

FACP BATTERY CALCULATIONS (FIRE-LITE ES-50X)								
MODEL NUMBER	DESCRIPTION	QUANTITY	STANDBY POWER		IN ALARM		CURRENT (mA)	
			CURRENT PER DEVICE (mA)	TOTAL CURRENT (mA)	CURRENT PER DEVICE (mA)	TOTAL CURRENT (mA)		
FIRE-LITE ES-50X	FIRE ALARM CONTROL PANEL	1	141	141	257	257	STANDBY CURRENT	161.30
FIRE-LITE ANN-80	ANNUNCIATOR	1	15	15	40	40	HOURS	24
FIRE-LITE BG-12LX	MANUAL PULL STATION	1	0.30	0.30	SEE NOTE 1	SEE NOTE 1	STANDBY mA	3.871
FIRE-LITE SD355	SMOKE DETECTION	1	0.3	0.3	SEE NOTE 1	SEE NOTE 1	ALARM CURRENT	673
FIRE-LITE MMF-300	MONITOR MODULE	11	0.40	4.40	SEE NOTE 1	SEE NOTE 1	HOURS	56
FIRE-LITE CRF-300	CONTROL/RELAY MODULE	1	0.3	0.30	SEE NOTE 1	SEE NOTE 1	ALARM mA	3.977
							TOTAL mA	3.9
							CONTINGENCY	20%
							BATTERY TOTAL	4.7
AS INDICATED:	MAX DRAIN ALL DEVICES	1	0	0	200	200		
SYSTEM SENSOR	CIRCUIT AHW	1	0	0	176	176		
TOTAL				161.30		673	BATTERY PROVIDED	7

- NOTES:
- ALARM CURRENT FOR ADDRESSABLE DEVICES IS CALCULATED BASED ON THE MAXIMUM CURRENT REQUIRED FOR ALL DEVICES.
  - BATTERIES IN EXCESS OF 18 AH CANNOT BE INSTALLED IN THE FIRE-LITE ES-50X FACP ENCLOSURE AND MUST BE INSTALLED IN A BATTERY BOX LISTED FOR THAT PURPOSE WITH A PROPERLY SIZED CHARGER.

FIRE ALARM NOTIFICATION APPLIANCE CIRCUIT VOLTAGE DROP CALCULATIONS						
SIGNAL CIRCUIT DESCRIPTION	APPLICABLE LOCATION	ACTUAL ALARM CURRENT (mA)	MAXIMUM DISTANCE TO LAST APPLIANCE		CALCULATED VOLTAGE DROP USING 14 AWG CABLE (BASED ON 20.4 VDC SOURCE)	
			12 AWG CABLE (FEET)	14 AWG CABLE (FEET)	APPROX CIRCUIT LENGTH (FEET)	VOLTAGE AT LAST APPLIANCE (VOLTS)
FACP	MAIN ELECTRICAL ROOM					
AVEX	EXTERIOR NOTIFICATION APPLIANCE	176	6,477	4,072	60	20.34

- NOTES:
- NOTIFICATION APPLIANCE CIRCUITS (NAC) DESIGNED FOR A MAXIMUM 1.6 AMPS, MAXIMUM 4.4 VDC DROP, AND MINIMUM OPERATING VOLTAGE OF 16 VDC.
  - FIELD VERIFY ALL VOLTAGE DROP AND POWER REQUIREMENTS.
  - NOTIFICATION APPLIANCE CIRCUITS BASED UPON THE ABOVE CURRENT AND VOLTAGE CRITERIA USING SYSTEM SENSOR NOTIFICATION APPLIANCE CRITERIA.

ZONING		
ZONE NUMBER	ACTUATED DEVICES	ALPHANUMERIC LABEL OF ZONE
201	FACP / FAAN / DACT	ALARM CONDITION AT FACP, FAAN, AND OFF-SITE MONITORING STATION SUPERVISORY CONDITION AT FACP, FAAN, AND OFF-SITE MONITORING STATION
202	FACP / FAAN / DACT	TROUBLE CONDITION AT FACP, FAAN, AND OFF-SITE MONITORING STATION
203	FACP / FAAN / DACT	
204		
205		
206		
207		
208	FACP	ACTIVATES EXTERIOR NOTIFICATION APPLIANCE
209		
210	THRU	SHUTS DOWN HVAC UNIT
220		

