

ELECTRICAL NOTES

ELECTRICAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS FOR THIS PROJECT.

1. GENERAL:

1. CONFORM WITH APPLICABLE REQUIREMENTS OF THE MINISTRY OF LABOUR, AND THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
2. DO COMPLETE INSTALLATION IN ACCORDANCE WITH THE FOLLOWING:
 - 1. ONTARIO ELECTRICAL SAFETY CODE;
 - 2. ELECTRICAL SAFETY AUTHORITY;
 - 3. ELECTRICAL SUPPLY AUTHORITY.
3. SUBMIT TO ELECTRICAL SAFETY AUTHORITY AND SUPPLY AUTHORITY NECESSARY NUMBER OF DRAWINGS AND SPECIFICATIONS FOR APPROVAL PRIOR TO COMMENCEMENT OF WORK.
4. PAY ALL ELECTRICAL PERMIT AND INSPECTION FEES.
5. GIVE A COMPLETE SYSTEM IN ACCORDANCE WITH THE ONTARIO ELECTRICAL SAFETY CODE AND ELECTRICAL SAFETY AUTHORITY.
6. PROVIDE DIGITAL AND HARD COPY OF COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS FOR EQUIPMENT FURNISHED UNDER THIS CONTRACT. BIND INSTRUCTIONS IN 3-RING BINDERS. INCLUDE THE FOLLOWING:
 - 1. SCHEMATIC DIAGRAM OF ELECTRICAL SYSTEMS;
 - 2. CONTROL SHOP DRAWINGS AND OPERATING SEQUENCE INCLUDING WIRING OF COMPONENTS;
 - 3. WIRING DIAGRAM OF CONTROL PANELS;
 - 4. OPERATING INSTRUCTIONS, INCLUDING START-UP AND SHUT-DOWN PROCEDURE;
 - 5. MAINTENANCE INSTRUCTIONS INCLUDING PREVENTIVE MAINTENANCE INSTRUCTIONS FOR COMPONENTS OF THE EQUIPMENT;
 - 6. COMPLETE PARTS LIST OF ASSEMBLIES AND THEIR COMPONENT PARTS, SHOWING MANUFACTURER'S NAME, CATALOGUE NUMBER, AND NEAREST REPLACEMENT SOURCE;
 - 7. LIST OF RECOMMENDED SPARE PARTS AND QUANTITY OF EACH ITEM TO BE STOCKED;
 - 8. MANUFACTURERS' WARRANTIES AND GUARANTEES;
 - 9. CLEAN ALL ELECTRICAL SYSTEMS AT PROJECT COMPLETION;
 - 10. COMPLETE AS-BUILT DRAWINGS SHOWING ALL CHANGES AS WORK PROGRESSES.

2. CONTRACTOR QUALIFICATIONS:

1. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE "TRADES QUALIFICATION AND APPRENTICESHIP ACT" AND REGULATIONS, BY PERSONS WHO HOLD THE FOLLOWING CERTIFICATES OF QUALIFICATION (AS APPLICABLE):
 - 1. ELECTRICIAN: CONSTRUCTION & MAINTENANCE
2. ALL FIRE ALARM SYSTEM WORK SHALL BE PERFORMED BY PERSONS WHO HOLD ELECTRICIAN QUALIFICATIONS (ABOVE), AND IN ADDITION, WHO HOLD THE FOLLOWING CURRENT REGISTRATION WITH THE CANADIAN FIRE ALARM ASSOCIATION (CFAA):
 - 1. FIRE ALARM TECHNICIAN.

