PART 1 GENERAL

GENERAL SPECIFICATION

1.1. IT IS RECOMMENDED THAT THE BIDDERS EXAMINE THE SITE AND THE EXISTING CONDITIONS AFFECTING THE PROJECT. EXAMINE THE COMPLETE SET OF CONTRACT DOCUMENTS TO ENSURE THAT THE WORK CAN BE CARRIED OUT WITHOUT SIGNIFICANT CHANGES TO THE INTENT OF THE DOCUMENTS. NO FUTURE ALLOWANCE WILL BE MADE FOR CHANGES UNLESS THE ENGINEER HAS BEEN NOTIFIED IN WRITING OF ANY DISCREPANCIES OR INTERFERENCES. PRIOR TO THE CLOSE OF TENDERS, NO ALLOWANCE WILL BE MADE FOR ITEMS WHICH SHOULD HAVE BEEN NOTED DURING A PRE-TENDER SITE INSPECTION.

- 1.2. THE LOCATION, ROUTING AND ELEVATIONS OF ALL NEW AND EXISTING SERVICES AND UTILITIES AS SHOWN ON THE DRAWINGS ARE TO BE CONSIDERED AS APPROXIMATIONS ONLY. VERIFY THE EXACT LOCATIONS, ROUTINGS AND ELEVATIONS OF ALL SERVICES PRIOR TO COMMENCING WORK, AND ASSUME RESPONSIBILITY FOR LAYING OUT ALL WORK. THE CONTRACTOR SHALL RETAIN RESPONSIBILITY FOR ANY DAMAGE TO EXISTING SERVICES AND UTILITIES.
- 1.3. ALL ASPECTS OF THE INSTALLATION MUST COMPLY WITH THE MOST STRINGENT OF THE APPLICABLE BUILDING CODES, LOCAL REGULATIONS, AND BY-LAWS. BEFORE PROCEEDING WITH THE WORK, OBTAIN APPROVED DRAWINGS AND SPECIFICATIONS FROM THE AUTHORITIES HAVING JURISDICTION.
- 1.4. PROVIDE ALL NECESSARY NOTICES, OBTAIN ALL REQUIRED PERMITS, PROVIDE ALL CSA CERTIFICATIONS/APPROVALS AS REQUIRED FOR ANY SITE MODIFICATIONS OR APPARATUS REQUIRING CERTIFICATION, PAY ALL FEES REQUIRED BY LAW, AND ARRANGE FOR ALL INSPECTIONS RELATED TO THE PERFORMANCE OF THE SPECIFIED WORK.
- 1.5. PROVIDE ALL MATERIALS, LABOUR AND EQUIPMENT REQUIRED TO COMPLETE THE WORK AS SHOWN AND AS SPECIFIED, SO AS TO LEAVE THE OWNER WITH A COMPLETE AND FUNCTIONING SYSTEM. ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND C.S.A. APPROVED, UNLESS SPECIFICALLY NOTED OTHERWISE. ALL SIMILAR EQUIPMENT AND OR MATERIALS SHALL BE BY THE SAME MANUFACTURER.
- REQUEST FOR APPROVAL OF SUBSTITUTE MATERIAL AND/OR EQUIPMENT FOR THAT SPECIFIED. SHALL BE SUBMITTED TO THE ENGINEER WITH A STAMPED SELF-ADDRESSED ENVELOPE OR RETURN FAX NUMBER AT LEAST FIVE WORKING DAYS PRIOR TO TENDER CLOSING. REQUESTS SHALL INCLUDE ALL PERFORMANCE SPECIFICATIONS, PHYSICAL DATA AND OTHER PERTINENT INFORMATION REQUIRED FOR THE ENGINEER TO MAKE A COMPLETE COMPARISON.
- 1.7. ALL CUTTING AND PATCHING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. EXISTING EXPOSED SURFACES SHALL BE RETURNED TO AN "AS-FOUND" CONDITION ACCEPTABLE TO THE
- 1.8. PROVIDE ALL REQUIRED ACCESS PANELS WITH SUITABLE FIRE RATINGS FOR THE WALL OR CEILING THAT THEY ARE BEING INSTALLED IN.
- 1.9. EACH CONTRACTOR SHALL COORDINATE THE WORK WITH OTHER CONTRACTORS IN ORDER TO AVOID CONFLICTS.
- 1.10. NEATLY STORE ALL MATERIALS, AND CLEAN UP REFUSE ON A REGULAR BASIS. PROTECT AND MAINTAIN ALL WORK UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE
- 1.11. THE INSTALLATION SHALL BE COMPLETELY TESTED, DEMONSTRATING THAT THE EQUIPMENT AND SYSTEMS INSTALLED ARE PERFORMING IN THE MANNER INTENDED.
- 1.12. AT COMPLETION OF THE INSTALLATION, PROVIDE TWO MARKED-UP COPIES OF THE "AS-BUILT" DRAWINGS FOR RECORD PURPOSES. PROVIDE THREE SETS OF OPERATION AND MAINTENANCE MANUALS, IN HARD COPY AND ELECTRONIC FORMAT. PROVIDE ELECTRONIC COPY TO CONSULTANT VIA EMAIL FOR REVIEW WITH HARD COPY AS-BUILTS. PAY ALL COSTS ASSOCIATED WITH THE PRODUCTION OF THE "AS-BUILT" DRAWINGS AND THE MANUALS, SUBMIT THE DOCUMENTS TO THE ENGINEER FOR REVIEW, AND MAKE ANY REQUESTED CHANGES BEFORE DELIVERING THEM TO THE OWNER.
- 1.13. REVIEW THE OPERATION AND MAINTENANCE OF THE SYSTEMS WITH THE OWNER'S MAINTENANCE PERSONNEL AND PROVIDE WRITTEN AND/OR VERBAL INSTRUCTIONS AS REQUIRED.
- 1.14. FURNISH CERTIFICATES CONFIRMING THAT THE WORK HAS BEEN INSTALLED TO THE SATISFACTION OF THE AUTHORITIES HAVING JURISDICTION.
- 1.15. NO CERTIFICATE ISSUED, PAYMENT MADE, OR PARTIAL OR ENTIRE USE OF THE SYSTEMS BY THE OWNER, SHALL BE CONSTRUED AS ACCEPTANCE OF DEFECTIVE WORK OR MATERIALS.
- 1.16. THE CONTRACTOR SHALL PROVIDE A ONE YEAR LABOUR AND MATERIAL WARRANTY ON ALL NEW
- EQUIPMENT AND COMPONENTS, COMMENCING UPON THE DATE OF ACCEPTANCE BY THE OWNER. 1.17. REPLACE AT NO CHARGE TO THE OWNER, ALL ITEMS WHICH FAIL OR PROVE DEFECTIVE WITHIN A PERIOD OF ONE YEAR AFTER THE DATE OF FINAL ACCEPTANCE BY THE OWNER, PROVIDED THAT THE FAILURE IS NOT DUE TO IMPROPER USAGE BY THE OWNER. MAKE GOOD ALL
- 1.18. THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL UNIT, FORCEFLOW AND BASEBOARD HEATERS.

