

1.1 GENERAL CONDITIONS

1. SUPPLY ALL LABOUR, EQUIPMENT, AND MATERIALS NECESSARY TO INSTALL, COMPLETE AND OPERATIONAL, THE ELECTRICAL SYSTEMS DESCRIBED HEREIN AND SHOWN ON THE DRAWINGS. THE REQUIREMENTS OF THIS SECTION ARE IN ADDITION TO THOSE CONTAINED IN THE GENERAL CONDITIONS AND OTHER PORTIONS OF THE CONTRACT DOCUMENTS.

1.2 DRAWINGS & SPECIFICATIONS

1. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO PROVIDE FOR AN ELECTRICAL INSTALLATION COMPLETE AND IN OPERATING CONDITION. THE RESPONSIBILITY FOR SUPPLYING AND INSTALLING ALL MATERIAL NECESSARY TO ACCOMPLISH THIS, EXCEPT WHERE SPECIFICALLY NOTED THAT SUCH WORK OR MATERIALS IS NOT INCLUDED, SHALL BE PART OF THIS SECTION.

1.3 LOCAL RULES AND COSTS

1. THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE CANADIAN ELECTRICAL CODE AND THE BY-LAWS OF THE PROVINCE AND MUNICIPAL ELECTRICAL ENERGY INSPECTION DEPARTMENT WHOSE AUTHORITY COVERS THE AREA IN WHICH THE WORK IS BEING DONE.

2. OBTAIN AND PAY FOR ALL PERMITS AND LICENSES REQUIRED TO EXECUTE THE WORK.

1.4 EQUIVALENT PRODUCTS

1. REFER TO FRONT END GENERAL SECTIONS FOR DETAILS.

1.5 CO-ORDINATION OF WORK

1. CO-ORDINATE WITH OTHER TRADES ON THE LOCATION OF EQUIPMENT SUPPLIED BY OTHERS PRIOR TO THE INSTALLATION OF CONDUIT, OUTLETS, ETC. WHERE ELECTRICAL EQUIPMENT IS BEING BUILT-IN, SUPPLY THE EQUIPMENT OR NECESSARY DIMENSION TO THE OTHER TRADES.

1.6 MATERIALS

1. ALL MATERIALS SUPPLIED SHALL BE NEW (OR AS NOTED) AND OF THE QUALITY INDICATED IN THE SPECIFICATIONS AND SHALL CONFORM TO THE STANDARDS OF THE C.S.A. AND THE U.L.C. AND APPROVED BY THESE AGENCIES WHERE APPLICABLE.

2. IN THE EVENT THAT A MATERIAL SPECIFIED DOES INDICATE C.S.A./U.L.C. OR EQUAL APPROVAL, CONTRACTOR IS TO OBTAIN THE APPROVAL OF THE LOCAL INSPECTION AUTHORITY, PAY ALL CHARGES LEVIED BY THE INSPECTION AUTHORITY AND MAKE ANY MODIFICATIONS REQUIRED, AT NO ADDITIONAL EXPENSE TO THE CITY.

1.7 LOCATING EQUIPMENT

1. MATERIALS AND LABOUR SHALL BE ADDED TO THE CONTRACT FOR OUTLETS MOVED WITHIN 10' OR 3.0m FROM THE LOCATION SHOWN ON THE PLANS PRIOR TO ROUGH-IN AT NO EXTRA CHARGE.

2. PUSHBUTTONS SHALL BE MOUNTED 9" OR 225mm OR 36" OR 900mm TO CENTER ABOVE FINISHED FLOOR.

1.8 WARRANTY

1. WARRANTY ALL WORK FOR ONE YEAR, FOLLOWING FINAL ACCEPTANCE. THIS WARRANTY SHALL INCLUDE ALL PROBLEMS CAUSED BY IMPROPER INSTALLATION OR EQUIPMENT FAILURE.

1.9 AS BUILT DRAWINGS

1. REFER TO FRONT END GENERAL SECTIONS FOR DETAILS.

1.10 PANELS AND EQUIPMENT

1. PROVIDE ACCURATE MACHINE PRINTED DIRECTORIES FOR ALL EQUIPMENT.

2. EQUIPMENT TO BE OF SAME MANUFACTURER THROUGHOUT. PROVIDE ALL NECESSARY BREAKERS, HARDWARE AND COVER PLATES FOR COMPLETE INSTALLATION. FULL SIZE BREAKERS, BOLT ON ONLY. MATCH EXISTING KAIC RATINGS

1.11 GROUNDING SYSTEM

1. GROUNDING SYSTEM SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF CANADIAN ELECTRICAL CODE. ENSURE GROUND RESISTANCE IS SUITABLE FOR GRID LOCATION.

