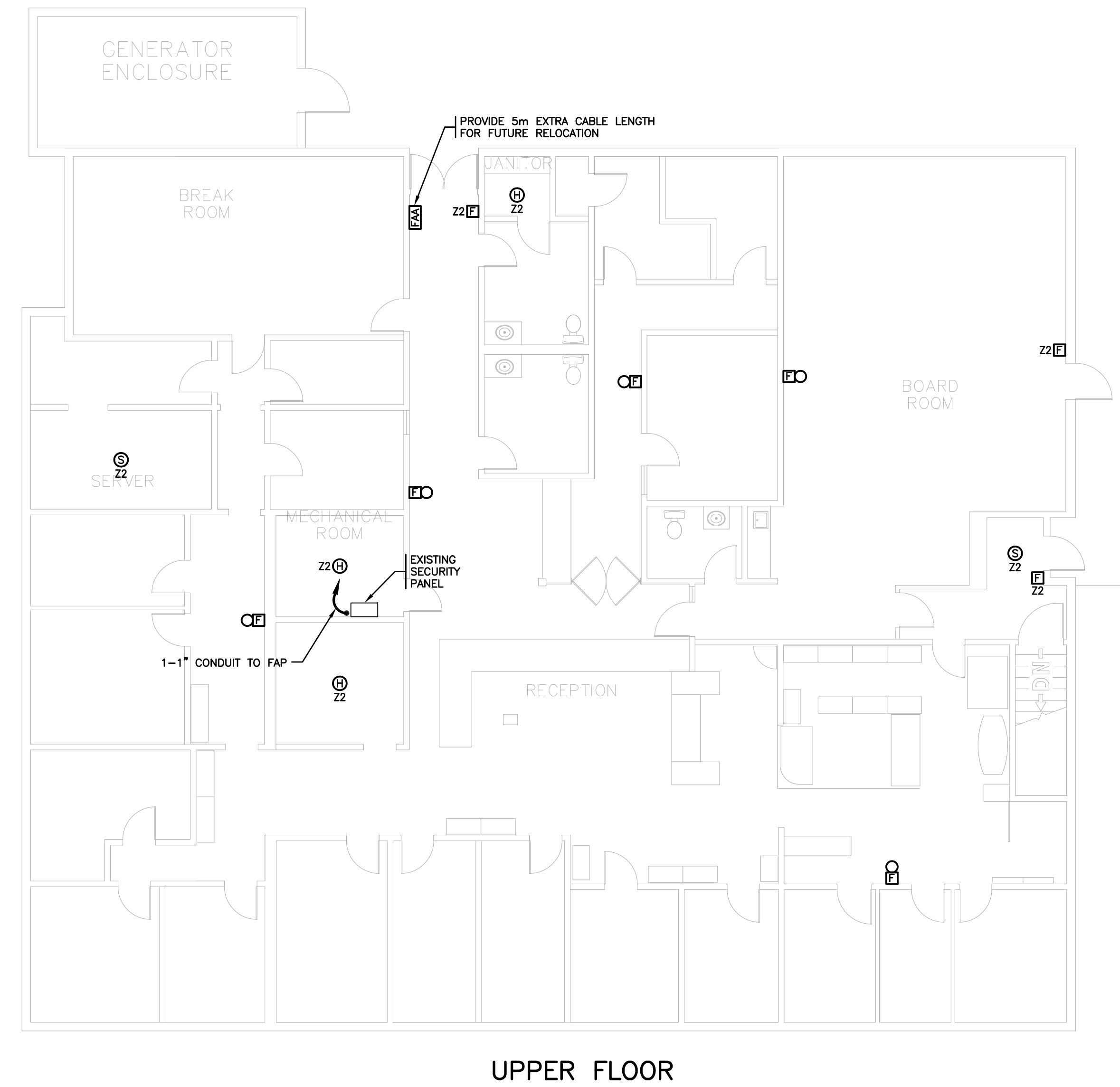
