ELECTRICAL SPECIFICATIONS

16.1 GENERAL

A) SUPPLY ALL LABOUR, EQUIPMENT AND MATERIALS NECESSARY TO INSTALL COMPLETE AND OPERATIONAL, THE ELECTRICAL SYSTEMS DESCRIBED HEREIN AND SHOWN ON THE DRAWINGS.

B) THE REQUIREMENT OF DIVISION 16, THE ELECTRICAL SPECIFICATIONS ARE IN ADDITION TO THOSE CONTAINED IN THE GENERAL CONDITIONS AND OTHER PORTIONS OF THE CONTRACT DOCUMENTS.

C) REFER TO THE GENERAL REQUIREMENTS AND CONDITIONS IN THE ARCHITECTURAL SPECIFICATIONS.

D) PROVIDE AN ENGRAVED LAMICOID NAMEPLATE, SECURELY ATTACHED TO EACH SWITCHBOARD, SWITCHBOARD SECTION, TRANSFORMER, PANELBOARD, DISCONNECT SWITCH, STARTER, CONTROL PANEL, ETC. TO CLEARLY IDENTIFY THE EQUIPMENT AS NOTED ON THE DRAWINGS, E.G. 'PANEL A'. NAMEPLATES SHALL BE 1/2 INCH MINIMUM, WHITE WITH BLACK CORE.

E) DEFINITIONS USED THROUGHOUT THESE SPECIFICATION WILL HAVE THE FOLLOWING MEANING:

'WIRING' INCLUDES CABLE IN CONDUIT, CABLE IN TRAY, HANGERS AND OTHER ACCESSORIES WHICH COMPRISE A COMPLETE WIRING INSTALLATION FROM SOURCE OF POWER TO POINT OF UTILIZATION OF THE POWER.

'PROVIDE' TO SUPPLY, INSTALL, CONNECT AND TEST.

'CODE' THE CANADIAN ELECTRICAL CODE AND B.C. AMENDMENTS

'AUTHORITY' ELECTRICAL CONSULTANT

16.2 DRAWINGS AND SPECIFICATIONS

A) THESE SPECIFICATIONS ARE ACCOMPANIED BY DRAWINGS UTILIZING STANDARD SYMBOLS TO INDICATE THE GENERAL LAYOUT OF THE COMPLETE ELECTRICAL SYSTEMS, ARRANGEMENT AND LOCATIONS OF OUTLETS, JUNCTION BOXES, LUMINAIRES, ETC.

B) FIELD VERIFICATION OF SCALE DIMENSIONS ON DRAWINGS BY THE ELECTRICAL CONTRACTOR IS NECESSARY, AS ACTUAL LOCATIONS, DISTANCE AND LEVELS WILL BE GOVERNED BY ACTUAL FIELD CONDITIONS.

C) IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO PROVIDE FOR AN ELECTRICAL INSTALLATION COMPLETE AND IN OPERATING CONDITION, AND THE RESPONSIBILITY FOR SUPPLY AND INSTALLING ALL LABOUR, EQUIPMENT AND MATERIALS NECESSARY TO ACCOMPLISH THIS, EXCEPT WHERE SPECIFICALLY NOTED THAT SUCH WORK OR MATERIALS IS NOT INCLUDED, SHALL FORM PART OF THE ELECTRICAL WORK.

16.3 COORDINATION

A) SINCE THE ELECTRICAL DRAWINGS ARE LARGELY SCHEMATIC AND DO NOT SHOW ALL STRUCTURAL OR ARCHITECTURAL DETAILS OR THE EXACT LOCATION OF EQUIPMENT ETC., THE ELECTRICAL CONTRACTOR IS DIRECTED TO FAMILIARIZE HIMSELF WITH THE INSTALLATION THROUGH A REGULAR REVIEW OF ALL AVAILABLE DRAWING TO ENSURE THAT THE EQUIPMENT MAY BE INSTALLED AS SPECIFIED AND SHOWN.