2. PROVIDE GROUNDING TO ALL RACEWAYS, AND EQUIPMENT TO C.E.C.

1.12 DISCONNECT SWITCHES

1. SUPPLY AND INSTALL DISCONNECT SWITCHES AS INDICATED AND AS REQUIRED BY CODE. INCLUDE W/P FOR EXTERIOR LOCATIONS.

1.13 AUXILLARY EQUIPMENT

1. PROVIDE WIRING, CONTROL TRANSFORMERS AND AUXILIARY CONTACTS AS REQUIRED FOR CONTROL CONNECTIONS. CO-ORDINATE ALL INTERLOCKS AND CONNECTIONS WITH EQUIPMENT.

1.14 WIRING METHODS

1. ALL WIRING SHALL BE COPPER IN EMT UNLESS INDICATED OTHERWISE.

2. CIRCUIT WIRING TO BE MINIMUM #12 AWG RW90 UNLESS OTHERWISE INDICATED. WHERE WIRE SIZE IS NOT SHOWN, AMPACITY MUST MATCH OR EXCEED THAT OF PROTECTIVE DEVICE AND ANY ALLOWANCE FOR VOLTAGE DROP IS TO BE APPLIED. CABLE TO BE UPSIZED AS NECESSARY.

3. ALL DIMMING DEVICES, COMPUTER AND COPIER RECEPTACLE CIRCUITS MUST BE CONNECTED WITH A SEPARATE NEUTRAL FOR EACH CIRCUIT.

4. AC-90 CABLE MAY BE USED WHEN RUN DIRECTLY TO A DEVICE OR FIXTURE FROM A JUNCTION BOX ATTACHED TO A CONDUIT SYSTEM. CABLE LENGTH NOT TO EXCEED 10FT.

1.15 INSTALLATION

1. INSTALL WIRING CONTINUOUSLY WITHIN RACEWAYS. SPLICES WILL BE PERMITTED ONLY AT OUTLETS AND JUNCTION BOXES. ADEQUATE CABLE SHALL BE PROVIDED TO PERMIT PROPER CONNECTION OF ALL EQUIPMENT.

2. ALL WIRING TO RUN CONCEALED IN CEILING, WALLS OR FLOORS WHEREVER POSSIBLE. ANY EXPOSED CONDUITS OR CABLES SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES TO BUILDING LINES AND IN A NEAT MANNER.

3. INSTALL PULL BOXES AS REQUIRED BY THE CANADIAN ELECTRICAL CODE. PULL BOXES SHALL BE LOCATED IN INCONSPICUOUS SPACES. PROVIDE RATED ACCESS DOORS AS REQUIRED.

4. PROVIDE ALL MOUNTING BRACKETS, STRAPS AND SUPPORTS TO SECURE ELECTRICAL DEVICES IN ACCORDANCE TO SPECIFICATIONS AND C.E.C. REQUIREMENTS.

5. REPLACE ANY PART OF THE INSTALLATION DEEMED UNACCEPTABLE BY THE ENGINEER.

1.16 WIRING DEVICES

1. LIGHT SWITCHES TO BE SPEC COMMERCIAL GRADE, NYLON FACE, 15A. PROVIDE 20A SWITCHES WHERE INDICATED. ALL SWITCHES SHALL BE WHITE UNLESS OTHERWISE NOTED.

2. RECEPTACLES SHALL BE SPEC COMMERCIAL GRADE, NYLON FACE, 15A, FINISH TO BE WHITE UNLESS OTHERWISE NOTED.

3. WIRING DEVICES AND COVER PLATES SHALL BE ONE MANUFACTURER. ALL COVER PLATES SHALL BE WHITE UNLESS OTHERWISE NOTED.

4. GROUND FAULT CIRCUIT INTERRUPTING (GFI) DUPLEX RECEPTACLE SHALL BE EQUAL TO COOPER # VGF-15W.

1.17 LIGHTING

1. SUPPLY AND INSTALL ALL LUMINARIES AND LAMPS AS INDICATED ON THE LUMINAIRE SCHEDULE EXCEPT AS NOTED OTHERWISE. ALL SUPPORTS AND WIRING TO MAKE THE LIGHTING SYSTEM OPERATIONAL IS TO BE SUPPLIED AND INSTALLED. FIXTURES ARE TO BE INDEPENDENTLY SUPPORTED FROM THE CEILING BY FASTENING TO THE BUILDING STRUCTURE.