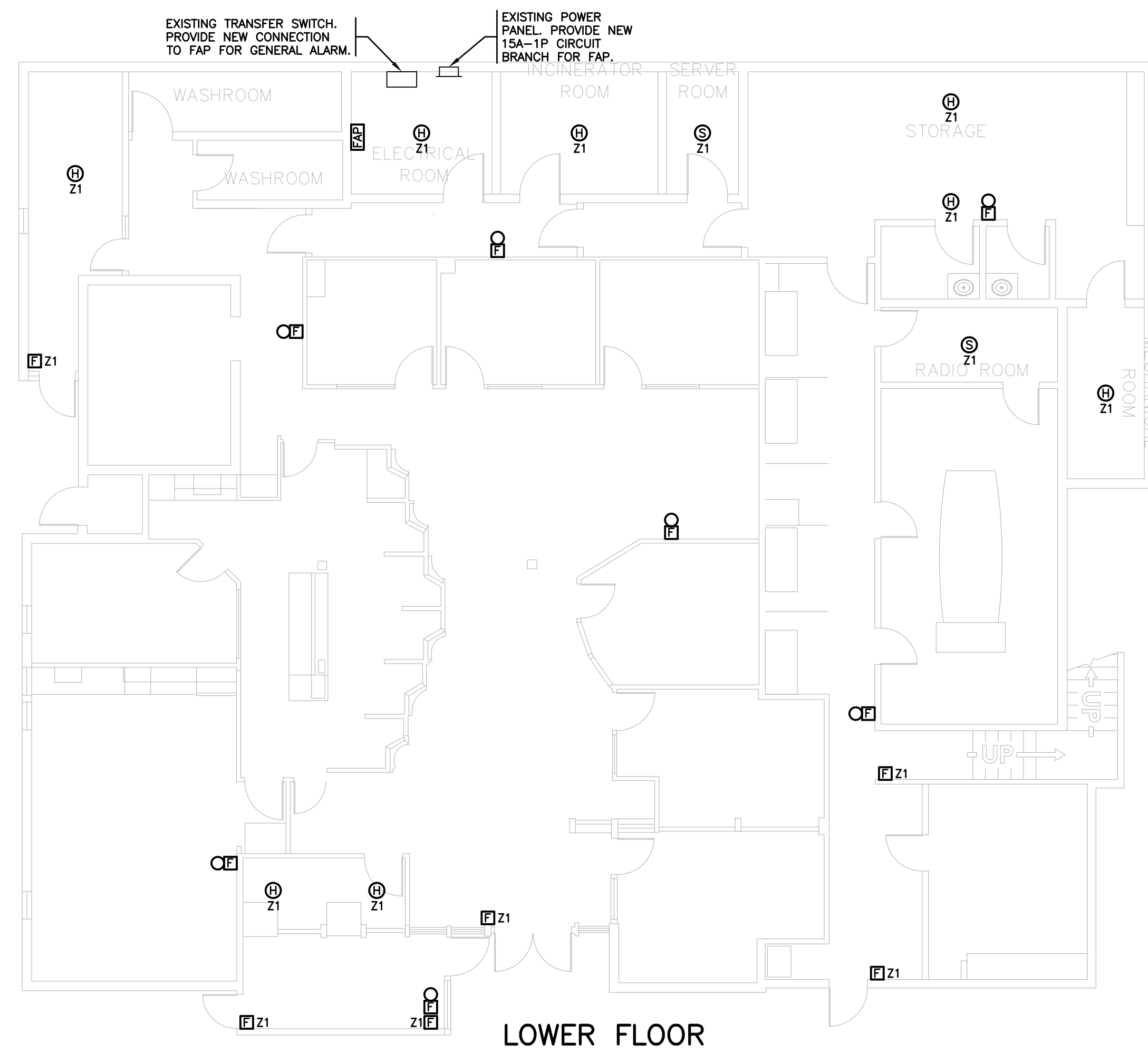