ADDRESSABLE DEVICES			
ADDRESS	TYPE ID	ACTUATED ZONES	ALPHANUMERIC LABEL OF DEVICE
01	MONITOR	201, 208	WATERFLOW SWITCH
02	MONITOR	202	TAMPER SWITCH - SYSTEM CONTROL VALVE
03	MONITOR	202	EXTERIOR BACKFLOW PREVENTER TAMPER SWITCHES
04			
05	MONITOR	202	TAMPER SWITCH - WATER SUPPLY
06	MONITOR	202	TAMPER SWITCH - PUMP SUCTION
07	MONITOR	202	FIRE PUMP BYPASS TAMPER SWITCHES
08	MONITOR	202	TAMPER SWITCH - PUMP TEST HEADER (NORMALLY CLOSED)
09			
10	MONITOR	201	FIRE PUMP RUNNING
11	MONITOR	202	FIRE PUMP PHASE REVERSAL
12	MONITOR	202	LOSS OF PHASE (POWER FAILURE)
13			
14	SMOKE	201	UTILITY AREA - ABOVE FACP
15			
16			
17			
18			
19			
20	PULL	201	ADJACENT TO FIRE SPRINKLER RISER
21			
22			
23			
24			
25			
26	MONITOR	202, 210	RTU 1 RETURN DUCT SMOKE DETECTOR
27	RELAY		RTU 1 SHUTDOWN
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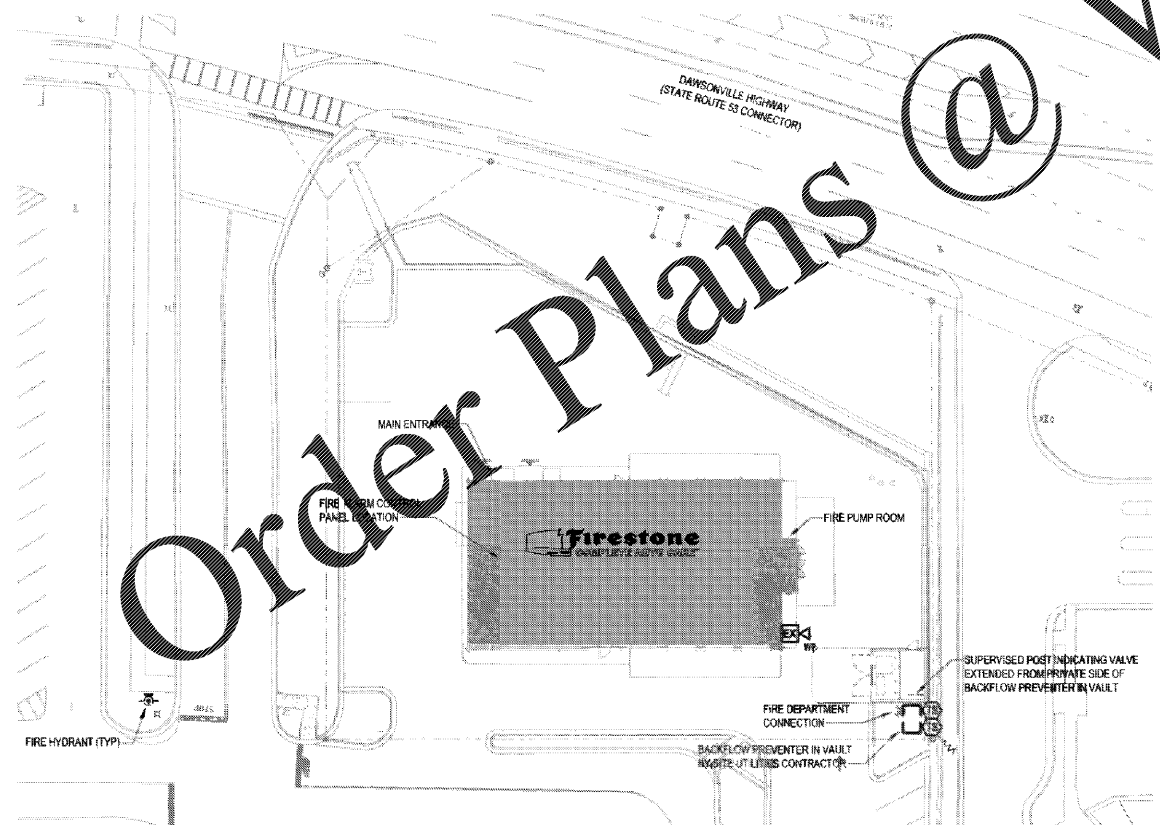
- ### FIRE ALARM INSTALLATION NOTES
- ALL WORK SHALL BE IN ACCORDANCE WITH NFPA STANDARDS AND ALL LOCAL ADOPTED CODES.
  - FIRE ALARM CABLING SHALL BE ACCEPTABLE TO THE FIRE ALARM EQUIPMENT MANUFACTURER FOR THE INTENDED PURPOSE. SHOULD MANUFACTURER OF FIRE ALARM EQUIPMENT REQUIRE DIFFERENT TYPE OR SIZE OF CABLE THAN HEREIN SPECIFIED, THE LARGER OR MORE STRINGENT TYPE OF CABLE SHALL BE USED.
  - ALL FIRE ALARM CABLING SHALL BE FPL, FPLR OR FPLP AS REQUIRED BY THE ELECTRICAL CODE.
  - PROVIDE ALL REQUIRED CONDUIT, BACKBOXES, AND FITTINGS FOR THE FIRE ALARM SYSTEM CABLING.
  - FIRE ALARM CABLING SHALL BE RED IN COLOR.
  - FIRE ALARM CABLING SHALL NOT BE PAINTED.
  - CABLE ROUTING SHOWN ON DRAWINGS IS FOR INTENT. EXACT ROUTING SHALL BE COORDINATED WITH OTHER TRADES IN THE FIELD. SEE DRAWING NOTES AND DETAILS FOR ACCEPTABLE INSTALLATION METHODS.
  - ALL CABLING NOT IN RUNWAY SHALL BE NEATLY BUNDLED, WRAPPED TIGHT, AND PROPERLY SECURED. ANY CABLING NOT INSTALLED IN A NEAT AND PROFESSIONAL MANNER SHALL BE PULLED OUT AND RE-RUN BY INSTALLER AT NO ADDITIONAL COST TO OWNER.
  - CONTRACTOR RUNNING CABLING MUST MARK BOTH ENDS OF CABLING, PROVIDE A WIRE LEGEND FOR ALL LOCATIONS, AND PROVIDE A CONTINUITY TEST LOG FOR EACH CABLE.