SMART PROGRAM INCENTIVES. ALL REBATES TO BE FORWARDED TO THE OWNER.

DAMAGES INCURRED AS A RESULT OF THE FAILURE AND OF THE REPAIRS.

1.19. E.C. RESPONSIBLE TO COORDINATE, SUBMIT AND FACILITATE ALL ITEMS RELATED TO POWER

- 2.1. REFER TO DIVISION 1 AND ARCHITECTURAL SPECIFICATIONS AND OTHER GENERAL CONDITIONS.
- 2.2. PROVIDE FOR A COMPLETE AND WORKING INSTALLATION AS HEREIN SPECIFIED AND AS SHOWN ON THE DRAWINGS.
- 2.3. THE ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE CANADIAN ELECTRICAL CODE, PROVINCIAL AND MUNICIPAL CODES AND REGULATIONS.
- 2.4. OBTAIN ALL PERMITS, APPROVALS AND PAY ALL RELATED FEES REQUIRED FOR THIS INSTALLATION
- 2.5. ALL EQUIPMENT SUPPLIED UNDER THIS CONTRACT SHALL BE NEW AND BE C.S.A. APPROVED.
- 2.6. COORDINATE ALL TELEPHONE CONDUIT RUNS WITH TELEPHONE UTILITY BEFORE INSTALLATION
- 2.7. ARRANGE FOR, AND COORDINATE, ROUGH-IN AND FINAL INSPECTIONS WITH INSPECTION AUTHORITIES, CONSULTANT AND THE BUILDING OWNER'S REPRESENTATIVE.
- 2.8. CONFIRM ALL RECEPTACLE CONFIGURATIONS, OUTLETS AND WIRING FOR OWNER SUPPLIED EQUIPMENT BEFORE INSTALLATION OF SAME, VISIT EXISTING SITE WHERE SUCH EQUIPMENT IS PRESENTLY INSTALLED, AND/OR OBTAIN OUTLETS, WIRING AND RECEPTACLE CONFIGURATIONS FROM EQUIPMENT MANUFACTURERS. EXACT CONFIGURATIONS MAY DIFFER FROM THOSE SHOWN ON THE DRAWINGS. INCLUDE ALL COSTS TO PROVIDE NECESSARY OUTLETS WIRING AND RECEPTACLES.

