

## FIRE ALARM SYSTEM NOTES AND SPECIFICATIONS

**GENERAL:**

1. THE FIRE ALARM SYSTEM IS TO BE AN INTELLIGENT, ADDRESSABLE PANEL WITH DRIFT COMPENSATION AND SENSITIVITY TESTING CAPABILITIES. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO PROVIDE ALL SHOP DRAWINGS, PERMITS, AND INSPECTIONS ASSOCIATED WITH THE FIRE ALARM SYSTEM TO THE FIRE MARSHALS OFFICE FOR REVIEW AND APPROVAL. BEFORE WORK BEGINS, THE FIRE ALARM SYSTEM MUST BE INSTALLED BY A CONTRACTOR WHO IS CERTIFIED IN ACCORDANCE WITH ALL STATE AND LOCAL CODES. CALL THE FIRE MARSHALS OFFICE FOR ONSITE DURING INSTALLATION. RECORD OF COMPLIANCE WILL BE REQUIRED.
2. THE EDWARDS IG550 SYSTEM IS SPECIFIED. CONTACT JAMES BLYVINS WITH B8T AT 423-956-9298 FOR QUESTIONS AND AVAILABILITY.
3. PROVIDE BATTERY BACKUP FOR FIRE ALARM PANEL. BATTERY TO BE CAPABLE OF GENERATING FULL ALARM FOR 5 MINUTES AFTER A PERIOD OF 24 HRS OF CONTINUOUS POWER OUTAGE. SUBMIT BATTERY CALC WITH SHOP DRAWINGS FOR ENGINEERS REVIEW.
4. SURGE SUPPRESSION SHALL BE SUPPLIED AT ALL LOCATIONS WHERE FIRE ALARM CABLEING EXITS OR ENTERS THE BUILDING.
5. PROVIDE SYNCHRONIZATION MODULE AND CONNECT TO ALL STORED LIGHTS. PANEL MUST BE ABLE TO FLASH LIGHTS WHILE SILENCING HORNS OR SPEAKERS.
6. PANEL TO HAVE SEPARATE LOGS FOR TROUBLE AND ALARM EVENTS. REJECTABLE ITEM.
7. ELECTRICAL CONTRACTOR SHALL PROVIDE WRITTEN RESULTS OF SENSITIVITY TESTING OF ALL FIRE ALARM DETECTION DEVICES TO THE LOCAL FIRE MARSHALL AND THE OWNER.
8. POWER BOOSTERS AND EXTENDERS FOR FIRE ALARMING DEVICES ARE TO BE PROVIDED AS REQUIRED.
9. SYSTEM IS TO BE PROVIDED WITH UNIVERSAL DIGITAL ALARM COMMUNICATOR (UDCA) FOR OFF SITE ALARM NOTIFICATION AND MONITORING. OR PROVIDE CELLULAR COMMUNICATOR AS REQUIRED BY CODE. UDCAT TO PROVIDE INDIVIDUAL POINT NOTIFICATION. THE OWNER IS RESPONSIBLE FOR SECURING THE ACTUAL SERVICE. OWNER WILL BRING PHONE LINE TO PANEL.
10. CONTRACTOR TO PROVIDE DTEK SURGE PROTECTION ON BOTH 120V & TELEPHONE LINE. PROVIDE DTEK J40TK-120S20A FOR 120V & DTEK J40TK-120S20PWP FOR PROVIDE BONE SHIELDING CUL SHEETS FOR REVIEW. THIS IS A REJECTABLE ITEM.
11. FIRE ALARM SYSTEM MUST COMPLY WITH MARRIOTT MODULE 14 STANDARDS AND NFPA. CONSTRUCTION MUST CONFORM TO THE REQUIREMENTS OF ALL REGULATORY AUTHORITIES HAVING JURISDICTION OR MEET THE REQUIREMENTS OF THE MARRIOTT MODULE 14 STANDARDS WHICHEVER IS MORE STRINGENT.
12. MARRIOTT MODULE 14 REQUIRES A POINT ADDRESSABLE SYSTEM. GANGING OF DEVICES ON A MODULE WITH NOT BE PERMITTED. FOR FIRE PUMPS, EACH TAMPER AND FLOW SHALL BE ON A SEPARATE POINT ON THE MONITOR MODULE.
13. ALL BIDDING CONTRACTORS ARE TO INCLUDE THE FOLLOWING IN THEIR BIDS:
  - THE ENTIRE SYSTEM IS TO BE A CERTIFIED
  - SYSTEM MONITORING TO BE INCLUDED IN CONTRACT
  - SERVICE CONTRACT TO INCLUDE A RUNNER TO RESPOND TO THE BUILDING WITHIN 45 MINUTES.

