND MANUAL ANNOUNCEMENT VIA MICROPHONE

TYPE OF CIRCUITS:

- SIGNALING LINE CIRCUIT (SLC) = CLASS B, SURVIVABILITY LEVEL 0
- NOTIFICATION APPLIANCE CIRCUIT (NAC) = CLASS B, SURVIVABILITY LEVEL 0

WIRING METHOD:

- "FPLR" CABLE IN CONDUIT.
- WET LOCATION LISTED CABLE FOR UNDERGROUND, SLAB, AND UNCONDITIONED SPACE CONDUIT.

GENERAL ALARM SEQUENCE:

- ACTIVATION OF AN ALARM INITIATING DEVICE WILL CAUSE THE NOTIFICATION DEVICES (SPEAKERS AND STROBES) TO ACTIVATE THROUGHOUT THE BUILDINGS. ALL ALARM CONDITIONS WILL BE ANNUNCIATED AT THE FIRE ALARM CONTROL PANEL (FACP) AND REMOTE ANNUNCIATOR AND WILL BE TRANSMITTED TO THE REMOTE SUPERVISING-MONITORING STATION.
- SUPERVISORY CONDITIONS WILL BE ANNUNCIATED AT THE FACP AND REMOTE ANNUNCIATOR. A TROUBLE CONDITION WILL BE TRANSMITTED BY THE FACP TO THE REMOTE SUPERVISING-MONITORING STATION.
- TROUBLE CONDITIONS WILL BE ANNUNCIATED AT THE FACP AND REMOTE ANNUNCIATOR. A TROUBLE CONDITION WILL BE TRANSMITTED BY THE FACP TO THE REMOTE SUPERVISING-MONITORING STATION.
- SPRINKLER FLOW SWITCH: THE FIRE PROTECTION SPRINKLER SYSTEM MAIN FLOW SWITCH SHALL BE CONNECTED AS AN ALARM INITIATING DEVICE AND SHALL BE ANNUNCIATED SEPARATELY. FIRE PROTECTION SPRINKLER SYSTEM ZONE FLOW SWITCHES SHALL BE CONNECTED AS AN AUTOMATIC INITIATING DEVICE AND EACH SWITCH SHALL BE SEPARATELY ANNUNCIATED.
- SPRINKLER FLOW SWITCH SHALL TRANSMIT A SEPARATE ALARM SIGNAL FROM OTHER ALARM CONDITIONS.
- SPRINKLER SYSTEM TAMPER SWITCH: TAMPER SWITCHES CONNECTED TO THE VALVES OF THE FIRE PROTECTION SYSTEM SHALL BE ANNUNCIATED AS SUPERVISORY CONDITION.

ALARM SILENCE:

- AUDIBLE NOTIFICATION DEVICES MAY BE SILENCED.
- VISUAL DEVICES WILL REMAIN ON UNTIL THE SYSTEM IS RESET.

INITIATING DEVICE OPERATIONS:

- PULL STATIONS WILL CAUSE A GENERAL ALARM.
- SPRINKLER FLOW SWITCHES WILL CAUSE A GENERAL ALARM.
- DUCT DETECTORS WILL CAUSE A SUPERVISORY CONDITION.
- ANY TAMPER SWITCH WILL CAUSE A SUPERVISORY CONDITION.
- SMOKE/HEAT DETECTORS WILL CAUSE A GENERAL ALARM AFTER AN ALARM VERIFICATION PROCESS.

AUXILIARY CONTROLS:

- AIR HANDLING UNITS CONTROLLED BY THE FIRE ALARM SYSTEM WILL SHUTDOWN THROUGHOUT THE BUILDING ON AN ALARM CONDITION. UPON SILENCING FIRE ALARM SYSTEM HVAC SYSTEM SHALL AUTOMATICALLY RETURN TO NORMAL OPERATION STATUS.

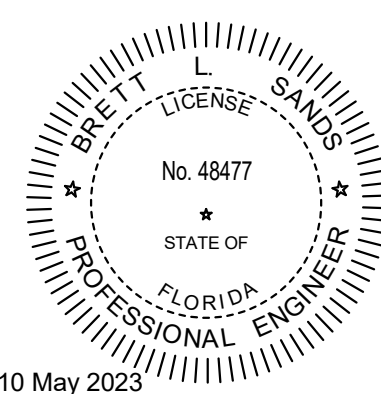
FIRE ALARM NOTES:

- ALL EQUIPMENT AND DEVICES SHALL BE U.L. LISTED.
- ALL WIRING SHALL CONFORM TO NFPA 72 AND NEC ARTICLE 760 USING FPLR COPPER CABLING IN CONDUIT.
- COLOR CODING AND PROPER LABELING SHALL APPLY TO ALL SYSTEMS WIRING.
- ROUTE FIRE ALARM SYSTEM CONDUIT ACCORDING TO FIRE ALARM CONTRACTOR SHOP DRAWINGS. COORDINATE WITH THE ELECTRICAL CONTRACTOR.
- ALL FIRE ALARM VISUAL SIGNALS IN OPEN AREA SHALL HAVE A THREE PLUS TEMPORAL PATTERN. MULTIPLE STROBES SIMULTANEOUSLY IN VIEW SHALL BE SYNCHRONIZED.
- ALL FIRE ALARM AUDIBLE SIGNALS SHALL HAVE A SOUND LEVEL AT LEAST 15 dB ABOVE THE AVERAGE AMBIENT OR 5 dB ABOVE THE MAXIMUM SOUND LEVEL, WHICHEVER IS GREATER.
- MOUNT FIRE ALARM SYSTEM STROBES AND HORN/STROBES AT 80" AFF OR 6" BELOW CEILING, WHICH EVER IS LOWER.
- SMOKE DETECTOR INSTALLATIONS SHALL BE AS PER NFPA 72.
- ADDRESSABLE MONITOR MODULES SHALL BE PROVIDED WITHIN 3' OF ANY NON-ADDRESSABLE INITIATING DEVICES.
- FIRE ALARM CONTROL PANEL SHALL INCLUDE BATTERIES.
- PROVIDE CERTIFICATE OF COMPLETION AT THE FINAL INSPECTION OF THE FIRE ALARM SYSTEM.
- FIRE ALARM CONTRACTOR SHALL PROVIDE A DETAILED SET OF SHOP DRAWINGS (INCLUDING DEVICE CUT-SHEETS). A COMPLETE POINT TO POINT WIRING DIAGRAM, COMPLETE BATTERY CALCULATIONS, & VOLTAGE DROP CALCULATIONS TO THE AUTHORITY HAVING JURISDICTION AT THE TIME OF APPLICATION FOR BUILDING PERMIT.
- PROVIDE THE OWNER WITH A COMPLETE FIRE ALARM SYSTEM OPERATING AND INSTALLATION MANUAL COVERING ALL SYSTEM EQUIPMENT INSTALLED FOR THIS PROJECT. KEEP AT THE FIRE ALARM CONTROL PANEL.
- THE FIRE ALARM SYSTEM SHALL BE MONITORED BY A REMOTE SUPERVISING-MONITORING STATION.

FIRE ALARM DRAWING INDEX

SHEET	DESCRIPTION
FA101	FLOOR PLAN - FIRE ALARM, NOTES, LEGENDS, INDEX

This item has been digitally signed and sealed by: Brett L. Sands, PE on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.



10 May 2023



100% Contract Documents

LEHIGH ACRES PARK AND RIDE

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REVISIONS		
No.	Description	Date

04/14/2023

FA101