SYMBOL LEGEND

SYMBOL	MOUNTING	DESCRIPTION
□ PNL A	AS REQUIRED	PANEL BOARD 'A'
⊕	150mm T.O.D. B.C. 2300mm T.O.D. A.F.F.	FIRE ALARM HORN - PUBLIC AREAS
⊞	1100mm C.O.D. A.F.F.	FIRE ALARM PULL STATION
⊕	CEILING	HEAT DETECTOR, RATE OF RISE & FIXED TEMP.
⊕	CEILING	SMOKE DETECTOR
⊞	WALL	FIRE ALARM ANNUNCIATOR
⊞	WALL	FIRE ALARM CONTROL PANEL

ABBREVIATIONS:
 (T.O.D.) - TOP OF DEVICE
 (A.F.F.) - ABOVE FINISHED FLOOR
 (B.C.) - BELOW CEILING
 (C.O.D.) - CENTER OF DEVICE

GENERAL NOTE:
 REMOVE ALL EXISTING FIRE ALARM EQUIPMENT,
 DEVICES AND EXPOSED WIRE.



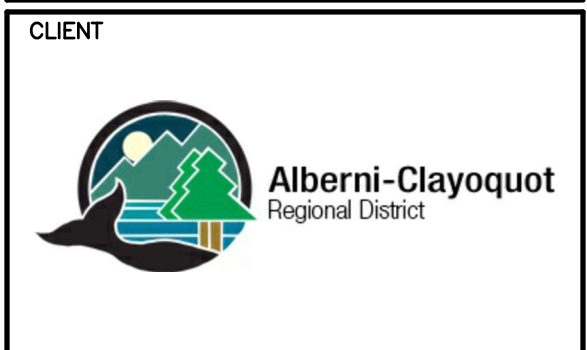
FIRE ALARM SCHEDULE

ZONE	DESCRIPTION	ALARM	SUPERVISORY
1	LOWER FLOOR MANUAL PULL STATIONS, HEAT AND SMOKE DETECTORS	X	
2	UPPER FLOOR MANUAL PULL STATIONS, HEAT AND SMOKE DETECTORS	X	
3	GENERATOR GENERAL ALARM		X
4	SPARE	X	
5	SPARE		X

NO.	DATE	TITLE	REVISION
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1	JUN 21 2021	ISSUED FOR REVIEW	

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PROJECT
**3008 FIFTH AVENUE
 PORT ALBERNI, BC
 FIRE ALARM UPGRADE**

TITLE
**ELECTRICAL
 LAYOUT**

PROJECT NO. 21-3790	SEAL
DATE JUNE, 2021	
SCALE 1:100	

DRAWING NO.
E-1

REFERENCE STANDARDS

1. MATERIAL SHALL CARRY CSA OR CUL APPROVAL AND CONFORM WITH EEMAC STANDARDS.
2. EQUIPMENT WIRING AND WIRING DEVICES SHALL MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE CANADIAN ELECTRICAL CODE 22.1, PART 1.
3. FIRE ALARM SYSTEMS AND SEISMIC REQUIREMENTS TO MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE BRITISH COLUMBIA BUILDING CODE.

GENERAL REQUIREMENTS

1. THE ELECTRICAL CONTRACTOR SHALL SUPPLY ALL LABOUR, MATERIALS, TOOLS, EQUIPMENT, TRANSPORTATION REQUIRED FOR THE COMPLETE INSTALLATION, WIRING AND TESTING OF THE SYSTEM SHOWN ON THE DRAWINGS AND DESCRIBED HEREIN AND IS RESPONSIBLE TO REVIEW ARCHITECTURAL, MECHANICAL, STRUCTURAL, CIVIL DRAWINGS FOR DISCREPANCIES AND REPORT TO THE ENGINEER.
2. THE ELECTRICAL DRAWINGS INDICATE THE GENERAL LOCATION AND ROUTE, CONDUIT AND/OR WIRING SHALL BE INSTALLED TO PROVIDE A COMPLETE OPERATING SYSTEM AND SHALL BE INSTALLED PHYSICALLY TO CONSERVE HEADROOM, FURRING SPACES ETC.
3. THE WORK TO BE DONE AS DESCRIBED IN THE DRAWINGS.
4. THE DRAWINGS AND SPECIFICATIONS COMPLEMENT EACH OTHER AND WHAT IS CALLED FOR BY ONE IS BINDING AS IF CALLED FOR BY BOTH. IF THERE IS ANY DOUBT AS TO THE MEANING OR TRUE INTENT DUE TO A DISCREPANCY BETWEEN THE DRAWINGS AND SPECIFICATIONS, OBTAIN RULING FROM ENGINEER PRIOR TO TENDER CLOSING. FAILING THIS, ALLOW FOR THE MOST EXPENSIVE ALTERNATIVE.
5. ELECTRICAL DRAWINGS ARE DIAGRAMATIC AND DO NOT SHOW ALL CONDUIT, WIRE, CABLE, ETC. THE ELECTRICAL CONTRACTOR IS TO PROVIDE CONDUIT, WIRE, CABLE, ETC. FOR A COMPLETE OPERATING JOB TO MEET IN ALL RESPECTS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS. ELECTRICAL DRAWINGS DO NOT SHOW ALL ARCHITECTURAL, STRUCTURAL AND MECHANICAL DETAILS.
6. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE AS TO WHICH TRADE PROVIDES SPECIFIC LABOUR AND MATERIALS. EXTRAS WILL NOT BE CONSIDERED BASED ON DIFFERENCES IN INTERPRETATION AS TO WHICH TRADE IS TO PROVIDE CERTAIN ITEMS.