  - EXPOSED CABLING SHALL BE RUN PARALLEL AND PERPENDICULAR TO BUILDING STRUCTURE. EXPOSED CABLING SHALL NOT BE RUN IN A SPAN FASHION BETWEEN BAR JOISTS OR BEAMS (I.E. CABLING SHALL BE SECURED ALONG PATH OF JOISTS AND BEAMS). ALL CABLING SHALL BE SECURED TO THE STRUCTURAL CEILING BETWEEN JOISTS OR BEAMS.
  - ALL CABLING SHALL BE SUPPORTED FROM BUILDING STRUCTURE AND NOT FROM GRID, TILES, OR SUPPORT WIRES. ALL CABLING NOT IN RACEWAY SHALL BE SUPPORTED BY BUILDING STRUCTURE AT NO MORE THAN FIVE (5) FOOT INTERVALS.
  - ALL FIRE ALARM CABLING BELOW THE ROOF STRUCTURE, IN ELECTRICAL AND MECHANICAL ROOMS (SUBJECT TO PHYSICAL DAMAGE), CONCEALED ABOVE CEILINGS, OR IN PARTITIONS (SUBJECT TO PHYSICAL DAMAGE) SHALL BE INSTALLED IN METALLIC CONDUIT.
  - ALL POWER LINED FIRE ALARM CABLING ABOVE THE STRUCTURE, ABOVE LAY-IN CEILING, OR CONCEALED ABOVE CEILING IS NOT SUBJECT TO PHYSICAL DAMAGE, ARE NOT REQUIRED TO BE INSTALLED IN CONDUIT.
  - ALL NON-POWER LINED FIRE ALARM CABLING FOR THE FIRE ALARM SYSTEM SHALL BE INSTALLED IN CONDUIT.
  - ALL CONDUIT SHALL BE TERMINATED ABOVE THE WALL AT THE ROOF STRUCTURE LEVEL WITH SOME FORM OF GROMMET OR BUSH CONNECTOR.
  - ALL CONDUIT LOCATED IN DRYWALL SHALL BE TERMINATED NO LESS THAN 6 INCHES ABOVE THE CEILING TILE AT THE STRUCTURE.
  - FOR DRYWALL APPLICATIONS, ALL CONDUIT AND BACKBOXES SHALL BE RECESSED INSIDE THE WALL.
  - EXPOSED CABLING OR CONDUIT SHALL BE ALLOWED IN THE SHOWROOM.
  - ALL FIRE ALARM CABLING IN FINISHED AREAS SHALL BE CONCEALED.
  - COORDINATE THE FILLING OF ANY HOLES (I.E. COLLUM PENETRATIONS) WITH THE OWNER'S REPRESENTATIVE AND ALL OTHER TRADES PRIOR TO INSTALLATION.
  - ALL FIRE ALARM DEVICES SHALL BE INSTALLED IN OR ON A PROPER BACKBOX. NO DEVICES SHALL BE INSTALLED WITHOUT A BACKBOX.
  - ALL CABLING, CONDUIT, AND BACKBOXES SHALL BE PROPERLY SUPPORTED AND SEISMICALLY BRACED, AS REQUIRED BY ALL APPLICABLE CODES AND THE LOCAL JURISDICTION.
  - CONDUIT AND CABLING SHALL ENTER INTO THE FACP ONLY AS APPROVED BY THE EQUIPMENT MANUFACTURER.
  - CONDUIT FILL SHALL NOT EXCEED 40%.
  - ALL FIRE ALARM JUNCTION BOXES SHALL BE RED IN COLOR.