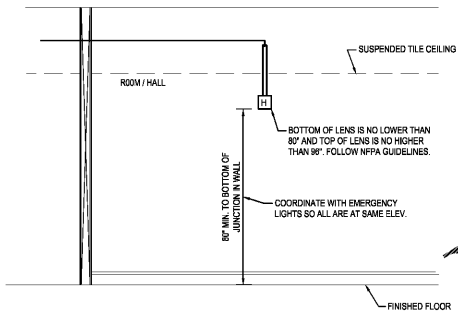
**DEVICES:**

1. NOTIFICATION DEVICES TO BE WHITE N COLOR UNLESS NOT ALLOWED BY THE LOCAL FIRE MARSHAL.
  2. ALL NOTIFICATION DEVICES ARE TO BE OF SAME MANUFACTURER AS FIRE ALARM CONTROL PANEL UNLESS OTHERWISE INDICATED BY PART NUMBERS ON DRAWING.
  3. THE FIRE ALARM CONTRACTOR SHALL PROVIDE ALL HVAC DUCT DETECTORS TO MATCH FIRE ALARM SYSTEM. HE SHALL INSTALL ALL DUCT DETECTORS AND TIE THEM TO THE FACP. COORDINATE DRAWING WITH MECHANICAL & CONTROL CONTRACTORS. HE SHALL CONTRACT WITH THE MECHANICAL CONTROLS CONTRACTOR TO TIE THE HVAC UNIT SHUT/DOWN TO THE DUCT DETECTOR. ELECTRICAL CONTRACTOR IS SOLELY RESPONSIBLE FOR DUCT DETECTOR WORK. PROVIDE WALL MOUNTED TEST SWITCH FOR DEVICE AT LOCATION DIRECTED BY FACILITIES MANAGER. ALL HVAC UNITS RATED OVER 2000 CFM OR UNITS SERVING AN EGRESS CORRIDOR ARE TO HAVE ONE DUCT DETECTOR LOCATED ON THE RETURN SIDE. UNITS OVER 15,000 CFM TO HAVE TWO DEVICES.
  4. ANY HOLD OPEN DEVICES ARE TO BE ELECTROMAGNETIC. PROVIDE RECESSED BOXES & EXTENDERS AS REQUIRED. FLOOR MOUNTED UNITS ARE INDICATED ON THE DRAWINGS.
  5. TO ENSURE THAT EACH SMOKE DETECTOR IS OPERATIVE, ALL CEILING AND AIR DUCT SMOKE DETECTORS WILL BE TESTED IN PLACE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. SENSITIVITY SHALL ALSO BE DETERMINED FOR EACH SMOKE DETECTOR IN ACCORDANCE WITH NFPA 72. A CERTIFICATION REPORT SIGNED BY THE INSTALLING CONTRACTOR SHALL BE SUBMITTED AT THE FINAL INSPECTION FOR EACH SMOKE DETECTOR. THE TEST METHOD USED TO TEST THE MANUFACTURER'S RECOMMENDED SENSITIVITY. THE INSTALLING CONTRACTOR TO PROVIDE ALL SHOP DRAWINGS FOR EACH SMOKE DETECTOR, PERMITS, INSPECTIONS AND TEST METHOD SYSTEM TO PROVIDE OWNER WITH AFFIDAVIT OF CERTIFICATION OF INSPECTION AND TESTING.
- INSTALLATION:**
1. FIRE ALARM PULL BOXES MUST BE MOUNTED AT A MAXIMUM OF 54" A.F.F. FOR SIDE APPROACH AND 48" A.F.F. FOR FORWARD APPROACH.
  2. ALL WALL MOUNTED NOTIFICATION DEVICES SHALL BE MOUNTED SO THAT THE ENTIRE LENIS IS NOT LESS THAN 80" A.F.F. AND NOT GREATER THAN 98" A.F.F.
  3. VERIFY LOCATIONS AND HEIGHTS OF ALL FIRE ALARM DEVICES WITH LOCAL FIRE MARSHAL PRIOR TO INSTALLATION.
  4. IN ACCORDANCE WITH NFPA 72, A.3.3.1, 5.1, NO SMOKE DETECTORS ARE TO BE LOCATED WITHIN 3FT OF A SUPPLY OR RETURN HVAC GRILL OR NOT IN THE PATH OF DIRECT AIR DISCHARGE FROM A SIDE WALL MOUNTED GRILL.
  5. PROVIDE FOR EACH DEVICE OUTLET BOXES, BACKBOXES, CONDUIT STUBS TO ABOVE CEILING, ALL WIRING ABOVE CEILING AREAS TO BE INSTALLED IN WIREWAYS OR MANAGED BY WIRING HOODS AND STRAPS, ETC. NO WIRING IS TO BE RUN ON THE CEILING STRUCTURE. 2FT ZEPH ARE TO BE PLENUM RATED. ROUTE ALL WIRING PARALLEL, OR PERPENDICULAR TO THE BUILDING STRUCTURE.
  6. IF ONE QUIETSTROM SMOKE DETECTOR IS ACTIVATED, THEN A TROUBLE ALARM IS TO BE SET OFF AT THE FACP. IF MORE THAN ONE ADJACENT QUIETSTROM SMOKE DETECTOR IS ACTIVATED, THEN A GENERAL ALARM IS TO BE SET OFF AT THE FACP. VERIFY WITH FIRE MARSHAL PRIOR TO PROGRAMMING.
  7. PROVIDE FIRE ALARM CONNECTIONS ANY FIRE-SMOKE DAMPERS SHOWN ON THE MECHANICAL PLANS.