3. EXAMINATION

BEGINS.

3.1. EXAMINE THE ARCHITECTURAL, INTERIOR DESIGN, STRUCTURAL AND MECHANICAL DRAWINGS TO

ENSURE THAT THE WORK UNDER THIS CONTRACT CAN BE SATISFACTORILY CARRIED OUT. REPORT ANY DISCREPANCIES TO THE CONSULTANT PRIOR TO SUBMISSION OF TENDER.

3.2. THE ELECTRICAL SUBCONTRACTOR SHALL EXAMINE THE SITE AND LOCAL CONDITIONS AND CONSIDER HOW THEY MAY AFFECT THE PROJECT.

SUPERVISION

- 4.1. SUPERVISE THE WORK AT ALL TIMES THROUGH A RESPONSIBLE AND COMPETENT JOURNEYMAN ELECTRICIAN / SUPERVISOR.
- 4.2. FULL COOPERATION SHALL BE SHOWN WITH OTHER TRADES TO FACILITATE INSTALLATIONS AND TO AVOID DELAYS IN CARRYING OUT THE WORK.

5. ACCURACY OF DATA

- 5.1. DRAWINGS ARE SCHEMATIC; EXACT LOCATIONS, DISTANCES, LEVELS AND OTHER DIMENSIONS SHALL BE GOVERNED BY THE BUILDING AS CONSTRUCTED.
- 5.2. OUTLETS OR EQUIPMENT SHALL BE MOVED TO ANY POINT WITHIN A 10' RADIUS WHEN RELOCATION IS REQUESTED BY THE CONSULTANT OR OWNER BEFORE THE WORK HAS BEEN SUBSTANTIALLY COMPLETED. WITHOUT ADDITIONAL COST.
- 5.3. BRANCH CIRCUIT WIRING SHALL BE INSTALLED WITH CIRCUITS ARRANGED EXACTLY AS SHOWN ON THE DRAWINGS. CONDUIT AND CABLE RUNS MAY BE MODIFIED TO SUIT THE INSTALLATION.

APPROVAL OF MATERIAL

6.1. REQUEST FOR APPROVAL OF MATERIAL AS EQUALS OR ALTERNATES TO THAT SPECIFIED SHALL BE SUBMITTED TO THE CONSULTANT WITH A STAMPED SELF-ADDRESSED ENVELOPE OR RETURN FAX NUMBER AND PERFORMANCE SPECIFICATIONS FIVE (5) WORKING DAYS PRIOR TO THE TENDER SUBMITTAL, SAMPLES SHALL BE PROVIDED ON REQUEST.

7. SHOP DRAWINGS

- 7.1. SUBMIT SHOP DRAWINGS FOR REVIEW BY THE ENGINEER IN PDF FORMAT VIA EMAIL.
- 7.2. PROVIDE ELECTRONIC COPIES OF SHOP DRAWINGS FOR REVIEW BY THE ENGINEER. THE SHOP DRAWINGS SHALL BE STAMPED AND REVIEWED BY THE EC AND GC PRIOR TO SUBMITTING TO THE ENGINEER. THE SHOP DRAWINGS MUST BE ASSEMBLED INTO CATEGORIES AND CONTAIN ONLY INFORMATION RELATED TO THAT SUBMISSION. GENERAL CATEGORIES AS FOLLOWS:
 - FIRE ALARM SYSTEMS
- 7.3. THE REVIEW OF THE SHOP DRAWINGS IS FOR THE SOLE PURPOSE OF ASCERTAINING CONFORMANCE WITH THE GENERAL DESIGN CONCEPT, THE REVIEW SHALL NOT MEAN APPROVAL OF THE DETAILED DESIGN INHERENT IN THE EQUIPMENT, THE RESPONSIBILITY FOR WHICH SHALL REMAIN WITH THE CONTRACTOR. THE REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL REMAIN RESPONSIBLE FOR CONFIRMING AND CORRELATING THE DIMENSIONS ON THE JOBSITE, AND FOR INFORMATION THAT PERTAINS TO THE FABRICATION PROCESS, CONSTRUCTION TECHNIQUES, AND INSTALLATION DETAILS, AND FOR COORDINATING ALL WORK OF THE RELATED SUB-TRADES.
- 7.4. FABRICATION OF EQUIPMENT SHALL NOT COMMENCE UNTIL SHOP DRAWINGS OF SUCH EQUIPMENT HAVE BEEN REVIEWED BY THE CONSULTANT. TWO SETS SHALL BE SUBMITTED WITH LOCAL INSPECTION DEPARTMENT APPROVAL WHERE REQUIRED.
- 7.5. THE ELECTRICAL CONTRACTOR SHALL REVIEW ALL MECHANICAL SHOP DRAWINGS REQUIRING ELECTRICAL CONNECTION AND COORDINATE VOLTAGE AND SIZES WITH DIVISION 15 AND GENERAL CONTRACTOR.
- 7.6. REQUIRED SHOP DRAWINGS:
 - FIRE ALARM SYSTEM