- ### FIRESTOP NOTES
- ALL THROUGH-PENETRATIONS OF FIRE-RATED WALLS AND FLOORS SHALL BE FIRE-STOPPED.
  - FIRE-RATED GYPSUM BOARD WALLS CONSTRUCTED AS DESCRIBED IN THE INDIVIDUAL US90, U400, OR V400 SERIES DESIGNS IN THE U.L. FIRE RESISTANCE DIRECTORY (GENERALLY DOUBLE THICKNESS WALLBOARD) SHALL BE FIRE-STOPPED WITH U.L. SYSTEMS.
  - ALL REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOORS OR WALLS, AND ALL U.L. CLASSIFIED CONCRETE BLOCK WALLS SHALL BE FIRE-STOPPED WITH U.L. SYSTEMS.


- ### FIREPROOFING NOTES (WHERE REQUIRED)
- INSTALL ALL HANGERS, CLAMPS, CONDUIT, AND BACK BOXES FOR THE FIRE ALARM SYSTEM PRIOR TO THE APPLICATION OF FIREPROOFING ON STRUCTURAL MEMBERS.
  - INSTALL ALL HANGERS, CLAMPS, AND BACK BOXES FOR THE FIRE ALARM SYSTEM ON THE EDGE OF ANY JOIST REQUIRING FIREPROOFING. BACK BOXES SHALL BE FASTENED TO THE FLANGE OF THE JOIST UTILIZING BEAM CLAMPS, AND SHALL NOT BE ATTACHED DIRECTLY TO THE JOIST.
  - ANY DAMAGE TO FIREPROOFING ON THE BUILDING STRUCTURE AS A RESULT OF THE FIRE ALARM SYSTEM INSTALLATION SHALL BE REPAIRED BY A QUALIFIED FIREPROOFING CONTRACTOR. ALL DAMAGE AND REPAIR OF FIREPROOFING SHALL BE REPORTED TO AND COORDINATED THROUGH THE OWNER'S REPRESENTATIVE. THE FIRE ALARM CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIREPROOFING REPAIRS AT NO ADDITIONAL COST TO THE OWNER.
  - VERIFY THE LOCATIONS OF ALL FIREPROOFING, PRIOR TO THE INSTALLATION OF ANY FIRE ALARM CONDUIT AND BACKBOXES.