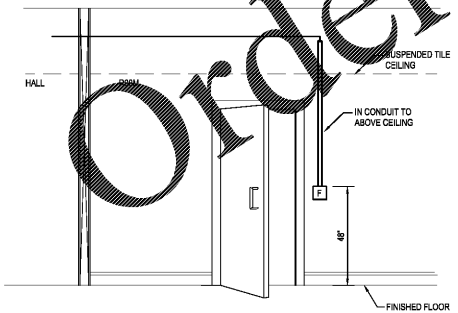
## SHOP DRAWINGS

1. CONTRACTOR TO PROVIDE SHOPS DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
2. SHOPS DRAWINGS MUST INCLUDE ALL DEVICES FOR SYSTEM AND PLANS SHOWING THE COMPLETE DESIGN OF THE SYSTEM.
3. IMPORTANT NOTE: SUGBAY MANUFACTURES PUBLISHED PRICE LIST WITH SHOP DRAWINGS. ALSO INCLUDE LETTER STATING THAT THE FIRE ALARM CONTROL PANEL AND 100% OF THE INITIATION DEVICES ARE TO BE TESTED DURING THE WARRANTY PERIOD. THIS TEST IS TO BE INDEPENDENT OF ANY TEST DONE AT STARTUP AND SYSTEM CERTIFICATION. ALL SHOP DRAWINGS NOT CONTAINING THESE TWO ITEMS WILL BE REJECTED WITHOUT REVIEW.