1.18 EXIT AND EMERGENCY LIGHTING

1. SUPPLY AND INSTALL EXIT LIGHTING AS INDICATED WITH WIRING RUN IN DEDICATED CONDUIT SYSTEM. WIRING SHALL BE MINIMUM #12 AWG WITH TYPE RW-90 INSULATION. EXIT LIGHTS TO COMPLY WITH C860, NBC AND LOCAL BYLAWS. PROVIDE BATTERY UNITS AS UPON LOSS OF AREA LIGHTING. REMOTE HEADS: 20W MR16, 12W IN WASHROOMS.

1.19 LABELS

1. PROVIDE AND INSTALL ADHESIVE LAMINATED LABELS TO IDENTIFY CIRCUITING AND MAJOR EQUIPMENT.

2. NETWORK OUTLET LABELLING AS FOLLOWS: ROOM#-OUTLET # EX: ROOM 104, 1ST OUTLET IN ROOM WOULD BE: 104-001.

1.20 MISCELLANEOUS EQUIPMENT

1. PROVIDE WIRING, CONNECTIONS, STARTERS, DISCONNECTS AND CONTROLS FOR ANY EQUIPMENT SUPPLIED AND INSTALLED BY OTHERS.

2. ALL CONTROL WIRING WILL BE BY THE ELECTRICAL SUBCONTRACTOR UNLESS OTHERWISE NOTED. WHERE 120V POWER IS REQUIRED FOR MECHANICAL EQUIPMENT, WIRING AND CONNECTIONS ARE TO BE PROVIDED BY THE ELECTRICAL SUBCONTRACTOR.

1.21 COORDINATION AND SUPPLY OF WORK ON EXISTING EQUIPMENT

1. WHERE EXISTING SERVICES SUCH AS ELECTRICAL POWER, ETC. ARE REQUIRED TO BE INTERRUPTED AND/OR SHUT DOWN, CO-ORDINATE THE SHUTDOWNS AND CARRY OUT THE WORK AT AN ACCEPTABLE TIME TO THE CITY. CAREFULLY SCHEDULE ALL DISRUPTION AND/OR SHUT-DOWNS AND ENSURE THAT THE DURATION OF SAME IS KEPT TO THE ABSOLUTE MINIMUM. SUBMIT FOR APPROVAL A WRITTEN, CONCISE SCHEDULE OF EACH DISRUPTION AT LEAST 120 HOURS IN ADVANCE OF PERFORMING WORK AND OBTAIN CITY'S WRITTEN CONSENT PRIOR TO IMPLEMENTING.

2. SHOULD ANY TEMPORARY CONNECTIONS BE REQUIRED, 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 CITY AND CONTRACT ADMINISTRATOR.