- ### FIRE ALARM GENERAL NOTES
- THE FIRE ALARM SYSTEM SHALL OPERATE AS A STANDALONE LOW VOLTAGE SYSTEM AND SHALL BE AN INTELLIGENT ADDRESSABLE SUPERVISED SYSTEM. CIRCUITS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:
    - INITIATING DEVICE CIRCUITS - CLASS B
    - NOTIFICATION APPLIANCE CIRCUITS - CLASS B
    - SIGNALING LINE CIRCUITS - CLASS B
    - CIRCUITS FOR RELAY COIL OPERATION SHALL BE 24 VDC MAXIMUM WITH A SEPARATE OR INTEGRAL FIELD COLLAPSING DIODE.
  - THE FIRE ALARM CABINETS AND DOCUMENTATION CABINET SHALL HAVE A HINGED DOOR KEYS IN COMMON WITH ALL OTHER KEYS THROUGHOUT THE SYSTEM.
  - COORDINATE INSTALLATION OF A GROUND ROD OR ACCEPTABLE BUILDING GROUND FOR PROPER GROUNDING OF THE FACP WITH THE ELECTRICAL CONTRACTOR.
  - UPON LOSS OF BUILDING POWER, THE ENTIRE SYSTEM SHALL TRANSFER TO SECONDARY POWER WITHIN TEN (10) SECONDS, AND WITHOUT LOSS OF SIGNALS. THE SYSTEM SHALL OPERATE UNDER SECONDARY POWER IN NORMAL OR TROUBLE CONDITIONS FOR TWENTY FOUR (24) HOURS AND HAVE SUFFICIENT POWER TO SUPPORT COMPLETE ALARM CONDITION OPERATION FOR A SUBSEQUENT FIVE (5) MINUTES AT MAXIMUM WATERFLOW.
  - PROVIDE MONITORING CONNECTIONS TO SPRINKLER WATERFLOW SWITCHES, TAMPER SWITCHES, AND FIRE PUMP CONTROLLER (BY OTHERS). PROVIDE ALL CABLING TO SWITCHES, FINAL WIRING CONNECTIONS AT SWITCHES, AND SUPERVISION OF ALL WIRING CONNECTIONS. COORDINATE ALL CONNECTIONS WITH THE SPRINKLER CONTRACTOR.
  - COORDINATE INSTALLATION OF A MINIMUM ONE (1) INCH UNDERGROUND CONDUIT, WITH PULL STRING, FOR FIRE ALARM CABLING CONNECTIONS TO ANY EXTERIOR BACKFLOW PREVENTER ASSOCIATED WITH THE BRIDGESTONE SPACE. PROVIDE MONITORING OF ALL TAMPER SWITCHES (BY OTHERS) ON THE ASSOCIATED BACKFLOW PREVENTER. COORDINATE ANY REQUIRED UNDERGROUND CONDUIT AND INTERFACE CONNECTIONS WITH THE OWNER'S REPRESENTATIVE, THE ELECTRICAL CONTRACTOR, FIRE SPRINKLER CONTRACTOR, AND THE CIVIL CONTRACTOR.
  - ALL SIGNALING LINE CIRCUITS, INITIATING DEVICE CIRCUITS, AND NOTIFICATION APPLIANCE CIRCUITS SHALL BE SUPERVISED IN ACCORDANCE WITH NFPA 72.