B) COORDINATE WITH TELUS AS NECESSARY TO PROVIDE A COMPLETE INSTALLATION.

C) COORDINATE WITH THE GENERAL CONTRACTOR WITH RESPECT TO THE DEPTH OF FLUSH MOUNTED PANELBOARDS AND THEIR LOCATION WITHIN WALLS, THE LOCATIONS AND ROUTES OF MAIN CABLES, ETC.

D) REPORT TO THE ELECTRICAL CONSULTANT ANY COORDINATION PROBLEMS WHICH ARE UNABLE TO BE RESOLVED ON SITE WITHOUT SERIOUSLY AFFECTING THE ELECTRICAL SERVICES DESIGN AS SPECIFIED AND SHOWN.

16.4 SITE EXAMINATION

A) EXAMINE THE SITE OF WORK AND BECOME FAMILIAR WITH ALL FEATURES AND CHARACTERISTICS AFFECTING THE ELECTRICAL WORK.

B) NO ADDITIONAL COMPENSATION WILL BE GIVEN FOR EXTRA WORK DUE TO EXISTING CONDITIONS WHICH SUCH EXAMINATION SHOULD HAVE DISCLOSED.

C) REPORT TO THE ELECTRICAL CONSULTANT ANY UNSATISFACTORY CONDITIONS WHICH MAY ADVERSELY AFFECT THE PROPER COMPLETION OF THE ELECTRICAL WORK.

16.5 MATERIALS

A) ALL MATERIALS SUPPLIED SHALL BE NEW AND OF THE QUALITY INDICATED IN THE SPECIFICATIONS, OTHERWISE, THEY ARE TO BE OF THE BEST COMMERCIAL QUALITY OBTAINABLE FOR THE PURPOSE AND SHALL CONFORM TO THE STANDARDS OF THE C.S.A. AND THE U.L.C.

B) IN THE EVENT THAT A MATERIAL SPECIFIED DOES NOT BEAR U.L.C. AND C.S.A. APPROVAL, OBTAIN THE APPROVAL OF THE LOCAL INSPECTION AUTHORITY, PAY ALL CHARGES LEVIED BY THE INSPECTION AUTHORITY AND MAKE MODIFICATIONS REQUIRED, AT NO ADDITIONAL EXPENSE TO THE OWNER.

16.6 CODES, PERMITS AND FEES

A) THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE CANADIAN ELECTRICAL CODE, B.C. AMENDMENTS, LOCAL MUNICIPAL CODES AND BY-LAWS AND THE CURRENT EDITION OF THE B.C. BUILDING CODE.

B) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SUBMIT TWO (2) SETS OF ELECTRICAL DRAWINGS AND SPECIFICATIONS TO THE ELECTRICAL INSPECTION AUTHORITY AND PAY CHARGES LEVIED THEREBY. A COPY OF THE ELECTRICAL INSPECTORS COMMENTS AND/OR APPROVAL SHALL BE SUBMITTED TO THE ELECTRICAL CONSULTANT.

16.7 EQUIPMENT LOCATIONS

A) THE CONSULTANT RESERVES THE RIGHT TO CHANGE THE LOCATION OF OUTLETS, SWITCHES, ETC., WITHIN 15 FEET OF THE POINT INDICATED ON THE DRAWINGS, WITHOUT INVOLVING AN EXTRA, PROVIDING ADVICE OF HIS CHANGE IS GIVEN IN PROPER TIME TO AVOID THE REMOVAL OF MATERIAL ALREADY INSTALLED.

16.8 SUBSTITUTIONS

A) WHERE MATERIALS, EQUIPMENT AND APPARATUS OR OTHER PRODUCTS ARE SPECIFIED BY THE MANUFACTURER'S BRAND NAME, TYPE OR CATALOGUE NUMBER, THEY SHALL BE SUPPLIED AS SPECIFIED UNLESS WRITTEN APPROVAL IS OBTAINED FROM THE ELECTRICAL CONSULTANT.