3. EXISTING FACILITIES AND DEMOLITION:

1. LOCATE AND PROTECT ALL EXISTING EXTERIOR SITE SERVICES.
2. REFER TO AND PROTECT ALL EXISTING INTERIOR SERVICES AND BUILDING FABRIC. MAKE GOOD ANY AND ALL DAMAGE RESULTING FROM THIS WORK.
3. CONNECTIONS TO EXISTING SERVICES SHALL BE COORDINATED WITH THE OWNER.
4. EXECUTE WORK WITH LEAST POSSIBLE INTERFERENCE OR DISTURBANCE TO NORMAL USE OF THE EXISTING BUILDING.
5. CUTTING AND PATCHING:
 1. EXECUTE CUTTING, FITTING AND PATCHING REQUIRED TO MAKE THE WORK FIT PROPERLY TOGETHER. CUT AND PATCH FOR PROCESS, MECHANICAL AND ELECTRICAL WORK.
 2. COORDINATE WORK WITH OTHER TRADES SO THAT THERE IS A MINIMUM OF CUTTING, FITTING AND PATCHING.
 3. DRILLING, CUTTING, FITTING AND PATCHING AND MAKING GOOD WHERE NECESSARY DUE TO FAILURE TO DELIVER ITEMS TO BE BUILT IN TIME OR INSTALLATION IN WRONG LOCATION, SHALL BE EXECUTED AS DIRECTED AT NO COST TO THE OWNER.
 4. DRILLING AND CUTTING OF LOAD BEARING STRUCTURAL MEMBERS SHALL BE DONE ON PRIOR EXPRESS WRITTEN PERMISSION OF THE ENGINEER FOR EACH INSTANCE.
 5. CUT HOLES ACCURATELY, WITH SMOOTH, TRUE, CLEAN EDGES. FIT UNITS TO TOLERANCES TO BEST STANDARD PRACTICE FOR APPLICABLE WORK.
 6. HOLES IN BLOCK AND CONCRETE WORK SHALL BE SAWCUT OR CORE-DRILLED, AND SHALL NOT BE MADE WITH A HAMMER GUN.
 7. PATCHED WORK SHALL BE INVISIBLE, SIZE HOLES AND OPENINGS FOR PIPES SO AS TO ALLOW FOR EXPANSION AND CONTRACTION OF SUCH PIPES.
10. DESIGNATED SUBSTANCES SHALL BE TREATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS.
2. SHOULD ANY DESIGNATED SUBSTANCES BE ENCOUNTERED IN THE AREA OF CONSTRUCTION, ALL WORK SHALL STOP IMMEDIATELY, AND THE OWNER AND ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
3. IF APPLICABLE, ASBESTOS REMOVAL SHALL BE COMPLETED IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT AND ONTARIO REGULATION 278 "DESIGNATED SUBSTANCE - ASBESTOS ON CONSTRUCTION PROJECTS AND IN BUILDINGS AND REPAIR OPERATIONS".

4. FIXTURES AND EQUIPMENT:

1. PROVIDE SHOP DRAWINGS AND PRODUCT DATA FOR ALL ELECTRICAL FIXTURES AND EQUIPMENT FOR APPROVAL, PRIOR TO PROCUREMENT.
2. INSTALL ALL ELECTRICAL FIXTURES AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
3. EQUIPMENT AND MATERIAL TO BE CSA CERTIFIED. WHERE THERE IS NO ALTERNATIVE TO SUPPLYING EQUIPMENT WHICH IS NOT CSA CERTIFIED, OBTAIN SPECIAL APPROVAL FROM ELECTRICAL SAFETY AUTHORITY.

5. CONDUIT:

1. ELECTRICAL METALLIC TUBING (EMT), HOT DIPPED GALVANIZED STEEL, WITH THREADED CONNECTORS AND COUPLINGS, IN SERVICE AREAS OR OPEN DOME.

6. WIRES AND CABLE:

1. VOLTAGE DROP:
 1. BRANCH CIRCUIT CONDUCTORS SHALL BE SIZED FOR A MAXIMUM VOLTAGE DROP OF 3% AT DESIGN LOAD.
2. BUILDING WIRES:
 1. IN CONDUIT SYSTEMS TO BE STRANDED COPPER CONDUCTORS FOR 10 AWG AND LARGER, MINIMUM SIZE 12 AWG, TYPE RW90.
3. BUILDING WIRES IN CONCEALED LOCATIONS TO BE COPPER, MINIMUM SIZE 12 AWG, TYPE AC90.