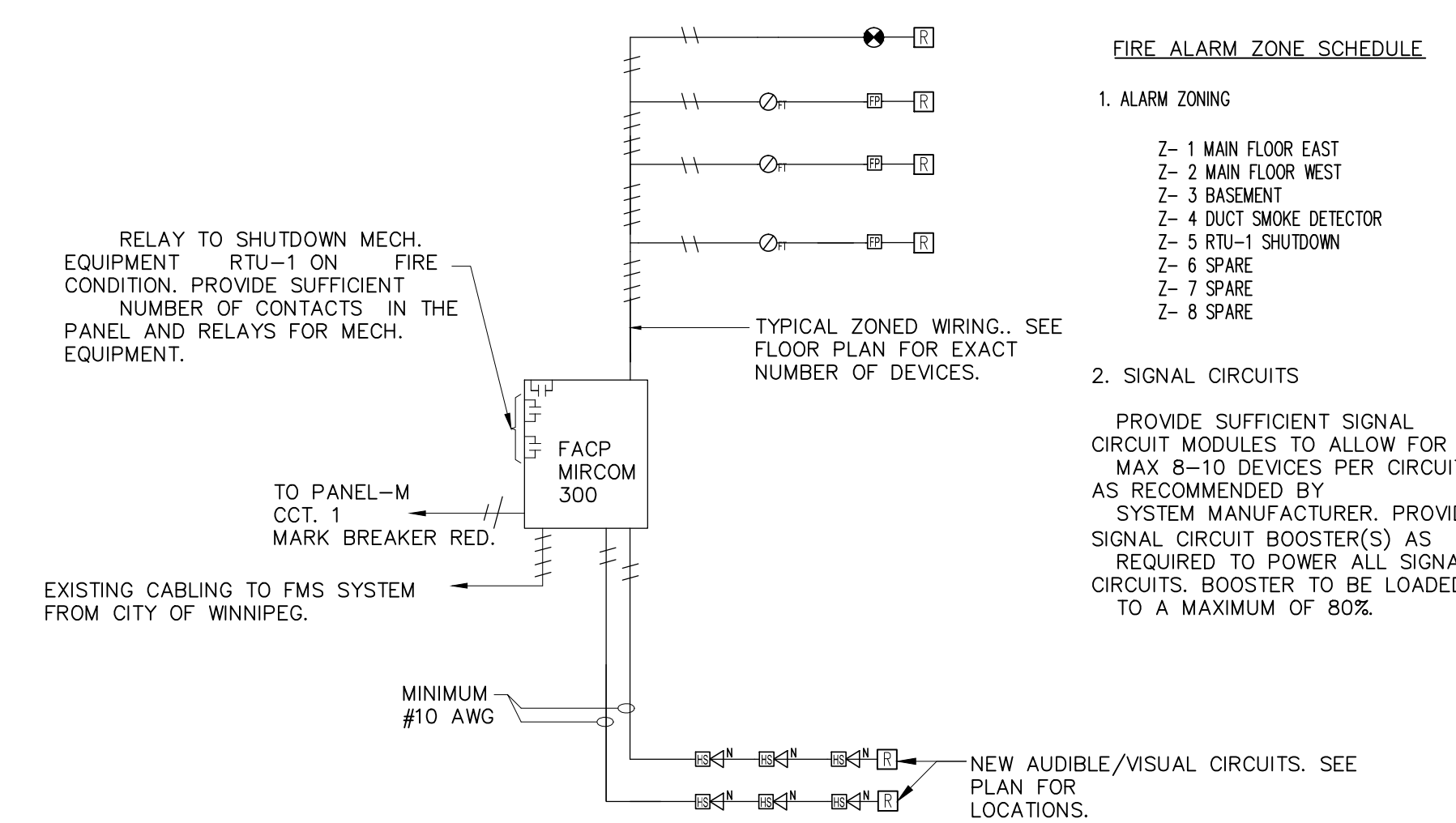
1.22 SITE REVIEW

1. CONTACT THE CONTRACT ADMINISTRATOR FOR SITE REVIEW AT THE FOLLOWING STAGES OF CONSTRUCTION: - SUBSTANTIAL PERFORMANCE - COMPLETION OF DEFICIENCIES (IF REQUIRED) NOTE: ALL REVIEWS ARE AT THE DISCRETION OF THE CONTRACT ADMINISTRATOR.

2. PROVIDE FIVE (5) WORKING DAYS NOTICE FOR ALL REVIEWS.

1.23 SUBSTANTIAL PERFORMANCE

1. BEFORE REQUESTING A SUBSTANTIAL PERFORMANCE REVIEW, THE FOLLOWING ARE AMONG ITEMS THAT MUST BE COMPLETE: - EMERGENCY LIGHTING SYSTEM MUST BE FULLY OPERATIONAL AND TESTED BY THE ELECTRICAL CONTRACTOR. - ALL EXIT LIGHTS MUST BE INSTALLED AND FULLY OPERATIONAL. - ANY DEVICES NOT INSTALLED MUST HAVE THE WIRING MADE SAFE AND TERMINATED IN AN OUTLET BOX COMPLETE WITH COVER. - ALL OUTLETS MUST HAVE COVER PLATES INSTALLED. - ALL ELECTRICAL EQUIPMENT MUST HAVE COVERS AND/OR DOORS INSTALLED COMPLETE. - THE FIRE ALARM MUST BE VERIFIED AND FREE OF DEFICIENCIES - PROVIDE CERTIFICATE OF ACCEPTANCE FROM ELECTRICAL INSPECTION DEPARTMENT.



1 FIRE ALARM SCHEMATIC SCALE: NTS

NOTE: FOR EXACT NUMBER OF OUTLETS, REFER TO DRAWINGS. ADJUST CONDUIT SIZES AS NECESSARY TO ACCOMMODATE ALL WIRING.