SHOP DRAWINGS

1. PRIOR TO ORDERING OF ANY EQUIPMENT, THIS CONTRACTOR SHALL SUBMIT DIGITAL COPIES OF SHOP DRAWINGS AND DETAIL DRAWINGS FOR REVIEW BY THE ENGINEER. THE ENGINEER SHALL THEN RETURN COPIES OF THE REVIEWED SHOP DRAWINGS TO THE CONTRACTOR. SHOP DRAWINGS SHALL BE SUBMITTED ON ALL MAJOR EQUIPMENT.
2. ALL SHOP DRAWINGS SUBMITTED TO THE ENGINEER MUST BEAR THE CONTRACTORS APPROVALS.
3. ALL SHOP DRAWINGS SHALL BEAR THE NAME OF THE MANUFACTURER AND/OR MANUFACTURER'S REPRESENTATIVE.
4. SUBMIT SHOP DRAWINGS FOR AT LEAST THE FOLLOWING ITEMS:
 1. FIRE ALARM SYSTEM INCLUDING COMPLETE COMPONENT INFORMATION, ZONE SCHEDULES, ANNUNCIATOR CONFIGURATION, WIRING DIAGRAMS AND TESTING PROCEDURES ETC.

MAINTENANCE AND OPERATION MANUAL

1. CONTRACTOR TO SUBMIT ONE COPY OF MAINTENANCE AND OPERATION MANUALS IN THREE RING BINDER TO ENGINEER FOR APPROVAL AT TIME OF SUBSTANTIAL COMPLETION.
2. MANUALS TO INCLUDE THE FOLLOWING:
 1. PROJECT CONTACT INFORMATION
 2. APPROVED SHOP DRAWINGS
 3. WARRANTIES AND GUARANTEES
 4. TEST RESULTS
 5. AS BUILT DRAWINGS
3. ON APPROVAL CONTRACTOR TO PROVIDE THREE COPIES OF THE MAINTENANCE AND OPERATION MANUALS IN THREE RING BINDERS c/w CD OF ALL DOCUMENTS IN PDF FORMAT.

PERMITS, CERTIFICATES, AND FEES

1. ON COMPLETION OF THE WORK, SUBMIT CERTIFICATE OF ACCEPTANCE FROM INSPECTION AUTHORITY TO THE ENGINEER.
2. PRIOR TO COMMENCEMENT OF WORK, SUBMIT THE NECESSARY DRAWINGS TO THE ELECTRICAL INSPECTION DEPARTMENT AND THE ELECTRICAL SUPPLY AUTHORITY.
3. PAY ALL ASSOCIATED FEES, AND OBTAIN DOCUMENTS POSTING AS REQUIRED.

INSPECTION OF WORK

1. UPON COMPLETION OF THE BUILDING AND IMMEDIATELY PRIOR TO FINAL INSPECTION AND TAKEOVER, CHECK LOAD BALANCE ON ALL FEEDERS AND AT DISTRIBUTION CENTRES, PANELS, ETC. IF LOAD EXCEEDS 10 PERCENT PHASE IMBALANCE, RECONNECT CIRCUITS TO BALANCE THE LOAD. RECORD EACH PHASE AMPERAGE AND VOLTAGE AND INCLUDE THE RESULTS IN THE MAINTENANCE AND SHOP DRAWING MANUALS.

