1 ELECTRICAL FIRE ALARM PLAN
1/8" = 1'-0"

NOTES:

1. REFER TO THIS DRAWING FOR LEGEND, SYMBOLS AND GENERAL NOTES.

2. REFER TO ARCHITECTURAL DRAWINGS FOR ASSOCIATED NOTES, MOUNTING DETAILS, HEIGHTS AND EXACT LOCATIONS OF ALL DEVICES.

3. FIRE ALARM BRANCH CIRCUITRY SHALL BE INSTALLED IN CONDUIT FROM THE PANEL TO THE FIRST DEVICE AND/OR WHERE EXPOSED. FIRE ALARM BRANCH CIRCUITRY MAY BE TYPE MC CABLE WHERE CONCEALED ABOVE SUSPENDED CEILINGS AND IN METAL STUD WALLS.

4. MC CABLE FOR FIRE ALARM SERVICE SHALL HAVE A RED IDENTIFIER ALONG ITS ENTIRE LENGTH. JUNCTION BOX COVERS AND CONDUIT COUPLINGS FOR ALL FIRE ALARM WIRING RACEWAYS SHALL BE PAINTED RED PRIOR TO INSTALLATION.

5. MAINTAIN CONTINUITY OF BRANCH CIRCUITRY ASSOCIATED WITH ALL EXISTING FIRE ALARM DEVICES TO REMAIN.

FIRE ALARM LEGEND

15cd L	FIRE ALARM VISUAL DEVICE
F	FIRE ALARM MANUAL PULL STATION
110cd F	FIRE ALARM AUDIBLE AND VISUAL DEVICE, NUMERAL INDICATES CANDELA VALUE
S	FIRE ALARM SMOKE DETECTOR, PHOTO ELECTRIC UNLESS NOTED OTHERWISE

SEQUENCE OF OPERATIONS

A. THE EXISTING "BASE BUILDING" COORDINATED FIRE PROTECTION SYSTEM BASIS OF DESIGN AND SEQUENCE OF OPERATION SHALL REMAIN UNCHANGED AND SHALL NOT BE MODIFIED UNDER THE SCOPE OF THE RENOVATION. THE GENERAL ARRANGEMENT OF THE EXISTING SEQUENCE OF OPERATION IS DESCRIBED BELOW AND IS SUBJECT TO CONFIRMATION BY THE INSTALLING CONTRACTOR AND FIRE ALARM SYSTEM CONTROL UNIT TECHNICAL REPRESENTATIVE.

B. ACTIVATION OF AN EXISTING OR NEW MANUAL PULL STATION, SMOKE DETECTOR, HEAT DETECTOR OR SPRINKLER SYSTEM WATERFLOW SWITCH SHALL INITIATE THE PREDEFINED FIRE ALARM SYSTEM "ALARM" SEQUENCE:
   1. DISPLAY ALARM CONDITION AT FIRE ALARM CONTROL UNIT AND REMOTE ANNUNCIATOR(S).
   2. BROADCAST RECORDED EMERGENCY VOICE EVACUATION INSTRUCTIONS THROUGHOUT THE BUILDING.
   3. ENERGIZE AUDIBLE (TEMPORAL-3 PATTERN) AND VISUAL (UL 1971 SYNCHRONIZED STROBE) OCCUPANT NOTIFICATION CIRCUITS WITHIN EVACUATION ZONE(S) AS DESIGNATED BY PRE-ESTABLISHED CONTROL UNIT SEQUENCE OF OPERATIONS.
   4. PERFORM AUXILIARY FIRE SAFETY FUNCTIONS AS DESIGNATED BY PRE-ESTABLISHED CONTROL UNIT SEQUENCE OF OPERATIONS SUCH AS ELEVATOR RECALL, DAMPER ACTIVATION, DOOR CLOSURE, AHU SHUTDOWN, ETC.
   5. TRANSMIT ALARM CONDITION TO CENTRAL / SUPERVISING STATION AND/OR LOCAL FIRE DEPARTMENT VIA MUNICIPAL ALARM SYSTEM.

C. THE OPERATION OF AN EXISTING OR NEW SPRINKLER TAMPER SWITCH OR DUCT SMOKE DETECTOR SHALL INITIATE THE PREDEFINED FIRE ALARM SYSTEM "SUPERVISORY" SEQUENCE:
   1. DISPLAY SUPERVISORY CONDITION AT FIRE ALARM CONTROL UNIT AND REMOTE ANNUNCIATOR(S).
   2. TRANSMIT SUPERVISORY CONDITION TO CENTRAL / SUPERVISING STATION.
   3. IN ADDITION, THE OPERATION OF AN EXISTING OR NEW DUCT DETECTOR SHALL SHUT-DOWN THE CORRESPONDING AIR HANDLING UNIT (AHU).