8. AS-BUILT DRAWINGS

- 8.1. KEEP A RECORD SET OF DRAWINGS ON THE SITE AT ALL TIMES RECORDING ANY CHANGES THAT MAY OCCUR. SUBMIT THESE DRAWINGS TO THE CONSULTANT UPON COMPLETION OF THE WORK. AS-BUILTS SHALL INCLUDE CIRCUITING OF NEW AND EXISTING EQUIPMENT TO REMAIN.
- 8.2. AT THE COMPLETION OF INSTALLATION, PROVIDE TWO MARKED-UP COPIES OF THE AS-BUILT DRAWINGS INCLUDING A COPY IN DIGITAL PDF FORMAT FOR RECORD PURPOSES, PROVIDE THREE SETS OF OPERATION AND MAINTENANCE MANUALS INCLUDING ONE IN PDF FORMAT. PAY ALL COSTS ASSOCIATED WITH THE PRODUCTION OF THE AS-BUILT DRAWINGS AND THE MANUALS, SUBMIT THE DOCUMENTS TO THE ENGINEER FOR REVIEW, AND MAKE ANY REQUESTED CHANGES BEFORE DELIVERING THEM TO THE OWNER.
- 8.3. SUBMIT A CERTIFICATE OF INSPECTION FROM THE LOCAL INSPECTION AUTHORITY UPON COMPLETION OF WORK AND INCLUDE WITH "AS-BUILT" DRAWINGS.
- 8.4. THE CONSULTANT RESERVES THE RIGHT TO RECOMMEND THAT A PORTION OF THE CONTRACT FUNDS BE WITHHELD PENDING SUBMISSION OF ACCEPTABLE AS-BUILT DRAWINGS.

9. TESTING

9.1. THE ELECTRICAL INSTALLATION SHALL BE COMPLETELY TESTED DEMONSTRATING THAT THE EQUIPMENT AND SYSTEMS INSTALLED PERFORM IN THE MANNER INTENDED.

10. GUARANTEE

10.1. THE SATISFACTORY OPERATION OF ALL WORK SHALL BE GUARANTEED FOR A PERIOD OF 12

CALENDAR MONTHS AFTER FINAL ACCEPTANCE OF THE BUILDING. 11. REQUEST FOR CHANGE

- 11.1. ALL QUOTATIONS IN RESPONSE TO REQUEST FOR CHANGE SHALL BE SUBMITTED COMPLETE WITH AN ITEMIZED COST BREAKDOWN OF ALL MATERIALS AND LABOUR REQUIRED IN THE
- 11.2. THE HOURLY LABOUR RATE SHALL BE INCLUSIVE OF ALL CHARGES FOR SUPERVISION, VARIABLE LABOUR FACTORS, HAND TOOLS, PAYROLL BURDENS, HEIGHT FACTORS, WARRANTIES, STORAGE, RENTALS, ADDITIONAL BONDING, PARKING, CLEAN-UP, AS-BUILT DRAWINGS, HOISTING, FREIGHT AND DELIVERY, BUT EXCLUSIVE OF OVERHEAD AND PROFIT.

12. GROUNDING

12.1. THE ENTIRE INSTALLATION SHALL BE GROUNDED IN ACCORDANCE WITH THE CANADIAN

ELECTRICAL CODE AND AS SHOWN ON DRAWINGS.

13. WORKMANSHIP

13.1. INSTALL EQUIPMENT, CONDUIT AND CABLES IN A WORKMANLIKE MANNER TO PRESENT A NEAT APPEARANCE TO THE SATISFACTION OF THE CONSULTANT. INSTALL CONDUIT AND CABLE RUNS PARALLEL AND PERPENDICULAR IN CHASES, BEHIND FURRING OR ABOVE CEILINGS. IN AREAS WHERE SYSTEMS ARE TO BE EXPOSED, INSTALL NEATLY AND GROUP TO PRESENT A TIDY

APPEARANCE.