7. COMMERCIAL KITCHEN EXHAUST AND FIRE PROTECTION:

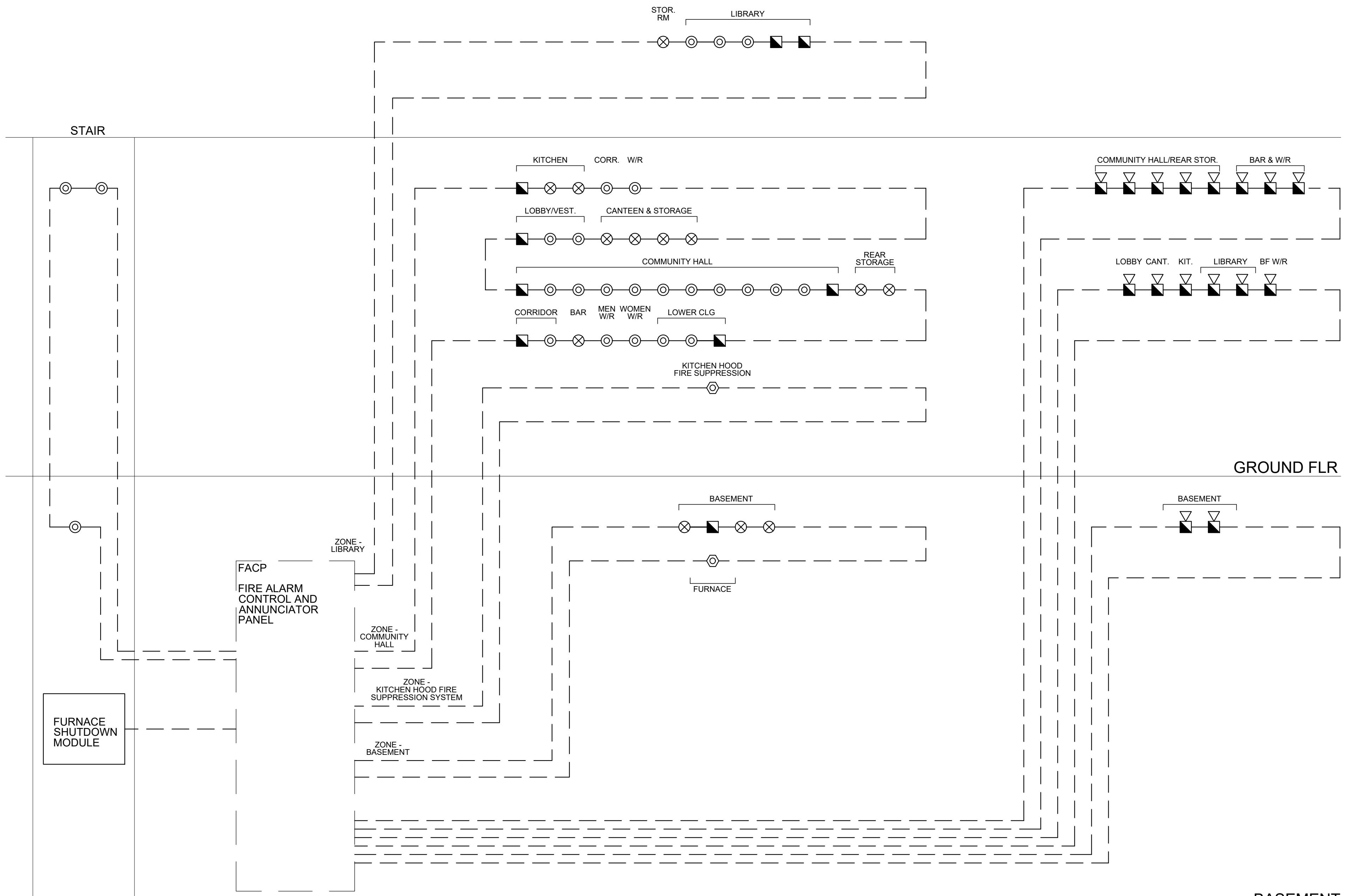
1. DESIGN AND INSTALLATION SHALL CONFORM TO NFPA 96 - STANDARD FOR VENTILATION CONTROL AND FIRE PROTECTION OF COMMERCIAL COOKING OPERATIONS.
2. AUTOMATIC FIRE-EXTINGUISHING SYSTEM:
 1. WHERE A FIRE ALARM SYSTEM IS INSTALLED, THE ACTIVATION OF THE AUTOMATIC FIRE-EXTINGUISHING SYSTEM SHALL ACTIVATE THE FIRE ALARM SYSTEM.

8. FIRE PROTECTION:

1. PROVIDE DRAWINGS FROM HILTI AND/OR 3M FOR FIRE PROTECTION OF ALL ELECTRICAL MATERIALS, INCLUDING PANELS, BOXES, CABLE, WIRE, CONDUIT AND OUTLETS PENETRATING OR PASSING THROUGH FLOORS OR WALLS, FOR REVIEW BY ENGINEER.
2. ALL ELECTRICAL MATERIALS, INCLUDING PANELS, BOXES, CABLE, WIRE, CONDUIT AND OUTLETS SHALL BE TIGHTLY FITTED AND SEALED WITH FIRESTOPPING MATERIAL AT ALL FIRE SEPARATIONS AND FIRE-RATED MEMBRANES.
3. ALL CABLING AND CONDUIT SHALL BE TIGHTLY FITTED AND SEALED WITH FIRESTOPPING MATERIAL AT ALL FLOORS AND WALLS.

9. COORDINATION:

1. INFORMATION INVOLVING ACCURATE DIMENSIONING OF THE BUILDING SHALL BE TAKEN FROM SITE BY CONTRACTOR.
2. DRAWINGS ARE IN DIAGRAMMATIC FORM, INTENDED TO CONVEY THE SCOPE OF WORK AND GENERAL ARRANGEMENT FOR EQUIPMENT. COORDINATE PHYSICAL LOCATION OF ALL EQUIPMENT WITH OTHER TRADES AND ALLOW FOR ANY ADDITIONAL CONDUIT, WIRING, FITTINGS, SUPPORTS, ETC., IN ORDER TO AVOID INTERFERENCE AND FACILITATE THE WORK.
3. CONTRACTOR TO MAKE ANY NECESSARY MODIFICATIONS OR ADDITIONS, WITHOUT CHARGE, TO ACCOMMODATE SITE CONDITIONS AND COORDINATION.