D. THE OPERATION OF AN EXISTING WATERFLOW SWITCH AND/OR AN EXISTING OR NEW SMOKE DETECTOR SHALL INITIATE BUILDING SMOKE CONTROL SYSTEMS.

E. NORMAL POWER FAILURE TO FIRE ALARM SYSTEM REMOTE POWER SUPPLIES, GROUND FAULTS, SHORT CIRCUITS AND OPEN CIRCUIT CONDITIONS SHALL INITIATE THE PREDEFINED FIRE ALARM SYSTEM "TROUBLE" SEQUENCE:
   1. DISPLAY SUPERVISORY CONDITION AT FIRE ALARM CONTROL UNIT AND REMOTE ANNUNCIATOR(S).
   2. TRANSMIT TROUBLE CONDITION TO CENTRAL / SUPERVISING STATION.

NOTES:

1. THIS DRAWING IS INTENDED TO ILLUSTRATE MAJOR EQUIPMENT AND THE INTENDED INTERCONNECTIONS. REFER TO THE FLOOR PLANS FOR EXACT LOCATIONS AND QUANTITIES OF DEVICES. REFER TO THE MANUFACTURER'S WIRING DIAGRAMS FOR INTERCONNECTION REQUIREMENTS. INTERCONNECTION DETAILS SHALL BE INCLUDED IN THE SHOP DRAWINGS WITH COMPONENT CUT SHEETS FOR REVIEW AND APPROVAL.

2. ALL FINAL CONNECTIONS INTO THE EXISTING FIRE ALARM SYSTEM SHALL BE PERFORMED BY THE OWNER'S FIRE ALARM MAINTENANCE CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL CARRY ALL ASSOCIATED COSTS FOR FINAL CONNECTION AND ASSOCIATED TESTING.

3. ALL NEW FIRE ALARM DEVICES SHALL MATCH EXISTING MANUFACTURER AND BE CROSSED LISTED FOR CONNECTION TO THE EXISTING SYSTEM.

4. EXISTING SMOKE DETECTORS, PULL STATIONS, AUDIO/VISUAL DEVICES, HEAT DETECTORS, ETC. WITHIN THE BUILDING SHALL BE MAINTAINED, UNLESS OTHERWISE NOTED. DEVICES IDENTIFIED FOR REMOVAL SHALL BE RETAINED UNTIL NEW SYSTEM OPERATIONAL AND APPROVED. PROVIDE CONTROL MODULES, WIRING, PROGRAMMING OF SYSTEM AS REQUIRED TO MAINTAIN SYSTEM OPERATION OF EXISTING DEVICES. REPROGRAM SYSTEM AND MODIFY EXISTING ANNUNCIATOR(S) TO ACCOMMODATE THE NEW DEVICES AND FUNCTIONS.

5. FIRE ALARM SYSTEM MODIFICATION SHALL BE IN CONFORMANCE WITH THE LATEST FIRE DEPARTMENT RULES AND REGULATIONS.

6. PROVIDE POWER BOOSTERS SIZED TO ACCOMMODATE NOTIFICATION APPLIANCE QUANTITIES ILLUSTRATED WITH 50% ADDITIONAL SPARE CAPACITY. PROVIDE DEDUCT ALTERNATE TO DELETE NEW POWER SUPPLY IF EXISTING CAPACITY SUFFICIENT AND ILLUSTRATED WITH CALCULATIONS.

7. PROVIDE UL LISTED LOCKING DEVICE FOR POWER SOURCE CIRCUIT BREAKER AND LABEL AS "FIRE ALARM CONTROL CIRCUIT" IN THE PANELBOARD DIRECTORY.

8. VISUAL APPLIANCES WITHIN SAME ROOM OR FIELD OF VIEW SHALL BE SYNCHRONIZED.

9. PROVIDE SIGNAL TO CARD READER SYSTEM TO UNLOCK ALL (EQUIPPED WITH CARD READERS) DOORS AT STAIRWELLS OR THAT ARE IN THE REQUIRED EGRESS PATH DURING FIRE ALARM CONDITION. COORDINATE WITH SECURITY CONTRACTOR.