  - PROVIDE ONE (1) LINE TRANSISTOR FOR ALL INITIATING DEVICE CIRCUITS AND NOTIFICATION APPLIANCE CIRCUITS PER MANUFACTURER SPECIFICATIONS.
  - PROVIDE A COMPUTER GENERATED PRINTOUT LABEL FOR EACH INITIATING DEVICE INCLUDING THE SPECIFIC ADDRESS OF THAT DEVICE. THE LABEL SHALL INCLUDE THE DEVICE TYPE AND ZONE NUMBER. THE LABEL SHALL BE LOCATED ON THE FACE OF THE DETECTOR.
  - THE AUTOREVISE NOTIFICATION APPLIANCES SHALL BE RED IN COLOR, AND LISTED FOR THE INTENDED APPLICATION.
  - NOTIFICATION APPLIANCE POLARITY SHALL BE OBSERVED.
  - WHERE POSSIBLE, PROVIDE FLUSH MOUNTING OF NOTIFICATION APPLIANCES WHERE SURFACE MOUNTING OF NOTIFICATION APPLIANCES ARE NECESSARY. PROVIDE DECORATIVE BACKBOX SKIRT COVERING THE APPLIANCE BACKBOX.
  - DEVICES AND APPLIANCE LOCATIONS AS SHOWN ON THE FIRE ALARM PLANS ARE NOT DIMENSIONED FOR EXACT INSTALLATION. COORDINATE EXACT PLACEMENT OF ALL DEVICES AND APPLIANCES WITH THE ARCHITECTURAL PLANS, APPLICABLE TRADES, AND OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
  - ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL BACKGROUND INFORMATION IS SHOWN FOR COORDINATION PURPOSES ONLY. REFER TO THE PROPER DRAWINGS FOR EXACT LOCATIONS, SIZES AND QUANTITIES OF OTHER TRADES WORK.
  - SMOKE DETECTOR HEADS SHALL NOT BE INSTALLED UNTIL AFTER THE CONSTRUCTION CLEAN-UP OF ALL TRADES IS COMPLETE AND FINAL.
  - VERIFY ALL EQUIPMENT QUANTITIES, LOCATIONS, AND REQUIREMENTS. IF DISCREPANCIES ARE FOUND, CONTRACTOR SHALL IMMEDIATELY BRING THEM TO THE ATTENTION OF THE FIRE PROTECTION ENGINEER (CPE) FOR RESOLUTION.
  - CONTRACTOR SHALL EXECUTE ALL WORK NECESSARY FOR A COMPLETE AND OPERATIONAL FIRE ALARM SYSTEM PER APPLICABLE NATIONAL AND LOCAL CODES, AND AS REQUIRED BY THE AHJ AND BY THE CLIENT/OWNER OF THE FACILITY IN ACCORDANCE WITH THEIR NATIONAL CONTRACTOR WITH STANLEY ALARM SYSTEM.
  - BRIDGESTONE (BSPO) UTILIZES STANLEY SECURITY SOLUTIONS FOR THE PURPOSE OF MONITORING THE FIRE ALARM SYSTEM. THE CONTRACTOR SHALL CONTACT AL MAIER AT (617) 842-0817 OR ALMAIER@BSPO.COM WITH STANLEY SECURITY SOLUTIONS FOR THE SOLE PURPOSE OF ESTABLISHING MONITORING OF THE FIRE ALARM SYSTEM.