- 13.2. INSTALL EQUIPMENT AND APPARATUS REQUIRING MAINTENANCE, ADJUSTMENT OR EVENTUAL REPLACEMENT WITH ADEQUATE CLEARANCES AND ACCESSIBILITY FOR SAME.
- 13.3. INCLUDE, IN THE WORK, ALL REQUIREMENTS SHOWN ON THE SHOP DRAWINGS OR MANUFACTURERS' INSTALLATION INSTRUCTIONS.
- 13.4. REPLACE WORK UNSATISFACTORY TO THE CONSULTANT WITHOUT EXTRA COST.
- 13.5. USE OF CLIPS FOR SECURING AC90 TO CEILING SYSTEM IS PROHIBITED.
- 13.6. ALL CONDUITS MUST BE CLIPPED TO STRUCTURAL CONCRETE BY MEANS OF ANCHORS OR SUPPORTED BY UNISTRUT HANGERS AS CLOSE TO UNDERSIDE AS POSSIBLE. TYE WRAPS FOR WIRE HANGING AND FASTENING IS NOT ACCEPTABLE, PERFORATED STRAPPING IS ALSO UNACCEPTABLE, ALL ELECTRICAL COMPONENTS MUST BE SUPPORTED INDEPENDENTLY.
- 13.7. ALL ELECTRICAL SUPPORTS AND HANGERS ARE TO BE COORDINATED AND ACCEPTABLE TO THE PRE-ENGINEERED MANUFACTURER PRIOR TO INSTALLATION.

14. WORK IN EXISTING BUILDING

- 14.1. THE BUILDING SHALL REMAIN OPEN AND WILL OPERATE NORMALLY DURING THE CONSTRUCTION PERIOD OF THIS CONTRACT.
- 14.2. REFER TO GENERAL CONDITIONS FOR PHASING AND STAGING OF WORK AND ADHERE TO THAT PROGRAM. COMPLY WITH INSTRUCTIONS REGARDING WORKING HOURS NECESSARY TO MAINTAIN
- 14.3. REFER TO ELECTRICAL, ARCHITECTURAL, STRUCTURAL AND MECHANICAL DRAWINGS AND

SPECIFICATIONS FOR NEW WORK INVOLVED IN EXISTING BUILDING.

THE BUILDING IN OPERATION. COORDINATE ALL WORK WITH GENERAL CONTRACTOR.