ALTERNATIVES

1. ALL MATERIALS OR EQUIPMENT AS CALLED FOR ON THE DRAWINGS AND IN THE SPECIFICATIONS BY TRADE NAMES OR BY CATALOGUE REFERENCE NUMBERS, ARE THE MATERIALS ON WHICH THIS TENDER IS TO BE BASED. ALL EQUIPMENT MUST BE INSTALLED AS SHOWN ON THE DRAWINGS OR IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE REQUEST FOR APPROVAL SHALL BE ACCOMPANIED BY COMPLETE SPECIFICATIONS OF PROPOSED SUBSTITUTION, SHOWING DIMENSIONS, RATINGS, PHOTOMETRICS DATA, ETC. IT SHALL BE THIS SUB-CRTRACTOR'S RESPONSIBILITY TO MAKE AND ALLOW FOR ANY CHANGES AND CHARGES WHICH WILL OCCUR IF HE WISHES TO SUBMIT ALTERNATIVE EQUIPMENT. NO SUBSTITUTION BY THIS CONTRACTOR WILL BE PERMITTED AFTER CLOSING OF THE TENDERS.
2. THE ENGINEER RESERVES THE RIGHT TO ACCEPT OR REJECT ANY ALTERNATIVES PROPOSED.

GUARANTEE

1. AFTER THE WORK IS COMPLETED BUT BEFORE FINAL PAYMENT, FURNISH TO THE OWNER A WRITTEN GUARANTEE THAT FOR ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION, ANY DEFECTS IN MATERIALS OR WORKMANSHIP WILL BE CORRECTED AT NO COST TO THE OWNER, EXCEPT WHERE, IN THE OPINION OF THE ENGINEER, SUCH DEFECTS ARE DUE TO MIS-USE OR NEGLIGENCE BY THE OWNER.

MINOR FIELD CHANGES

1. THE LOCATION, ARRANGEMENT AND CONNECTION OF EQUIPMENT AND MATERIAL AS SHOWN ON THE DRAWINGS REPRESENTS A CLOSE APPROXIMATION OF THE INTENT AND REQUIREMENTS OF THE CONTRACT. THE RIGHT IS RESERVED BY THE ENGINEERS TO MAKE REASONABLE CHANGES REQUIRED TO ACCOMMODATE CONDITIONS ARISING DURING THE PROGRESS OF THE WORK. SUCH CHANGES SHALL BE DONE AT NO EXTRA COST TO THE OWNER, UNLESS THE LOCATION, ARRANGEMENT OR CONNECTION IS MORE THAN TEN FEET FROM THAT SHOWN AND THE ITEM IN QUESTION HAS BEEN INSTALLED.
2. CONFIRM FINAL LOCATION PRIOR TO INSTALLATION.

WIRE AND CABLE

1. BUILDING WIRE: 98% CONDUCTIVITY COPPER, 90°C RATED 600V INSULATION, RW90 X-LINK FOR DAMP LOCATIONS. COPPER CONDUCTORS SHALL BE STRANDED WHEN LARGER THAN #8 AWG OR AS NOTED.
2. PROVIDE X-LINK POLYETHYLENE TYPE INSULATION FOR FIRE ALARM SYSTEM CONDUCTORS.
3. FIRE DETECTOR SIGNAL CIRCUITS SHALL NOT BE RUN IN THE SAME CONDUIT WITH ANY OTHER SIGNAL CIRCUIT EXCEPT WHEN THE FIRE ALARM SIGNAL CIRCUIT IS OF THE SAME VOLTAGE AS THE FIRE DETECTOR SIGNAL VOLTAGE.
4. LOW VOLTAGE SIGNAL WIRING SHALL BE SEPARATED FROM POWER WIRING AND RUN IN SEPARATE RACEWAYS. THIS INCLUDES PANEL WIREWAYS.
5. CABLES IN PLenums TO BE FT6 RATED UNLESS INSTALLED IN NON-COMBUSTIBLE CONDUIT.
6. ALL WIRING TO BE CONCEALED WHERE POSSIBLE. PROVIDE WIRE MOLD FOR EXPOSED WIRING IN PUBLIC SPACES AND CONDUIT IN SERVICE SPACES.
7. COLOUR CODE TO CSA C22.1 CURRENT EDITION.
8. ALUMINIUM CONDUCTORS CAN NOT BE USED UNLESS SPECIFICALLY SHOWN OR WITH SPECIAL PERMISSION.