- ### FIRE ALARM KEYED NOTES
- COORDINATE CONNECTIONS TO DEDICATED 120 VAC POWER CIRCUITS WITH THE ELECTRICAL CONTRACTOR. THE DEDICATED CIRCUIT DISCONNECT SHALL BE RED IN COLOR, LABELED "FIRE ALARM CIRCUIT", AND HAVE A LOCKABLE TAB. ALL FIRE ALARM CIRCUIT BREAKERS SHALL BE CLEARLY MARKED AND MECHANICALLY SECURED TO PREVENT ANY UNAUTHORIZED TAMPING. IDENTIFY THE LOCATION OF THE CIRCUIT DISCONNECT AT THE FACP. COORDINATE EXACT MOUNTING LOCATION OF CONTROL PANEL WITH THE OWNER'S REPRESENTATIVE AND ELECTRICAL CONTRACTOR PRIOR TO INSTALLATION.
  - PROVIDE TWO (2) MEANS OF SIGNAL TRANSMISSION TO THE OFF-SITE MONITORING FACILITY. PROVIDE A DEDICATED PHONE LINE FOR THE PRIMARY MEANS OF TRANSMISSION. THE SECONDARY MEANS SHALL UTILIZE A CELLULAR COMMUNICATOR. PROVIDE THE SERVICE PHONE NUMBER STICKER ON THE SURFACE OF THE FACP AND THE ASSOCIATED PHONE NUMBER USING DIRECTLY ON THE RJ-31A BOXES. COORDINATE ALL PROGRAMMING, SIGNALS, TRANSMISSION AND CONNECTIONS WITH THE OFF-SITE MONITORING COMPANY.
  - PROVIDE TRANSIENT SURGE SUPPRESSION MODULE (10K-120MY OR EQUAL) AT ELECTRICAL PANEL. THE SURGE SUPPRESSION MODULE SHALL BE CONNECTED TO THE DEDICATED FIRE ALARM CIRCUIT PER MANUFACTURERS SPECIFICATION. COORDINATE WITH ELECTRICAL CONTRACTOR FOR INSTALLATION.
  - PROVIDE A PHONE SURVEILLANCE MODULE (TEL-SUR OR EQUAL) AT EACH PHONE LINE. THE PHONE SURVEILLANCE MODULE SHALL BE CONNECTED TO THE PRIMARY AND SECONDARY PHONE LINE PER MANUFACTURERS SPECIFICATION. COORDINATE WITH ELECTRICAL CONTRACTOR FOR INSTALLATION.
  - PROVIDE A CELLULAR COMMUNICATOR (FIRE-LITE HMF-200) FOR THE SECONDARY MEANS OF TRANSMISSION TO THE REMOTE SUPERVISING STATION. MOUNT THE CELLULAR COMMUNICATOR AT A LOCATION WITH ACCEPTABLE SIGNAL STRENGTH THROUGH THE WIRELESS NETWORK CONNECTION. COORDINATE ALL PROGRAMMING, SIGNALS TRANSMISSION AND CONNECTIONS WITH THE OFF-SITE MONITORING STATION.
  - PROVIDE A DOCUMENTATION CABINET (RED ENCLOSURE) ADJACENT TO THE FIRE ALARM CONTROL PANEL TO HOUSE ALL SYSTEM DOCUMENTS IN ACCORDANCE WITH NFPA 72. SYSTEM DOCUMENTS SHALL INCLUDE (AT A MINIMUM) RECORD DRAWINGS, EQUIPMENT DATA SHEETS, SOFTWARE AND FIRMWARE CONTROL DOCUMENTATION. THE DOCUMENTATION CABINET SHALL BE PROMINENTLY LABELED "SYSTEM RECORD DOCUMENTS", AND SHALL BE ACCESSIBLE BY AUTHORIZED PERSONNEL ONLY AND PROTECTED FROM PUBLIC ACCESS.
  - MOUNT SMOKE DETECTOR ON THE BOTTOM OF THE DECK (NOT ON THE BOTTOM OF STRUCTURAL MEMBERS) AND LOCATED MORE THAN THREE (3) FEET FROM ANY MECHANICAL DEVICES, AS INDICATED IN NFPA 72. THE SMOKE DETECTOR AND FIRE ALARM CABLING SHALL BE INSTALLED AND SUPPORTED A MINIMUM 1/2 INCHES FROM THE LOWEST SURFACE OF THE ROOF DECKING IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE.
  - PROVIDE A FIRE ALARM ANNUNCIATOR (FAAN) ADJACENT TO THE FRONT ENTRANCE. THE FAAN SHALL BE FLUSH MOUNTED. COORDINATE EXACT MOUNTING LOCATION OF THE FIRE ALARM ANNUNCIATOR KEYPAD WITH THE OWNER'S REPRESENTATIVE AND AHJ PRIOR TO INSTALLATION.
  - PROVIDE ELECTRONIC MONITORING OF ALL SPRINKLER WATERFLOW AND TAMPER SWITCHES (BY OTHERS). MONITOR ANY ADDITIONAL WATERFLOW SWITCHES WITH A SEPARATED ADDRESSABLE INPUT MODULE. COORDINATE EXACT QUANTITIES, LOCATION AND INTERFACE CONNECTIONS WITH THE SPRINKLER CONTRACTOR.