B) WHERE MATERIALS, EQUIPMENT AND APPARATUS OR OTHER PRODUCTS ARE NOTED AS BEING 'EQUAL TO' THE SPECIFIED MANUFACTURER, PRODUCTS OF EQUAL OR SUPERIOR QUALITY BY OTHER MANUFACTURERS MAY BE SUBSTITUTED WITHOUT APPROVAL OF THE ELECTRICAL CONSULTANT.

16.9 CHANGES TO WORK

A) NO ADDITIONAL WORK SHALL BE CARRIED OUT, OR ANY WORK DELETED, WITHOUT THE WRITTEN AUTHORIZATION OF THE ARCHITECT OR PROJECT MANAGER. REFER ALSO TO THE ARCHITECTURAL SPECIFICATIONS AND THE GENERAL CONDITIONS.

16.10 SHOP DRAWINGS

A) PRIOR TO DELIVERY OF ANY PRODUCT TO THE JOB SITE, AND IN SUFFICIENT TIME TO ALLOW FOR CHECKING BY THE ELECTRICAL CONSULTANT, SUBMIT SHOP DRAWINGS FOR REVIEW AS SPECIFIED IN THE ARCHITECTURAL SPECIFICATIONS, THE GENERAL CONDITIONS, AND WITHIN THESE SPECIFICATIONS.

B) SHOW DETAILS APPROPRIATE TO EACH PRODUCT AND AS A GENERAL RULE SHOW THE FOLLOWING:

- PROJECT TITLE AND NUMBER
- DATE
- NAME OF CONTRACTOR
- PRODUCT I.D./MODEL/CATALOGUE NUMBER
- DIMENSIONS
- REQUIRED CLEARANCES
- CAPACITY
- METHOD OF SUPPORT OF INSTALLATION
- CONSTRUCTION DETAILS

C) WHERE APPLICABLE INCLUDE WIRING, SINGLE LINE AND SCHEMATIC DRAWINGS AND SHOW INTERCONNECTIONS WITH WORK OF OTHER TRADES.

D) REMOVE ALL NON-APPLICABLE INFORMATION FROM STANDARD CATALOGUES AND DRAWINGS.

E) MANUFACTURE OF PRODUCTS SHALL CONFORM TO REVIEWED SHOP DRAWINGS.

F) KEEP ONE COMPLETE SET OF SHOP DRAWINGS AT THE JOB SITE DURING CONSTRUCTION.

16.11 AS-BUILT DRAWINGS

A) MAINTAIN IN THE JOB SITE OFFICE AN UP-TO-DATE SET OF DRAWINGS. THESE DRAWINGS SHALL BE MARKED CLEARLY AND INDELIBLY IN RED INDICATING DEVIATIONS FROM AND REVISIONS TO THE ORIGINAL DESIGN OR INTENT.

B) UPON COMPLETION OF CONSTRUCTION, AND PRIOR TO SUBSTANTIAL COMPLETION OF THE ELECTRICAL WORK, SUBMIT THESE DRAWINGS TO THE ELECTRICAL CONSULTANT FOR REVIEW.

C) THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND KEEP ONE (1) SET OF WHITE PRINTS INCLUDING REVISION DRAWINGS, IN JOB SITE OFFICE. BACKFILLING WILL NOT BE ALLOWED UNTIL UNDERGROUND SERVICE DIMENSIONS ARE MARKED ON PLANS. THE SET OF WHITE PRINTS SHALL BE MAINTAINED IN CONSTANT UP-TO-DATE CONDITION BY EACH TRADE (AS-BUILT CONDITIONS MARKED IN RED PENCIL). THE ONE (1) SET OF WHITE PRINTS WILL BE PROVIDED TO THE CONTRACTOR BY THE CONSULTANT AT THE CONTRACTOR'S COST.

C) THE AS-BUILT DAILY MARKED-UP PRINTS SHALL CONFORM TO THE STANDARDS OF THE CONTRACT DRAWINGS AND SHALL INCLUDE ALL DETAILS FROM REVISION DRAWINGS, SUPPLEMENTARY DRAWINGS, CHANGE ORDERS, ADDENDA AND SITE REVISIONS, ETC.