- 14.4. EXAMINE THE SITE AND LOCAL CONDITIONS AFFECTING ALL THE WORK TO OBTAIN DETAILS AND ALL INFORMATION NECESSARY TO DO THE WORK. NO EXTRA COMPENSATION WILL BE ALLOWED DUE TO FAILURE TO MAKE THIS EXAMINATION. REFER TO ARCHITECT'S SUMMARY OF WORK SECTION 01010.
- 14.5. CONTRACTOR IS RESPONSIBLE TO INCLUDE ALL WORK AND ITEMS REQUIRED TO ACCOMMODATE ALL CHANGES AND ALTERATIONS TO THE EXISTING BUILDING. INCLUDE ALL COSTS IN ORIGINAL
- 14.6. WHERE EXISTING SERVICES SUCH AS ELECTRICAL POWER AND FIRE ALARM SYSTEM, ETC. ARE REQUIRED TO BE DISRUPTED AND/OR SHUT-DOWN, COORDINATE THE SHUT-DOWNS WITH THE OWNER AND CARRY OUT THE WORK AT A TIME AND IN A MANNER ACCEPTABLE TO THEM. CAREFULLY SCHEDULE ALL DISRUPTIONS AND/OR SHUT-DOWNS AND ENSURE THAT THE DURATION OF SAME IS KEPT TO A MINIMUM. SUBMIT FOR APPROVAL, A WRITTEN SCHEDULE OF EACH DISRUPTION AT LEAST 72 HOURS IN ADVANCE OF PERFORMING WORK AND OBTAIN OWNER'S WRITTEN CONSENT PRIOR TO IMPLEMENTING.
- 14.7. SHOULD ANY CONNECTIONS BE REQUIRED TO MAINTAIN SERVICES DURING WORK IN THE EXISTING BUILDING, SUPPLY AND INSTALL ALL NECESSARY MATERIAL AND EQUIPMENT AND PROVIDE ALL LABOUR AT NO EXTRA COST. SHOULD ANY EXISTING SYSTEM BE DAMAGED, MAKE FULL REPAIRS WITHOUT EXTRA COST, AND TO THE SATISFACTION OF THE OWNER.
- 14.8. THE DRAWINGS INDICATE MAJOR ITEMS OF EQUIPMENT TO BE DELETED OR RELOCATED BUT MAY NOT INDICATE EVERY ITEM OF EQUIPMENT OR CONDUIT TO BE DELETED OR RELOCATED. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING WHICH EXISTING EQUIPMENT IS TO BE DELETED OR RELOCATED BY EXAMINING THE SITE AND ALL CONSTRUCTION DOCUMENTS.
- 14.9. WHERE EXISTING DEVICES (RECEPTACLES, SWITCHES, ETC.) MOUNTED ON A WALL WHICH WILL BE COVERED WITH A NEW FINISH, PROVIDE AN EXTENSION RING, COVERPLATE, ETC. AS REQUIRED TO MOUNT THE DEVICE TO THE NEW WALL.
- 14.10. EXISTING JUNCTION BOXES SHALL REMAIN ACCESSIBLE.
- 14.11. PROVIDE PIPE GUARD RAILS FOR PANELBOARDS WHERE INDICATED AND WHERE PANELS OR CONDUITS MAY BE SUBJECT TO DAMAGE. COORDINATE ALL WORK WITH G.C.
- 14.12. RE-WIRE, MODIFY AND EXTEND EXISTING WIRING AS SPECIFIED AND AS MAY BE REQUIRED TO PROVIDE AND COMPLETE, APPROVED AND FULLY OPERATIVE INSTALLATION TO THE SATISFACTION OF THE ENGINEER AND OWNER.
- 14.13. IN AREAS WHERE EXISTING WALLS, CEILINGS, ETC. ARE REQUIRED TO BE CUT INTO OR REMOVED, OR OTHER SIMILAR CONSTRUCTION ALTERATIONS ARE REQUIRED WHERE THE EXISTING WIRING IN THE AREAS IS REQUIRED TO REMAIN IN USE FOR ANY REASON, THE CONTRACTOR SHALL RE-ROUTE, ALTER AND /OR EXTEND ALL SUCH WIRING IN THESE AREAS IN AN APPROVED MANNER, CONCEALED IN THE BUILDING STRUCTURE WHERE REQUIRED, IN SUCH A MANNER THAT THE ORIGINAL ELECTRICAL CAPACITY OR CHARACTERISTICS ARE MAINTAINED. ALL WORK SHALL BE TO THE COMPLETE SATISFACTION OF THE ENGINEER AND OWNER.
- 14.14. DISCONNECT AND REMOVE EXISTING CEILING MOUNTED ELECTRICAL DEVICES FOR THE CONSTRUCTION OF NEW CEILINGS. SKY-LIGHT OPENINGS OR RELATED WORK. ONCE NEW WORK IS COMPLETE, RE-INSTALL AND RE-CONNECT ELECTRICAL DEVICES TO ORIGINAL LOCATIONS
- AND CIRCUITS. PROVIDE ALL WIRING REQUIRED. 14.15. CONDUITS AND BOXES SHALL BE SURFACE MOUNTED ONLY IN AREAS SPECIFIED.
- 14.16. ALL EXISTING AND NEW OWNER EQUIPMENT IS TO BE WIRED AND CONNECTED. SUPPLY AND INSTALL, WIRE AND CONNECT MATCHING RECEPTACLES FOR PORTABLE EQUIPMENT COMPLETE WITH CORD AND CAP. REFER TO EQUIPMENT NAMEPLATE RATING FOR ELECTRICAL CHARACTERISTICS PRIOR TO ROUGH-IN.
- 14.17. ALL EXISTING OWNER EQUIPMENT WHICH IS NON-PORTABLE, SHALL BE DIRECTLY CONNECTED VIA SOW OR SOWJ CORD MATCHING ELECTRICAL CHARACTERISTICS AS DETERMINED BY NAMEPLATE RATINGS OF EQUIPMENT. CONFIRM NAMEPLATE CHARACTERISTICS PRIOR TO
- 14.18. MINIMIZE ELECTRICAL SERVICE AND OTHER SYSTEM INTERRUPTIONS, COORDINATE CHANGE-OVER

15. REMEDIAL WORK SPECIFICATIONS

REMOVED FROM SITE.

15.1. ALL UNUSED CABLES AND CONDUITS (INCLUDING COMMUNICATIONS CONDUCTORS) SHALL BE

WORK WITH OWNER SITE REPRESENTATIVE ON SITE PRIOR TO INITIATING WORK.