FIRE ALARM SYSTEM

1. SCOPE OF WORK
 1. SUPPLY, INSTALLATION AND VERIFICATION OF A COMPLETE FIRE ALARM SYSTEM.
2. GENERAL NOTES
 1. FIRE ALARM SYSTEM TO BE INSTALLED TO THE CURRENT EDITION OF CAN-ULC S524 AND TESTING AND VERIFIED TO CAN-ULC S537.
 2. PROVIDE CERTIFICATION AND VERIFICATION PRIOR TO FINAL ACCEPTANCE. VERIFICATION REPORT TO BE TYPE WRITTEN AND INCLUDED IN THE MAINTENANCE MANUALS.
 3. COORDINATE WITH OWNER'S MONITORING COMPANY. SIGNAL TO FIRE DEPARTMENT SHALL BE PROVIDED IN CONFORMANCE WITH CAN/ULC-SS61. ELECTRICAL CONTRACTOR TO PROVIDE ALL REQUIRED CABLING BETWEEN MONITORING EQUIPMENT AND FIRE ALARM CONTROL PANELS.
3. SYSTEM DESCRIPTION
 1. FIRE ALARM SYSTEM TO BE A SUPERVISED SINGLE STAGE, ADDRESSABLE CODED, ZONED AND CLOSED CIRCUIT 24 VDC SYSTEM. ACCEPTABLE FIRE ALARM SYSTEM MANUFACTURERS ARE EDWARDS, MIROOM, NOTIFIER AND SIMPLEX-GRINNELL.
 2. PROVIDE 20% SPARE CAPACITY FOR ADDRESSABLE LOOPS.
 3. REMOTE ANNUNCIATOR TO HAVE AN LED DISPLAY AS PER FIRE ALARM SCHEDULE. EXTERIOR MOUNTED ANNUNCIATOR TO BE EQUIPPED WITH A WEATHER PROOF BACK BOX, VANDAL RESISTANT COVER AND THERMOSTAT CONTROLLED ELECTRIC HEATER RATED FOR OUTDOOR USE.
4. FIRE ALARM DEVICES
 1. MANUAL PULL STATIONS TO BE SINGLE ACTION AND SINGLE STAGE.
 2. FIXED AND RATE OF RISE HEAT DETECTORS TO ALARM AT TEMPERATURES EXCEEDING 57°C OR A RATE OF 9°C PER MINUTE.
 3. SMOKE DETECTORS TO ALARM ON PHOTOELECTRIC TECHNOLOGY.
 4. COMMON AREA HORNS TO HAVE A TEMPORAL AUDIBLE PATTERN WITH AN AVERAGE OF 94 dBA SOUND LEVEL BASED ON CAN/ULC S525 (dBA @ 10'). HOUSING TO BE RED IN COLOUR.
5. FIRE ALARM SEQUENCE OF OPERATION
 1. ACTIVATION OF ANY INITIATING DEVICE TO ENABLE ALL NOTIFICATION DEVICES.
 2. CONTROL PANEL TO TRANSMIT SIGNAL TO MONITORING STATION FOR ALL ALARMS, SUPERVISORY OR TROUBLE SIGNALS.

AS BUILT DRAWINGS

1. PROVIDE A CLEAN SET OF DRAWINGS AT THE JOB SITE, FOR AS BUILT MODIFICATIONS ONLY.
2. MARK ALL MODIFICATIONS IN RED, IN A NEAT, LEGIBLE MANNER.
3. SUBMIT AS BUILTS TO ENGINEER FOR APPROVAL.

EMERGENCY SYSTEMS

1. ALL EMERGENCY SYSTEMS ASSOCIATED WITH BUILDING CODE REQUIREMENTS SUCH AS FIRE ALARMS MUST NOT BE ALTERED WITHOUT THE APPROVAL OF THE ENGINEER. SUCH UNAUTHORIZED CHANGES MAY RESULT IN OCCUPANCY PERMIT DELAYS.