E) AS-BUILT DRAWINGS SHALL SHOW THE FOLLOWING INFORMATION:

SHOW ALL FEEDER AND CONDUIT RUNS, BRANCH CIRCUIT NUMBERS AND OTHER DESIGNATIONS RESPECTIVELY, FOR ALL POWER AND ALL COMMUNICATIONS WIRING AS INSTALLED; ALL CHANGES TO LIGHTING FIXTURE TYPES AND LOCATIONS; CABLE TRAY ROUTING AND SIZES. SHOW THE ACTUAL LOCATION OF ALL LOW VOLTAGE RELAYS THEIR DESIGNATIONS. FEEDER RUNS SHALL SHOW ALL PULLBOXES, ROUTING AND CONDULET FITTINGS. BRANCH CIRCUIT WIRING SHALL SHOW ALL OUTLETS, CIRCUIT NUMBERS AS-BUILT, JUNCTION AND PULL BOX SIZES AND LOCATIONS.

F) AT THE END OF CONSTRUCTION, ALL OF THE ABOVE CHANGES SHALL BE TRANSFERRED BY THE CONSULTANT, AT THE CONTRACTOR'S COST, TO A SET OF 'AUTO CAD' DISCS. THE CADD FILES SHALL BE USED TO PRODUCE ONE (1) SET OF ORIGINALS TURNED OVER TO THE OWNER. THE CONTRACTOR SHALL ALLOW $100.00 PER REVISED DRAWING.

16.12 MAINTENANCE MANUAL AND OPERATING INSTRUCTIONS

A) BEFORE REQUESTING SUBSTANTIAL COMPLETION, SUBMIT ONE (1) COPY OF A MAINTENANCE AND OPERATION INSTRUCTIONS MANUAL FOR THE ELECTRICAL SYSTEM.

B) INCLUDE IN THE MANUAL INFORMATION BASED ON THE FOLLOWING REQUIREMENTS:

- OPERATION AND MAINTENANCE INSTRUCTIONS TO BE SUFFICIENTLY DETAILED WITH RESPECT TO DESIGN ELEMENTS, CONSTRUCTION FEATURES AND COMPONENT FUNCTION AND MAINTENANCE REQUIREMENTS TO PERMIT EFFECTIVE OPERATION, MAINTENANCE, REPAIR, MODIFICATION, EXTENSION AND EXPANSION OF ANY PORTION OR FEATURE OF THE INSTALLATION.
- TECHNICAL DATA TO BE IN FORM OF APPROVED SHOP DRAWINGS, SUPPLEMENTED BY BULLETINS, TECHNICAL DESCRIPTIONS OR ITEMS, AND PARTS LISTS. ADVERTISING LITERATURE WILL NOT BE ACCEPTED.
- PROVIDE WIRING AND SCHEMATIC DIAGRAMS AND PERFORMANCE CURVES WHERE NECESSARY.
- INCLUDE NAMES AND ADDRESSES OF NEAREST SUPPLIER FOR ALL ITEMS INCLUDED IN THE MAINTENANCE MANUALS.

C) USE QUALITY 3-RING HARD BACK BINDERS COMPLETE WITH TABBED SEPARATIONS.

D) INSTRUCT THE OWNER'S WORK FORCE OR REPRESENTATIVES IN THE PROPER OPERATION AND CARE OF THE ELECTRICAL SYSTEMS PRIOR TO SUBSTANTIAL PERFORMANCE.

16.13 GUARANTEES

A) GUARANTEE ALL WORK FOR ONE (1) YEAR, FOLLOWING FINAL ACCEPTANCE. THIS GUARANTEE SHALL INCLUDE ALL PROBLEMS CAUSED BY IMPROPER INSTALLATION OF EQUIPMENT FAILURE, EQUIPMENT FAILURE DUE TO NEGLECT, MISUSE OR NORMAL 'WEAR AND TEAR' SHALL BE EXCLUDED FROM THIS GUARANTEE.