- 15.2. IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ANY CORING OF HOLES THROUGH DECKS OR FLOOR SLABS WILL NOT PENETRATE EXISTING CONDUITS, CABLES OR MECHANICAL EQUIPMENT IN OR UNDER DECKS OR FLOOR SLABS. HE SHALL AT HIS COST. BE RESPONSIBLE TO TAKE ALL ACTIONS REQUIRED AND AS MAY BE DEEMED NECESSARY BY THE CONSULTANT/OWNER'S REPRESENTATIVE TO CORRECT ANY DAMAGE. NO CORING SHALL BE UNDERTAKEN UNLESS PERMISSION IS GIVEN BY THE CONSULTANT.
- 15.3. ALL EXISTING JUNCTION BOXES PRESENTLY MOUNTED ON DUCTWORK OR CEILING SYSTEM SHALL BE RELOCATED AND INDEPENDENTLY SUPPORTED.

PART 2 MATERIALS AND INSTALLATION

1. OUTLET BOXES

- 1.1. OUTLET, JUNCTION AND SWITCH BOXES SHALL BE GALVANIZED PRESSED STEEL OF SIZE AND TYPE TO SUIT EACH INDIVIDUAL APPLICATION.
- 1.2. OUTLETS SHALL NOT BE LOCATED ANYWHERE ON THE OUTSIDE CURTAIN WALL. OUTLETS SHOWN THUS SHALL BE MOUNTED ON THE NEAREST DIVIDING WALL 2' FROM OUTSIDE WALL, OR NEAREST FURRED OUT COLUMN.
- 1.3. PROVIDE ALL REQUIRED ACCESS PANELS WITH SUITABLE FIRE RATINGS FOR THE WALL OR CEILING THAT THEY ARE BEING INSTALLED IN.

WIRING METHODS

- 2.1. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, ALL WIRE SHALL BE COPPER, MINIMUM #12 AWG WITH 90 DEGREES CELSIUS X-LINK INSULATION. WIRING TO BE INSTALLED IN CONDUIT (INCLUDING WIRING ON ROOF DECK FLUTES WHERE APPROVED).
- WIRING IN CONCRETE OR MASONRY CONSTRUCTION SHALL BE INSTALLED IN STEEL ELECTRICAL METALLIC TUBING (EMT). PROVIDE A SEPARATE GROUNDING CONDUCTOR IN EMT CONDUIT RUNS EMBEDDED IN CONCRETE SLABS. CONDUITS INSTALLED IN AREAS EXPOSED TO MOISTURE SHALL HAVE WATERTIGHT FITTINGS.
- 2.3. ALL WIRING IN FINISHED AREAS SHALL BE CONCEALED. ALL CONDUCTORS AND CONDUITS SHALL BE RUN PERPENDICULAR OR PARALLEL TO THE BUILDING CORE WALLS.
- 2.4. CONDUIT AND WIRING SHALL BE GROUPED WHERE POSSIBLE AND CLIPPED IN A NEAT AND WORKMANLIKE MANNER.
- 2.5. AC90 CABLE TO BE USED FOR DROPS FROM CONDUIT SYSTEMS TO RECESSED LIGHTING FIXTURES IN ACCESSIBLE CEILINGS OR OUTLET BOXES IN STEEL STUD WALLS ONLY. HOME RUNS SHALL BE IN CONDUIT. MAXIMUM RUN OF AC-90 IN ACCESSIBLE CEILING SPACE SHALL BE 5'-0".
- PROVIDE ONE ISOLATED GROUND CONDUCTOR PER THREE 2 WIRE ISOLATED GROUND CIRCUITS.
- 2.7. CONDUIT RUNS SHALL BE INSTALLED AND INSPECTED BEFORE AC90 RUNS ARE INSTALLED TO ENSURE CONFORMANCE WITH ITEM .5 HEREIN.
- 2.8. THREE WIRE AC90 SHALL NOT BE USED FOR ISOLATED GROUND WIRING, UNLESS IT INCLUDES A GREEN INSULATED CONDUCTOR FOR THIS PURPOSE.
- 2.9. ALL AC90 USED FOR DROPS SHALL BE RUN TIGHT TO DECK AND FOLLOW LINES OF BEAMS AND
- 2.10. ALL WIRING IN SERVICE AREAS TO BE IN SURFACE MOUNTED EMT. DO NOT RUN CONDUIT
 - HORIZONTALLY ON WALLS, VERTICAL DROPS ONLY.
- ALL CONDUITS TO BE MINIMUM 3/4" IN SIZE. STEEL SET SCREW COUPLINGS AND CONNECTORS (INSULATED THROAT)
- 2.11. ALL CABLE SHALL BE MINIMUM FT4 RATED UNLESS RUN IN PLENUM. ALL CABLE RUN THROUGH PLENUM SPACE TO BE FT6 RATED. OTHERWISE CABLE SHALL BE RUN IN EMT OR NON COMBUSTIBLE RACEWAY.