1 FIRE ALARM SYSTEM DIAGRAM - COMMUNITY CENTER

F001 SCALE: NOT TO SCALE

FIRE ALARM SYSTEM - COMMUNITY CENTRE

1. GENERAL:

1. REFER TO ELECTRICAL NOTES AND SPECIFICATIONS.
2. CONTRACTOR QUALIFICATIONS:

1. ALL FIRE ALARM SYSTEM WORK SHALL BE PERFORMED BY PERSONS WHO HOLD ELECTRICIAN QUALIFICATIONS, AND IN ADDITION, WHO HOLD THE FOLLOWING CURRENT REGISTRATION WITH THE CANADIAN FIRE ALARM ASSOCIATION (CFAA): FIRE ALARM TECHNICIAN.

2. SYSTEM REQUIREMENTS:

1. FIRE ALARM SYSTEM SHALL BE SUPPLIED, INSTALLED AND VERIFIED IN ACCORDANCE WITH THE FOLLOWING, AS APPLICABLE:
 1. OBC 3.2.4. - FIRE ALARM AND DETECTION SYSTEMS;
 2. OBC 9.10.18. - ALARM AND DETECTION SYSTEMS;
 3. CAN/ULC-S524 - INSTALLATION OF FIRE ALARM SYSTEMS;
 4. CAN/ULC-S537 - VERIFICATION OF FIRE ALARM SYSTEMS;
 5. CAN/ULC-S561 - INSTALLATION AND SERVICES FOR FIRE SIGNAL RECEIVING CENTRES AND SYSTEMS.

3. SYSTEM NOTES:

1. MAJOR OCCUPANCY CLASSIFICATION (FROM OBC 3.1.2.) OF BUILDING:
 1. GROUP A - ASSEMBLY OCCUPANCIES: A2 - OTHER
2. FIRE ALARM SYSTEM TYPE: SINGLE STAGE, ADDRESSABLE.
3. ACCEPTABLE SUPPLIER/PRODUCT:
 1. EDWARDS;
 2. MIRCOM;
 3. NOTIFIER;
 4. SIMPLEX.
4. FIRE ALARM SYSTEM VERIFICATION:
 1. CONTRACTOR SHALL REVIEW THE DRAWINGS AND SHALL NOTE ALL AREAS OF DEVICE DEFICIENCY, PRIOR TO COMPLETION OF EQUIPMENT AND WIRING ROUGH-IN.
5. FIRE ALARM SYSTEM MONITORING STATION CONNECTION:
 1. FIRE ALARM SYSTEM SHALL NOTIFY THE FIRE DEPARTMENT BY WAY OF SIGNALS TO A CENTRAL STATION CONFORMING TO CAN/ULC-S561 FOR FIRE ALARM SYSTEM MONITORING;
 2. FIRE ALARM SYSTEM CONTRACTOR SHALL:
 1. COORDINATE WITH OWNER'S MONITORING COMPANY;
 2. SUPPLY AND INSTALL COMMUNICATION MODULE REQUIRED FOR MONITORING;
 3. SUPPLY AND INSTALL CABLING AND TERMINATION BOX FROM COMMUNICATION MODULE TO BUILDING TELEPHONE SERVICE SPACE, OR OTHER SERVICE SPACE, AS IDENTIFIED BY THE OWNER'S MONITORING COMPANY.
6. FIRE ALARM CONDUIT AND CABLE IDENTIFICATION:
 1. FIRE ALARM CONDUIT AND CABLE SHALL BE RED.
7. FIRE ALARM SYSTEM DETAILS:
 1. FIRE ALARM SYSTEM SHALL BE PROVIDED WITH AN EMERGENCY POWER SUPPLY, WITH IMMEDIATE AUTOMATIC TRANSFER, IN ACCORDANCE WITH OBC 3.2.7.8. - EMERGENCY POWER FOR FIRE ALARM SYSTEMS;
 2. FIRE ALARM CONTROL AND ANNUNCIATOR PANEL SHALL HAVE SUFFICIENT POWER FOR UP TO 25% ADDITIONAL AUDIBLE DEVICES.

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PROJECT: FIRE ALARM SYSTEM PLAN
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DRAWING TITLE: GENERAL NOTES & SCHEDULE

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