1.24 FIRE ALARM SYSTEM

1. INSTALL WIRING CONTINUOUSLY WITHIN RACEWAYS. SPLICES WILL BE PERMITTED ONLY AT OUTLETS AND JUNCTION BOXES. CABLE TO BE FAS OR EQUIVALENT RATED CABLE FOR THE APPLICATION. ALL CABLING TO BE IN EMT OR HAVE A SUITABLE METAL ARMOUR. 2. ALL WIRING TO RUN CONCEALED IN CEILING, WALLS OR FLOORS WHEREVER POSSIBLE. ANY EXPOSED CONDUITS OR CABLES SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES TO BUILDING LINES AND IN A NEAT MANNER. 3. ALL EQUIPMENT AND DEVICES ARE TO BE COMPATIBLE WITH THE EXISTING MIRCOM 300 PANEL. PROVIDE A SUITABLE A/V BOOSTER UNIT TO PROVIDE SYNCHRONIZED ANNUNCIATION FOR BOTH HORN AND STROBE. HORN STROBE TO HAVE BOTH ADJUSTABLE CANDELA AND SOUND SETTINGS. 4. SEQUENCE OF OPERATION: ACTIVATION OF A PULLSTATION, HEAT OR SMOKE DETECTOR ACTIVATION WILL INITIATE THE A/V INDICATION SYSTEM TO ACTIVATE. THIS WILL OPERATE UNTIL THE PANEL IS MANUALLY ACKNOWLEDGED AND SILENCED. THE SYSTEM WILL REMAIN IN ALARM UNTIL THE FAULT IS CLEARED AND THE PANEL IS RESET. UPON ACTIVATION OF AN ALARM INITIATING DEVICE, THE RTU-1 WILL LOSE POWER AND SHUT DOWN AND A SIGNAL WILL BE SENT TO THE CENTRAL MONITORING STATION (CITY OF WPG FMS). 5. THE SYSTEM WILL BE COMPLETELY INSTALLED AND THEN VERIFIED BY A CERTIFIED FIRE ALARM COMPANY. THE CONTRACTOR IS TO ENSURE THAT THE SYSTEM INSTALLATION COMPLIES TO ALL CODES AND IS LEFT IN A COMPLETE AND OPERATIONAL CONDITION.

1.25 VOICE/DATA SYSTEM

1. ALL CABLING, JACKS, BOXES, ETC. TO BE MINIMUM CAT 5E. CABLING SHALL BE BLUE AND TEST AT A MIN. OF 100MHZ. INSTALL TO TIA-568A. 2. ALL WIRING TO BE RUN IN CONDUIT CONCEALED IN CEILING, WALLS OR FLOORS WHEREVER POSSIBLE. ANY EXPOSED CONDUITS OR CABLES SHALL BE RUN, AT THE DISCRETION OF THE ARCHITECT, PARALLEL TO OR AT RIGHT ANGLES TO BUILDING LINES AND IN A NEAT MANNER. 3. ALL EQUIPMENT AND DEVICES ARE TO BE COMPATIBLE WITH THE EXISTING PANDUIT PANEL. PROVIDE SUITABLE WIRE MANAGEMENT AND MARKED TERMINATIONS AT THE PATCH PANEL AND CROSSCONNECTS. ALLOW AN ADDITIONAL 24 PORT PATCH PANEL IN PRICING. TERMINATE TELEPHONE CABLING IN DEDICATED EXISTING PATCH PANEL AND CROSSCONNECT TO EXISTING PUNCH DOWN BIX. ENSURE 16" OF SLACK IS PRESENT AFTER TERMINATIONS ARE MADE. 4. ALL TERMINATIONS ARE TO BE PERFORMED AND TESTED BY A QUALIFIED AND LICENCED STRUCTURED CABLING INSTALLER. PROVIDE A RECORD OF TESTING FOR INCLUSION IN O&M MANUALS. 5. IDENTIFY ALL JACKS, AND TERMINATIONS CLEARLY WITH PROFESSIONALLY PRINTED IDENTIFICATION. 6. CONTRACTOR TO REPLACE ANY CABLE OR TERMINATION THAT FAILS WITHIN A ONE YEAR PERIOD.

Table with columns: No., REVISION/DESCRIPTION, BY, DATE. Includes a row for 'ISSUED FOR TENDER' and a 'SEAL' area.

Table with columns: DRAWN, CHECKED, DESIGNED, APPROVED. Includes a row for 'DATE' and 'USER APPROVAL'.

THE CITY OF WINNIPEG PLANNING, PROPERTY AND DEVELOPMENT DEPARTMENT MUNICIPAL ACCOMMODATIONS DIVISION 3-65 GARRY STREET, R3C 4K4

PROJECT FORT GARRY LIBRARY INTERIOR & EXTERIOR REFURBISHING DESIGN 1380 PEMBINA HIGHWAY

SHEET TITLE ELECTRICAL SPECIFICATION FIRE ALARM SCHEMATIC

Table with columns: SCALE, PROJECT No, SHEET No. Includes a row for 'AS SHOWN', '2011-096', and 'E6'.