SEISMIC

1. ALL ELECTRICAL EQUIPMENT IS TO BE SECURED TO THE BUILDING STRUCTURE TO MEET THE SEISMIC REQUIREMENTS OF THE BUILDING CODE.

FIRE SEPARATIONS

1. THE CONTRACTOR SHALL PROVIDE FIRE STOPPING FOR ALL ELECTRICAL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES.
2. FIRE STOP SYSTEMS SHALL WHEN SUBJECTED TO THE FIRE TEST METHOD IN CAN/ULC S119 "STANDARD METHOD OF FIRE TESTS OF FIRE STOP SYSTEMS", HAVE AN FT RATING (AS REQUIRED) NOT LESS THAN THE RATING OF THE FIRE SEPARATION.
3. CONTRACTOR SHALL PROVIDE TO ENGINEER/ARCHITECT COMPLETE LISTINGS FOR ALL FIRE STOPPING INSTALLATIONS. PROVIDE SPECIFIC DETAILS REGARDING TYPE OF FIRE STOPPING COMPOUND, APPLICABLE APPLICATIONS, MANUFACTURE, TESTING AGENCY, ETC.
4. CONTRACTOR SHALL NOTIFY ENGINEER/ARCHITECT A MIN. OF ONE WEEK PRIOR TO CONCEALING OF ENCLOSING FIRE STOP ASSEMBLIES AND BE AVAILABLE ON SITE FOR ENGINEERS FIELD REVIEW.
5. ALL ELECTRICAL PANELS, MEDIA PANELS, FIRE ALARM PANELS AND FORCE FLOW HEATERS INSTALLED IN EITHER A FIRE RATED WALL REQUIRED BY BUILDING CODE OR A LOAD BEARING ASSEMBLY SHALL BE BOXED IN WITH DRY WALL AND FIRE BLOCKED SO AS TO MAINTAIN THE FIRE RATING OF THE ASSEMBLY.

EQUIPMENT REMOVALS

1. REMOVE CONDUIT AND WIRE FOR ASSOCIATED ELECTRICAL EQUIPMENT. POWER WIRING TO BE REMOVED BACK TO NEAREST JUNCTION BOX OR BREAKER. COMM. WIRING TO BE REMOVED BACK TO TERMINATION POINT. LIMIT THE FOREGOING SO AS NOT TO DEMOLISH WALL OR CEILINGS THAT WOULD OTHERWISE REMAIN.
2. DISPOSE OF REMOVED ITEMS OFF SITE IN ACCORDANCE WITH APPLICABLE RECYCLING AND DISPOSAL GUIDELINES.
3. REPAIR AND PAINT AFFECTED AREAS TO MATCH SURROUNDING FINISHES.

PROJECT CLOSE OUT PROCEDURES

1. PROVIDE 24 HOUR NOTICE TO THE ENGINEER FOR FINAL FIELD REVIEW FOR ELECTRICAL DISCIPLINE. ELECTRICAL CONTRACTOR TO ENSURE ALL LIFE SAFETY DEVICES ARE INSTALLED AND OPERATIONAL. ELECTRICAL CONTRACTOR TO ENSURE ALL ELECTRICAL WORKS NOT INSTALLED ARE MADE SAFE.
2. THE FOLLOWING DOCUMENTS TO BE FORWARDED TO THE ENGINEER PRIOR TO FINAL FIELD REVIEW:
 1. FIRE ALARM VERIFICATION REPORT AND SEQUENCE OF OPERATION PROGRAMMING CONFIRMATION.
 2. CERTIFICATE OF FIRE ALARM MONITORING
 3. MAINTENANCE MANUALS
 4. FIELD SAFETY REPRESENTATIVE (FSR) DECLARATION

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CLIENT



PROJECT

3008 FIFTH AVENUE
PORT ALBERNI, BC
FIRE ALARM UPGRADE

TITLE

ELECTRICAL
SPECIFICATIONS

PROJECT NO. 21-3790	SEAL
DATE JUNE, 2021	
SCALE N.T.S.	

DRAWING NO.

E-2