3. IDENTIFICATION OF EQUIPMENT

- 3.1. ALL EQUIPMENT AND DEVICES SHALL BE IDENTIFIED WITH 10MM X 40MM X 3MM LETTERS (3/8" X 1 1/2" X 1/8" LETTERS) ENGRAVED LAMACOID NAMEPLATES INDICATING PANEL AND CIRCUIT NUMBER OR FIRE ALARM HORN DESIGNATION. LAMACOIDS SHALL BE EITHER SCREWED OR RIVETED IN PLACE. WITH EXCEPTION TO RECEPTACLES AND LIGHTING SWITCHES. SELF ADHESIVE TYPE IS NOT ACCEPTABLE AND WILL ONLY APPROVED ON A CSE BY CASE SITUATION. LAMACOIDS SHALL BE WHITE LETTERING ON RED FACE FOR EMERGENCY AND FIRE ALARM DEVICES AND WHITE LETTERING ON BLACK FACE TO NORMAL
- 3.2. PROVIDE 25MM X 76MM (1" X 3") LAMACOIDS FOR EACH NEW CDP BREAKER, INDICATING PANEL OR

FEED BEING FED.

POWER DEVICES AND COMMUNICATION PANELS.

INCLUDE ALL COSTS FOR SAME IN CONTRACT.

BEFORE REQUESTING FIRE INSPECTION.

- 4. CUTTING AND PATCHING
- 4.1. ARRANGE AND PAY FOR ALL CUTTING AND PATCHING AS REQUIRED FOR THE ELECTRICAL INSTALLATION. 4.2. PROVIDE APPROPRIATE FIRE STOP AT ALL FIRE WALL PENETRATIONS. ACCEPTABLE MANUFACTURERS:
- DOW CORNING, FIRE-STOP SYSTEMS (ELASTA-SEAL) OR G.E. SILICONE. 4.3. REFER TO ARCHITECTURAL SPECIFICATIONS FOR PRODUCT AND INSTALLATION DETAILS.

5. FIRE ALARM SYSTEM

- 5.1. EXISTING SYSTEM IS NOTIFIER SINGLE STAGE ADDRESSABLE C/W BATTERY BACK UP.
- ALL FIRE ALARM WIRING, INCLUDING WIRING TO STEEL STUD PARTITIONS, SHALL BE IN EMT CONDUIT. 5.3. ALL WORK REGARDING FIRE ALARM SYSTEM WILL REQUIRE A ULC APPROVED FIRE ALARM VERIFICATION. SEAL
- THE VERIFICATION INSPECTION REPORT SHALL ACCOMPANY THE "AS-BUILT" DRAWINGS.
- 5.5. TEST THE COMPLETE SYSTEMS IN THE PRESENCE OF THE CONSULTANT AND SUBMIT TEST SHEET
- MAKE ALL PROVISIONS TO WIRE AND CONNECT FIRE ALARM SUPPRESSION CONTROL PANEL.
- COORDINATE WITH SYSTEMS INSTALLER. 5.7. PROVIDE LABELS ON FIRE ALARM PANEL PER FIRE DEPT. REQUIREMENTS.
- 5.8. ARRANGE FOR AND INCLUDE IN THE TENDER PRICE ALL COMMISSIONING AND WITNESSING OF THE FIRE ALARM AND LIFE SAFETY SYSTEM AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION. THIS INCLUDES ANY AND ALL WITNESSING AND TESTING BY PROFESSIONAL ENGINEERS LICENSED TO PRACTICE IN THE PROVINCE WHERE REQUIRED BY THE BUILDING CODE, MUNICIPAL BY LAWS OR INSPECTION AUTHORITIES. SUBMIT FIRE ALARM VERIFICATION REPORTS AND LETTER SEALED BY
- PROFESSIONAL ENGINEERS. 5.9. REFER TO FIRE ALARM DEVICE MOUNTING HEIGHT DETAIL FOR ALL MOUNTING HEIGHT REQUIREMENTS.
- 5.10. ACCEPTABLE MANUFACTURERS: MATCH EXISTING

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REVISION/DESCRIPTION



CHECKED

MUNICIPAL ACCOMMODATIONS DIVISION 3-65 GARRY STREET, R3C 4K4 PROJECT RAINBOW STAGE

DRAWN

2021 MAIN ST

SHEET TITLE

FIRE ALARM RENO

2022-006 AS SHOWN

DRAWING SHEET SIZE: A1 (841mm x 594mm) PLOT 1:1

SPECIFICATIONS

FIRE ALARM UPGRADES