16.14 SUBSTANTIAL COMPLETION REQUIREMENTS

A) BEFORE THE ELECTRICAL CONSULTANT IS REQUESTED TO MAKE A SUBSTANTIAL COMPLETION INSPECTION, SUBMIT THE FOLLOWING:

- A LETTER CERTIFYING THAT ALL WORK IS COMPLETE, OPERATIONAL, CLEAN AND PAINTED AS SPECIFIED.
- AS-INSTALLED DRAWINGS AND INSPECTION AND WARRANTY CERTIFICATES SIGNED AND DATED BY THE CONTRACTOR.
- ONE (1) COPY OF THE MAINTENANCE AND OPERATING INSTRUCTIONS MANUAL IN HARDCOVER, TABULATED INTO:
  - LIGHTING (FIXTURE CUTS)
  - EMERGENCY LIGHTING SYSTEM: EQUIPMENT AND OPERATION
  - LIGHTING CONTROLS: EQUIPMENT AND OPERATION
  - DISTRIBUTION, PANELBOARDS, ETC.
  - ELECTRIC HEATING
- RECORD OF COMPLETED DEMONSTRATION AND INSTRUCTION TO THE OWNER'S REPRESENTATIVE, FOR ALL SYSTEMS.
- FINAL AND UNCONDITIONAL CERTIFICATE OF APPROVAL FROM THE ELECTRICAL INSPECTION AUTHORITY.

16.15 LONG DELIVERY ITEMS

A) THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN HIS TENDER PRICE SUBMITTAL, A LIST OF LONG DELIVERY ITEMS THAT SHOULD BE ORDERED IN THE FIRST WEEK AFTER AWARD OF THE CONTRACT. A COPY OF PURCHASE ORDERS SHALL BE SUBMITTED IN THE FIRST WEEK AFTER AWARD OF THE CONTRACT INDICATING THAT THE LONG DELIVERY ITEMS HAVE IN FACT BEEN ORDERED.

16.16 INSPECTION

A) ALL WORK SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE ELECTRICAL CONSULTANT AT ALL TIMES. IN THE EVENT THAT A FINAL INSPECTION REVEALS DEFICIENCIES, PRIOR TO RE-INSPECTING THE WORK THE CONSULTANT WILL ASK THE CONTRACTOR WHETHER OR NOT ALL DEFICIENCIES HAVE BEEN CORRECTED.

B) IF THE CONTRACTOR'S REPLY INDICATES THAT ALL DEFICIENCIES HAVE BEEN CORRECTED, BUT THE RE-INSPECTION REVEALS THEY HAVE NOT THEN THE CONTRACTOR SHALL REIMBURSE THE HOURLY RATES PLUS REIMBURSABLE EXPENSES.

16.17 SEISMIC RESTRAINT

A) WHERE DRILLING OF THE STRUCTURE IS REQUIRED, THE DRILLING SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER.

B) PROVIDE A SYSTEM TO SECURE ALL RECESSED LIGHT FIXTURES INDEPENDENTLY FROM THE SUSPENDED CEILING SYSTEM. FIXTURES SHALL BE SUPPORTED DIRECTLY AND LATERALLY FROM THE BUILDING STRUCTURE ABOVE.

C) PROVIDE A SYSTEM TO SECURE ALL CONDUIT, CABLE TRAY AND DISTRIBUTION CABLE SYSTEMS TO THE BUILDING STRUCTURE.

D) CONTRACTOR IS RESPONSIBLE FOR ALL SEISMIC RESTRAINT REQUIREMENTS AS REQUIRED BY THE CURRENT EDITION OF THE B.C. BUILDING CODE AND/OR LOCAL GOVERNING AUTHORITIES.

16.18 GROUNDING

A) PROVIDE ALL GROUNDING AND BONDING IN ACCORDANCE WITH SECTION 10 OF THE CURRENT EDITION OF THE CANADIAN ELECTRICAL CODE.