### HORN/LIGHT, VOICE SPEAKER/LIGHT OR STROBE LIGHT MOUNTING DETAIL



### MANUAL PULL STATION MOUNTING DETAIL



## FIRE ALARM SYMBOLS LEGEND

	FIRE ALARM/SECURITY CONTROL PANEL, INTELLIGENT/ADDRESSABLE WITH SENSITIVITY TESTING AND DRIFT COMPENSATION.
1	FIRE ALARM ANNUNCIATOR PANEL.
2	INTELLIGENT, MANUAL, PULS. STATION, SINGLE ACTION.
3	STROBE ONLY DEVICE. WHITE. CANDELA AS SHOWN ON PLANS.
4	DOOR HOLD OPEN DEVICE.
5	HORN/STROBE DEVICE. WHITE. CANDELA AS SHOWN ON PLANS. DEVICE TO BE TO BE LOW FREQUENCY TO MEET NFPA 72, SECTION 18.4.5.
6	MIN-HORN. SYSTEM DEVICE. WHITE. ALL DEVICES LOCATED WITHIN A GUESTROOM ARE TO BE LOW FREQUENCY TO MEET NFPA 72, SECTION 18.4.5.
7	SMOKE DETECTOR. INTELLIGENT, PHOTOELECTRIC.
8	SYSTEM SMOKE DETECTOR WITH SOUNDER BASE. DEVICE DOES NOT RECEIVE 120V POWER. DEVICE IS TO SOUND A LOCAL ALARM WITHIN EACH GUESTROOM, DISPLAY AN AUDIBLE/VISUAL ALARM AT THE FACP, AS WELL AS DISPLAY THE GUESTROOM NUMBER AT THE FACP. DEVICE IS TO BE PHOTOELECTRIC TYPE RATHER THAN IONIZATION AND HAVE A SOUNDER BASE. IN ADDITION TO THOSE WITH MORE THAN ONE DEVICE, ALL DEVICES WITHIN THE SAME GUESTROOM ARE TO BE INTERCONNECTED. REFER TO GENERAL FIRE ALARM NOTES ON SHEETS E301 & E302 FOR ADDITIONAL DEVICES TO BE PROVIDED IN HANDICAPPED AND HEARING IMPAIRED ROOMS. FIELD VERIFY ADDITIONAL PROGRAMMING WITH LOCAL A.H.J. ALL DEVICES ARE TO BE LOW FREQUENCY TO MEET NFPA 72, SECTION 18.4.5.
9	AUDIBLE ONLY DEVICE.
10	HEAT DETECTOR, FIXED TEMPERATURE OR RATE OF RISE.
11	COMBINATION SMOKE AND HEAT DETECTOR.
12	CARBON MONOXIDE DETECTOR. SYSTEM DEVICE.
13	COMBINATION SMOKE & CARBON MONOXIDE DETECTOR. SYSTEM DEVICE.
14	DUCT MOUNTED SMOKE DETECTOR. DEVICE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. CONTRACTOR SHALL WIRE DEVICES TO FIRE ALARM CONTROL PANEL, CONTRACTOR TO PROVIDE AND INSTALL INDICATOR FOR CONTROL. WIRING SO THAT THE DEVICES WITH SHUT DOWN THE UNIT THEY MONITOR. MOUNT DEVICES IN THE SUPPLY OR RETURN AIR DUCT (VERIFY WITH A.H.J.). PROVIDE A TEXT STATION AT EACH DETECTOR IN AN ACCESSIBLE LOCATION FOR STAFF AND OUT OF GUEST VIEW (FIELD VERIFY WITH OWNER).
15	MONITOR MODULES FOR FIRE PUMP. FIELD VERIFY LOCATIONS AND PROVIDE ALL REQUIRED CONNECTIONS AT THE FIRE PUMP.
16	SPRINKLER VALVE TAMPER SWITCH.
17	SPRINKLER WATER FLOW SWITCH.
18	FIRE ALARM CONNECTION TO POST INDICATOR VALVE. RUN 34°C. WITH WIRING TO PIT. FIELD VERIFY LOCATION ON SITE.
19	FIRE/SMOKE DAMPER.
20	FIRE ALARM SYSTEM POWER SUPPLY.

**LEGEND NOTES**

1. ALL HORNS, CHIMES AND STROBE LIGHTS TO BE WHITE, NOT RED.
2. ALL HORN/STROBE & CHIME/STROBES TO BE 2 WIRE WITH ABILITY TO TURN OFF HORNS & CHIMES WHILE LIGHTS STILL FLASH.
3. FIRE ALARM CONTRACTOR IS TO DETERMINE CANDELA RATINGS IN ACCORDANCE WITH CODE.
4. FIRE ALARM CONTRACTOR IS TO FIELD VERIFY ALL SPRINKLER SYSTEM CHARGE VALVES WITH SPRINKLER CONTRACTOR AND PROVIDE A TAMPER SWITCH AT EACH LOCATION.
5. WHERE SMOKE DETECTORS & CARBON MONOXIDE DETECTORS SHOWN TOGETHER, THE CONTRACTOR IS FREE TO PROVIDE A COMBINATION DEVICE IN LIEU OF THE TWO SEPARATE DEVICES.
6. CONTRACTOR TO PROVIDE LOW FREQUENCY SIGNAL REQUIREMENTS FOR DETECTORS IN SLEEPING AREAS FOR AREAS WHERE 2012 NFPA WILL BE ADOPTED BY THE TIME THE BUILDING IS COMPLETED. INCLUDE ALL COST IN BID.
7. CONTRACTOR IS TO VERIFY REQUIREMENTS FOR CO DETECTION WITH THE AHJ PRIOR TO ANY WORK.