10. VERIFY EXACT LOCATION IN FIELD.

RDK FIRE ALARM RISER WITH A/V POWER BOOSTER E801

PERMIT SUBMISSION

PERMIT SUBMISSION NOTES:

1. REFERENCE TO NFPA 72 ARE TO THE 2016 EDITION.
2. THIS DRAWING CONSTITUTES THE FLOOR PLAN SUBMISSION. THESE REQUIREMENTS INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
   a. FLOOR PLAN ILLUSTRATING ALL ROOM USES.
   b. LOCATION OF ALL INITIATING DEVICES. CEILING TYPE AND HEIGHT ARE INCLUDED WHERE DETECTION ILLUSTRATED AND UNUSUAL CONDITIONS APPLY SUCH AS HEIGHT OVER 10 FEET OR WHERE BEAMS AND JOISTS ARE PRESENT.
   c. INTERFACE OF FIRE SAFETY FUNCTIONS SUCH AS DOOR UNLOCKING, SOUND SYSTEM MUTING AND ILLUMINATION TO 100% (WHERE REQUIRED).
   d. LOCATION OF ALL NOTIFICATION APPLIANCES WITH STROBE CANDELA RATINGS.
   e. LOCATION OF ALL FIRE ALARM CONTROL PANELS AND ANNUNCIATORS.
   f. POWER SOURCE FOR ALL PANELS AND POWER SUPPLIES.
3. THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR THE DEVELOPMENT AND SUBMISSION OF THE REQUIRED SHOP DRAWINGS SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND BE OF SUFFICIENT QUALITY TO BE APPROVED PRIOR TO THE CONTRACTORS SUBMISSION TO THE AHJ FOR PERMIT.
4. NFPA 72 SHOP DRAWING REQUIREMENTS INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
   a. NAME, LICENSE NUMBER AND LICENSE EXPIRATION DATE OF THE INSTALLING CONTRACTOR.
   b. RISER DIAGRAM WITH ALL DEVICES, INTERCONNECTING WIRING AND CIRCUITING INTENT.
   c. CALCULATIONS FOR POWER SUPPLY (DC AND AMPLIFIERS WHERE USED), BATTERY CAPACITY AND VOLTAGE DROP.
   d. MANUFACTURER'S CUT SHEETS FOR ALL DEVICES AND MATERIALS.
   e. THE ACTUAL BUILDING FA SEQUENCE OF OPERATIONS OBTAINED FROM THE OWNER'S FA MAINTENANCE CONTRACTOR
   f. FLOOR PLANS DERIVED FROM THE TIER ONE SUBMISSION PLANS WITH THE FOLLOWING INFORMATION MODIFIED/ADDED:
      i. ACAD PLANS WILL BE MADE AVAILABLE FOR THE CONTRACTORS USE INCLUDING ALL TIER ONE INFORMATION IN ACCORDANCE WITH THE CONTRACTUAL REQUIREMENTS. THE DOCUMENT SHALL CLEARLY INDICATE THE CONTRACTOR'S OWNERSHIP OF ILLUSTRATED INFORMATION.
      ii. CONDUIT ROUTING AND CONDUCTOR TYPE AND COUNT BETWEEN ALL DEVICES ILLUSTRATING INSTALLATION INTENT. WHERE REQUIRED BY THE RISER AND/OR SPECIFICATIONS, CLEARLY ILLUSTRATE CLASS A SEPARATIONS.
      iii. AUDIBLE DEVICE TAP SETTINGS WHERE ADJUSTABLE.
      iv. INITIATING DEVICE ADDRESSES WHERE MANUFACTURER CAN APPLY THEM PRIOR TO INSTALLATION ON THE SLC.
5. NFPA 72 RECORD DRAWINGS INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
   a. AS-BUILT PLANS DERIVED FROM THE TIER TWO FLOOR PLANS ILLUSTRATING INSTALLED CONDITIONS, DEVICE ADDRESSES, FINAL TAP SETTINGS AND AUDIBLE AMBIENT AND TEST DB READINGS THROUGHOUT THE SPACE.
   b. WRITTEN VERSION OF SEQUENCE OF OPERATION SHALL BE INCLUDED.
   c. O&M MANUAL PER NFPA 72 REQUIREMENTS.
   d. SYSTEM RECORD OF COMPLETION FORM PER NFPA 72 FIGURES 7.8.2(A) THRU (F) SECTIONS AS APPLICABLE TO THE PROJECT SCOPE.
   e. SYSTEM RECORD OF INSPECTION AND TESTING FORM PER NFPA 72 FIGURE 7.8.2(G) THRU (L) SECTIONS AS APPLICABLE TO THE PROJECT SCOPE.
   f. CONFIRMATION THAT A RECORD COPY OF THE SITE SPECIFIC SOFTWARE HAS BEEN DELIVERED TO THE OWNER'S REPRESENTATIVE.

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REVISIONS

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TITLE
ELECTRICAL FIRE ALARM PLAN

DATE 06/29/17
JOB NO. 20170237

DRAWING NO. E-4

ISSUED FOR CONSTRUCTION

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