16.19 PANELBOARDS

A) PROVIDE TYPED DIRECTORIES FOR ALL PANELBOARDS.

B) PROVIDE LAMICOID NAMEPLATES ON ALL DISTRIBUTION EQUIPMENT.

16.20 WIRING METHODS

A) BRANCH CIRCUIT WIRING SHALL BE MINIMUM #12 AWG R90 COPPER IN EMT CONDUIT WITH MAXIMUM VOLTAGE DROP OF 3%. TYPE AC-90 MAY BE USED FOR LIGHT FIXTURE DROPS AND FOR WIRING IN FRAME PARTITIONS, WHERE ALLOWED BY CODE. THE USE OF NMD7 (LOOMEX) TYPE CABLE IS ACCEPTABLE WHERE PRE-APPROVED BY THE ELECTRICAL CONSULTANT , EXCEPT FOR USE IN RESIDENTIAL CONSTRUCTION, WHERE PRE-APPROVAL IS NOT REQUIRED. WHERE WIRE SIZE IS NOT INDICATED, AMPACITY MUST MATCH OR EXCEED THAT OF THE PROTECTIVE DEVICE.

B) WIRE AND CABLES SHALL BE NEW AND MARKED IN ACCORDANCE WITH CODE REQUIREMENTS FOR TYPE, VOLTAGE, MANUFACTURER, ETC.

C) ALL CONDUIT PENETRATING FLOOR SLABS OR FIRE WALLS SHALL BE SEALED WITH C.S.A. APPROVED FLAME RETARDANT COMPOUNDS, TO MAINTAIN ADEQUATE FIRE RATINGS. U.L.C.

APPROVED MATERIALS SHALL COMPLY WITH CAN4-S101-REF.3.1.7.A (2) AND SHALL BE EQUAL TO DOW CORNING FS2000 SILICONE AND DOW CORNING FS2001 RTV FOAM TO BE INSTALLED INSTALLED BY AUTHORIZED CONTRACTORS WHO ARE QUALIFIED EXPERIENCED APPLICATORS IN THIS FIELD.

D) IF THE CEILING VOID IS TO BE USED AS AN AIR PLENUM, ALL WIRING IN THE CEILING SPACES SHALL BE IN CONDUIT OR CABLE SHALL BE PLENUM RATED AND ACCEPTABLE TO THE LOCAL ELECTRICAL INSPECTOR.

E) MINIMUM CONDUCTOR SIZE FOR EMERGENCY BATTERY LIGHTING D.C. CIRCUITS SHALL BE #10 AWG. CONDUCTOR INSULATION TYPE TO BE AS FOR A.C. CIRCUITS.

F) LOW VOLTAGE SYSTEMS WIRING SHALL BE MULTI-CONDUCTOR CABLES WITH STRANDED CONDUCTORS. WHERE SPECIFIED TO BE RUN AS OPEN WIRING IT SHALL COMPLY WITH THE PROVISIONS OF THE B.C. BUILDING CODE. CABLE SHALL BE FT4 RATED WHERE INSTALLED IN WALLS OR CEILING SPACES NOT USED AS AIR PLENUMS AND PLENUM CABLE WHERE INSTALLED IN AIR PLENUMS, UNLESS RUN IN METAL RACEWAY SYSTEM.

G) P.V.C. JACKETED CABLE OR FLEXIBLE METAL CONDUIT ENCLOSING WIRE OR CABLE. JACKET TO BE FT1 RATED AS PER THE B.C. BUILDING CODE 3.1.4.3(1)(a)(FT-1 WIRING).

16.21 WIRING DEVICES

A) LIGHT SWITCHES SHALL BE SPECIFICATION GRADE, 15A. PROVIDE 20A SWITCHES WHERE INDICATED. ALL SWITCHES SHALL BE WHITE, UNLESS OTHERWISE NOTED. COVER PLATES SHALL BE WHITE AND ENGRAVED AS NOTED ON THE DRAWINGS.