## SMOKE/HEAT DETECTORS

1. THE SMOKE AND HEAT DETECTORS SHOWN ON THE PLANS EXCEED THE LOCAL CODE REQUIRED MINIMUMS. CONTRACTOR SHALL NOT REDUCE THE NUMBER, TYPE OR LOCATION OF DETECTION DEVICES DURING THE SHOP DRAWING PHASE OR CONSTRUCTION PHASE OF THE PROJECT.

## EMERGENCY RESPONDER RADIO TESTING

EMERGENCY RESPONDER RADIO COVERAGE TESTING IS TO BE CONDUCTED BY THE CONTRACTOR ASSIGNED BY FIRE DEPARTMENT AT 50% AND 80% COMPLETION TO ENSURE THAT THE BUILDING'S CERTIFICATE OF OCCUPANCY IS NOT HELD UP AT A LATER DATE. TESTING TO TAKE PLACE AS SOON AS THE RADIO IS INSTALLED. COORDINATE ALL TESTING WITH THE LOCAL FIRE MARSHAL. CONTRACTOR IS TO INCLUDE ALL COST IN HIS BID FOR LABOR TIME ASSOCIATED WITH THIS TESTING. NOTE THAT THIS MONEY IS TO BE REDDED BACK TO THE OWNER AT PROJECT CONCLUSION IF TESTING IS NOT REQUIRED. ALSO NOTE THAT EQUIPMENT FOR SIGNAL BOOSTING IS NOT INCLUDED IN THE CONTRACT. THIS WILL BE A CHANGE ORDER ADD TO THE CONTRACT IF REQUIRED IN WRITING BY THE FIRE MARSHAL'S OFFICE.

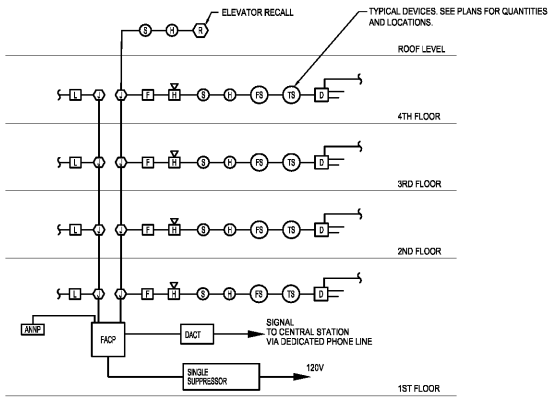
## FIRE ALARM BID NOTES

CONTRACTOR IS TO SUBMIT MANUFACTURER'S PUBLISHED PRICE LIST WITH SHOP DRAWINGS. ALSO INCLUDE LETTER STATING THAT THE FIRE ALARM CONTROL PANEL AND 100% OF THE INITIATION DEVICES ARE TO BE TESTED ONCE DURING THE WARRANTY PERIOD. THIS TEST IS TO BE INDEPENDENT OF ANY TEST DONE AT STARTUP AND SYSTEM CERTIFICATION. ALL SHOP DRAWINGS NOT CONTAINING THESE TWO ITEMS WILL BE REJECTED WITHOUT REVIEW.