  - PROVIDE AN EXTERIOR NOTIFICATION APPLIANCE AT TEN (10) FEET ABOVE GRADE AND LOCATED ABOVE THE FIRE DEPARTMENT CONNECTION. COORDINATE EXACT MOUNTING LOCATION WITH THE OWNER'S REPRESENTATIVE AND AHJ PRIOR TO INSTALLATION.
  - PROVIDE MONITORING OF THE DUCT SMOKE DETECTOR (FACTORY PROVIDED, INSTALLED BY MECHANICAL CONTRACTOR AND POWERED BY THE RTU). PROVIDE WIRING CONNECTIONS TO THE ALARM AND TROUBLE CONTACTS ON THE DUCT DETECTORS TO ALLOW AN ALARM CONDITION TO TAKE PRIORITY OVER A TROUBLE CONDITION. COORDINATE ALL CABLING / CONDUIT ROUTING AND WIRING CONNECTION WITH THE MECHANICAL AND ELECTRICAL CONTRACTORS PRIOR TO INSTALLATION.
  - PROVIDE A SEPARATE ADDRESSABLE RELAY MODULE (ARM) FOR SHUTDOWN OF ASSOCIATED AHU. LOCATED ARM AT AN ACCESSIBLE LOCATION WITHIN THREE (3) FEET OF THE ASSOCIATED AHU MOTOR CONTROLLER OR CONTROL CIRCUIT. PROVIDE ANY REQUIRED POWER CONNECTIONS AND SUPERVISION FOR DUCT DETECTOR AND ARM. COORDINATE ALL CABLING / CONDUIT ROUTING AND WIRING CONNECTION WITH THE MECHANICAL AND ELECTRICAL CONTRACTOR PRIOR TO INSTALLATION.
  - PROVIDE A REMOTE TEST STATION / ANNUNCIATOR FOR EACH DUCT SMOKE DETECTOR. PROVIDE ALL REQUIRED CABLING CONNECTIONS AND CONDUIT FROM DETECTORS TO REMOTE TEST STATION / ANNUNCIATORS. MOUNT ALL REMOTE TEST STATION / ANNUNCIATORS ON AN ADJACENT COLUMN OR WALL AND AT AN ACCESSIBLE LOCATION THAT DOES NOT CONFLICT WITH STORE FIXTURES. COORDINATE EXACT MOUNTING LOCATIONS WITH THE OWNER'S REPRESENTATIVE AND LOCAL AHJ PRIOR TO INSTALLATION.
  - COORDINATE INSTALLATION OF A MINIMUM ONE (1) INCH UNDERGROUND CONDUIT, WITH PULL STRING, FOR FIRE ALARM CABLING CONNECTIONS TO ANY EXTERIOR BACKFLOW PREVENTER OR EXTERIOR POST INDICATOR VALVE (PIV) ASSOCIATED WITH THE BRIDGESTONE SPACE. PROVIDE MONITORING OF ALL TAMPER SWITCHES (BY OTHERS) ON THE ASSOCIATED BACKFLOW PREVENTER OR PIV. COORDINATE ANY REQUIRED UNDERGROUND CONDUIT AND INTERFACE CONNECTIONS WITH THE OWNER'S REPRESENTATIVE, ELECTRICAL CONTRACTOR, FIRE SPRINKLER CONTRACTOR, AND SITE CIVIL CONTRACTOR.
  - PROVIDE TRANSIENT SUPPRESSION ON ALL FIRE ALARM CIRCUITS LOCATED IN UNDERGROUND CONDUIT. PROVIDE ONE (1) TRANSIENT SUPPRESSION MODULE FOR EACH FIRE ALARM CIRCUIT. FIRE ALARM CABLING IN UNDERGROUND OR EXTERIOR CONDUIT SHALL BE LISTED FOR WET LOCATIONS.
  - PROVIDE A MANUAL PULL STATION ADJACENT TO THE FIRE SPRINKLER RISER AND IN ACCORDANCE WITH NFPA 72.
  - PROVIDE MONITORING CONNECTIONS TO THE FIRE PUMP CONTROLLER IN ACCORDANCE WITH NFPA 72. LOCATE INPUT MODULES WITHIN THREE (3) FEET OF THE FIRE PUMP CONTROLLER. FINAL WIRING CONNECTIONS IN THE CONTROLLER ARE BY THE FIRE PUMP CONTRACTOR. COORDINATE INTERFACE CONNECTIONS WITH THE SPRINKLER AND FIRE PUMP CONTRACTORS.



**FIRE ALARM SITE PLAN**  
SCALE 1"=30'-0"  
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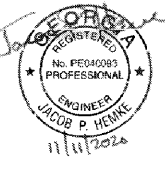


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**JACOB P. HEINE**  
REGISTERED PROFESSIONAL ENGINEER  
NO. PE0405083  
11/11/2024

**FIRE PROTECTION ENGINEER OF RECORD:**  
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4 DIGIT NO.: 78H3

ADR PROJECT NUMBER: 1955855  
TO PERMIT: DATE: 04/08/20  
TO BID: DATE: ##-##-##

SHEET TITLE:  
**FIRE ALARM NOTES, PROGRAMMING AND CALCULATIONS**

SHEET NUMBER:  
**FA2**