B) RECEPTACLES SHALL BE SPECIFICATION GRADE, 15A, WHITE FINISH AS INDICATED ON THE DRAWINGS. COVER PLATE FINISHES SHALL MATCH RECEPTACLES.

16.22 LIGHTING AND LIGHTING CONTROL

A) PROVIDE FIXTURES, LAMPS, SUPPORTS AND WIRING TO MAKE OPERATIONAL THE LIGHTING SYSTEMS AS INDICATED ON THE DRAWINGS.

B) FIXTURES SHALL BE OF MANUFACTURER AND CATALOGUE NUMBER AS INDICATED IN THE FIXTURE SCHEDULE OR APPROVED EQUAL.

C) PROVIDE SWITCHES AND CONTACTORS AS NECESSARY TO CONTROL THE LIGHTING AS INDICATED ON THE DRAWINGS.

D) PROVIDE SHOP DRAWINGS FOR ALL LIGHT FIXTURES, ASSOCIATED CONTROL DEVICES.

E) RECESSED FIXTURES INSTALLED IN INSULATED CEILING SPACES SHALL BE C.S.A. APPROVED FOR THE PURPOSE.

F) ALL LIGHT DIFFUSERS AND LENSES SHALL HAVE A FLAME SPREAD RATING AND SMOKE DEVELOPED CLASSIFICATION (WHEN TESTED IN CONFORMANCE WITH CAN/ULC-S102.2-M) MEETING THE REQUIREMENTS OF SUBSECTION 3.1.13 OF THE CURRENT EDITION OF THE B.C. BUILDING CODE.

G) ALL LIGHT DIFFUSERS AND LENSES SHALL FALL TO THE BOTTOM OF THE TEST APPARATUS BEFORE IGNITING WHEN TESTED IN CONFORMANCE WITH ULC-S102-M.

16.23 EXIT AND EMERGENCY LIGHTING

A) PROVIDE AN EXIT AND EMERGENCY LIGHTING SYSTEM CONSISTING OF INDIVIDUAL SOLID STATE BATTERY UNITS, REMOTE HEADS AND EXIT LIGHTS IN ACCORDANCE WITH THE B.C. BUILDING CODE AND LOCAL BY-LAW REQUIREMENTS.

B) BATTERY UNITS SHALL BE READY-LITE 'LD-12' SERIES, OR APPROVED EQUAL, COMPLETE WITH LONG LIFE LEAD BATTERIES, INTEGRAL HEADS AS INDICATED AND 10 YEAR WARRANTY. CAPACITIES SHALL BE AS INDICATED ON THE DRAWINGS.

C) REMOTE HEAD FIXTURES SHALL BE READY-LITE 'RT' SERIES, OR APPROVED EQUAL, COMPLETE WITH 12V, 9W TUNGSTEN LAMPS. USE TYPE 'RT-1' (9W) AND 'RT-2' (9W) IN FINISHED AREAS.

D) EXIT SIGNS SHALL BE READY-LITE 'NEXT-U' SERIES COMPLETE WITH L.E.D. 120V LIGHT SOURCE, OR APPROVED EQUAL, FOR 120V OPERATION AND L.E.D. 12V D.C. LIGHT SOURCE FOR D.C. OPERATION.

E) SIGNS SHALL BE DOUBLE FACED WHERE INDICATED BY TWO (2) DIRECTIONAL ARROWS.

F) WIRING TO REMOTE HEADS AND EXIT LIGHT DC SOCKETS SHALL BE MINIMUM #10AWG AND SIZED TO PREVENT VOLTAGE DROP IN EXCESS OF 5%. CONNECT TO BATTERY UNITS AS INDICATED ON THE DRAWINGS.

G) PROVIDE SHOP DRAWINGS FOR ALL EXIT AND EMERGENCY LIGHTING FIXTURES AND EQUIPMENT.

H) EMERGENCY BATTERY LIGHTING UNITS SHALL HAVE CERTIFICATION TO C.S.A. STANDARD C22.2 No. 141.