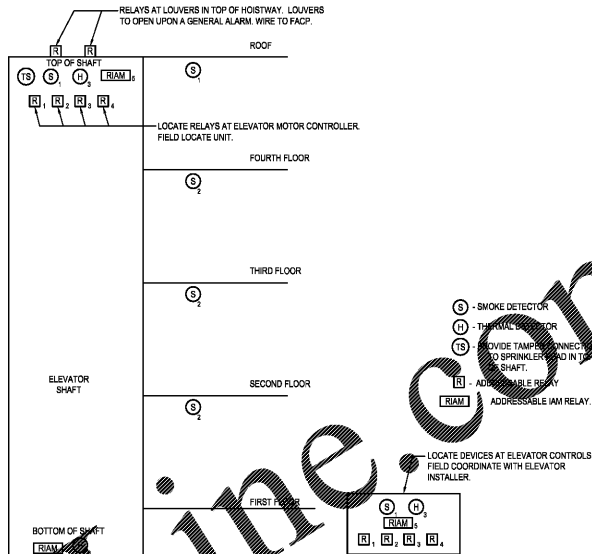
# ~~FIRE~~ ALARM SYSTEM MAINTENANCE

ALL REQUIRED DOCUMENTATION REGARDING THE DESIGN OF FIRE DETECTION, ALARM, AND COMMUNICATIONS SYSTEMS AND THE PROCEDURES FOR MAINTENANCE, INSPECTION, AND TESTING OF FIRE DETECTION, ALARM, AND COMMUNICATIONS SYSTEMS SHALL BE MAINTAINED AT AN APPROVED, SECURED LOCATION FOR THE LIFE OF THE SYSTEM.

## FIRE ALARM SYSTEM RISER DIAGRAM



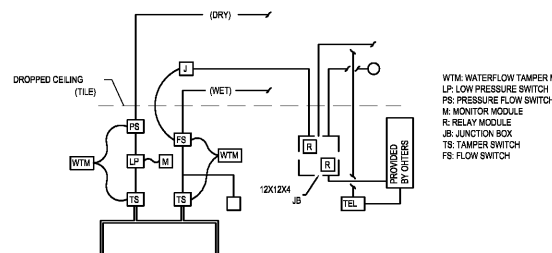
### ELEVATOR SHAFT FIRE ALARM RISER DIAGRAM



## RISER No. 22:

3. **SHUNT TRIP NOTES:**
  - 1- ADDRESS PRIMARY FIRE CALL
  - 2- ADDRESS ALTERNATE FIRE CALL
  - 3- SHUNT TRIP TO POWER SUPPLY (ELEVATOR RELAY PER ELEVATOR MOTOR), LOCATE AT SHUNT TRIP BREAKER
  - 4- ADDRESS RELAY TO ELEVATOR SECTION TO FLASH LIGHT IN CAR
  - 5- RELAY ACTIVATES PULL TENSION SOLINOID TO DISCHARGE SPRINKLER HEAD WITH WATER FROM OUTSIDE THE SPACE. ONLY ACTIVATES ON INMATION OF 135° HEAT DETECTOR (SPRINKLER HEADS SET AT 200°). PREVENTS ASSOCIATED DISCHARGE OF WATER INTO SPACE DURING MAINTENANCE SINCE HEAD IS NOT CHARGED UNTIL IT IS DETECTED (SOLENOID BY OTHERS).
2. **PRIMARY RECALL:** ANY SMOKE DETECTOR SHOWN HERE (OTHER THAN THE DETECTOR ON PRIMARY FLOOR) SHALL INITIATE A SIGNAL TO ELEV. EQUIPMENT TO RECALL TO PRIMARY FLOOR.
3. **ALTERNATE RECALL:** SMOKE DETECTOR ON PRIMARY FLOOR WILL SEND ELEV. TO ALT. FLOOR.
4. **SHUNT TRIP:** ANY THERMAL DETECTOR (TOP OR BOTTOM OF SHAFT, EQUIPMENT ROOM OR ELEV. PIT) SHALL ACTIVATE SHUNT TRIP THE ELEVATOR POWER SUPPLY, PROVIDE CONTACTS.
5. **LOCATE HEAT DETECTORS** WITHIN 2' OF SPRINKLER HEADS, COORDINATE WITH SPRINKLER CONTRACTOR.
6. **INSURE** THAT ELEVATOR OPERATES WITHIN ANSI STANDARDS. CONTRACTOR SHALL FOLLOW REQUIREMENTS OF NFPA13.
7. **PROVIDE** NORMALLY CLOSED CONTACTS AT SMOKE DETECTORS AS REQUIRED.
8. **ANY DETECTOR** IN HALLWAY OR EQUIPMENT ROOM SENDS A SEPARATE CONTACT ACTIVATION TO THE ELEVATOR EQUIPMENT ROOM FOR FLASH OPERATION.
9. **SPRINKLER CONTRACTOR** TO INSTALL TAMPER SWITCHES AND PRE ACTION SOLENOIDS.

### SPRINKLER RISER DIAGRAM



### MAGNETIC HOLD OPEN MOUNTING DETAIL