I)a UNITS SHALL BE 12V D.C. AND HAVE MINIMUM WATT CAPACITY, TO POWER THE NUMBER OF 5W LAMPS IN EXIT SIGNS AS WELL AS REMOTE AND UNIT MOUNTED LIGHTING HEADS (FOR A <u>MINIMUM 30 MINUTE</u> PERIOD), AS SHOWN ON DRAWINGS.

I)b BATTERY VOLTAGE AT END OF 30 MINUTE PERIOD SHALL NOT BE LESS THAN 87.5% OF NORMAL.

16.24 TELEPHONE AND DATA SYSTEMS

A) WALL OUTLETS SHALL CONSIST OF A 4" SQUARE OUTLET BOX COMPLETE WITH A SINGLE GANG PLASTER RING AND COVERPLATE. PROVIDE A 3/4" CONDUIT FROM THE OUTLET BOX TO THE ACCESSIBLE CEILING SPACE AND PROVIDE PULLSTRINGS AS REQUIRED. IF CEILING SPACE IS NOT ACCESSIBLE, ELECTRICAL CONTRACTOR IS TO INSTALL A 3/4" CONDUIT c/w PULLSTRING FROM EACH OUTLET INDICATED ON THE DRAWINGS TO THE TELEPHONE BACKBOARD LOCATION IN THE MAIN ELECTRICAL ROOM, UNLESS OTHERWISE INDICATED ON THE DRAWINGS. TELEPHONE AND DATA CABLING ARE BY OTHERS.

16.25 ELECTRIC HEATING

A) PROVIDE ELECTRIC BASEBOARD HEATERS AND ASSOCIATED THERMOSTATS AS INDICATED ON THE DRAWINGS.

B) BASEBOARDS SHALL BE 208V, 1P, WHITE IN COLOUR WITH BUILT-IN THERMOSTATS UNLESS OTHERWISE INDICATED.

C) PROVIDE SHOP DRAWINGS FOR ALL BASEBOARDS.

16.26 MECHANICAL EQUIPMENT

A) PROVIDE POWER AND CONNECTIONS, SAFETY DISCONNECT SWITCHES, LINE VOLTAGE THERMOSTATS, ETC., FOR MECHANICAL EQUIPMENT AS INDICATED ON THE DRAWINGS.

B) PROVIDE SHOP DRAWINGS FOR ALL SAFETY DISCONNECT SWITCHES, LINE VOLTAGE THERMOSTATS, ETC.

<u>GENERAL NOTES:</u>

A) SUPPLY AND INSTALL VAPOUR BARRIERS AS REQUIRED BY B.C. BUILDING CODE.

B) PRIOR TO INSTALLING ANY RECEPTACLE, SWITCH, LIGHT FIXTURE OUTLET OR DEVICE OF ANY TYPE, REVIEW ALL AVAILABLE DRAWINGS, INCLUDING MILLWORK AND CONSULT WITH GENERAL CONTRACTOR FOR ACTUAL FINISHED LOCATIONS.

Traditions West Designs
139-33751 7th Avenue
Mission, B.C. V2V 7C2
Phone: 826-9266

	DATE	ISSUED
1.	FEB. 4/10	ISSUED FOR PERMIT

	DATE	REVISIONS
1.		

PROJECT :
ST. JOSEPH'S CHURCH FOOD BANK
32550 - 7th AVENUE - MISSION BC

DRAWING TITLE :
ELECTRICAL SPECIFICATIONS

CONSULTANT :
Electrical Consultant:
MURPHY DESIGN SERVICES Inc.
42177 Yarrow Central Road Chilliwack, BC V2R 5E5
Phone: (604) 823-6713 Fax: (604) 823-6510

©
COPYRIGHT RESERVED.
THIS DRAWING IS THE EXCLUSIVE PROPERTY OF MURPHY DESIGN SERVICES INC.
AND UNAUTHORIZED REPRODUCTION IS PROHIBITED.

DATE : JAN. 2011
SCALE : AS NOTED
JOB NO : TW1012
DR : RM
SHEET
E-5