

ELECTRICAL SPECIFICATION:

SCOPE:

1. PROVIDE ALL LABOUR, MATERIAL, EQUIPMENT AND SERVICES NECESSARY (INCLUDING ALL SUCH REASONABLY IMPLIED OR INCIDENTAL), TO COMPLETE THE ELECTRICAL INSTALLATION AS INDICATED ON THE ELECTRICAL DRAWINGS. THE COMPLETE SYSTEM IS TO BE APPROVED, INSTALLED AND OPERATIONAL TO THE SATISFACTION OF THE RESPONSIBLE PROFESSIONAL ENGINEER.
2. THE WORK IS TO INCLUDE (BUT NOT NECESSARILY BE LIMITED TO) THE FOLLOWING:
- a. PROVIDE A COMPLETE AND CODE CONFORMING EMERGENCY LIGHTING AND EGRESS SIGNAGE SYSTEM.
 - b. PROVIDE A COMPLETE, CODE CONFORMING AND VERIFIED FIRE ALARM SYSTEM.
 - c. PROVIDE LIGHTING AS INDICATED ON THE DRAWINGS.
 - d. PROVIDE A POWER DISTRIBUTION SYSTEM AS INDICATED ON THE DRAWINGS.
 - e. WIRE AND CONNECT ALL OWNER'S AND MECHANICAL EQUIPMENT SUPPLIED BY OTHERS. PROVIDE ALL MOTOR CONTROLS AS REQUIRED.
 - f. PROVIDE EQUIPMENT AND MATERIAL AS SPECIFIED.
 - g. PROVIDE ALL REQUIRED GROUNDING AND BONDING.

STANDARDS AND REGULATIONS:

3. THE ENTIRE ELECTRICAL INSTALLATION IS TO BE IN ACCORDANCE WITH ALL CURRENT CODES, RULES AND REGULATIONS, INCLUDING (BUT NOT LIMITED TO) THE CURRENT EDITIONS OF THE CANADIAN ELECTRICAL CODE AND NATIONAL BUILDING CODE, WITH ALL APPLICABLE PROVINCIAL AND MUNICIPAL AMENDMENTS.
4. INSTALL AND VERIFY FIRE ALARM SYSTEM TO CAN/ULC-S524-06 AND CAN/ULC-S537-04.
5. INSTALL ALL EQUIPMENT AND DEVICES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

SUBMISSIONS:

6. ALL REQUIRED PERMITS AND THEIR APPLICATIONS ARE TO BE PROVIDED TO THE PROPER AUTHORITIES. PAY ALL ASSOCIATED FEES.
7. REQUESTS FOR EQUALS ARE TO BE SUBMITTED TO THE RESPONSIBLE PROFESSIONAL ENGINEER NO LATER THAN SEVEN(7) WORKING DAYS PRIOR TO SUBMISSION OF TENDER.
8. SHOP DRAWINGS ARE TO BE SUBMITTED TO THE RESPONSIBLE PROFESSIONAL ENGINEER PRIOR TO ORDERING EQUIPMENT, AND NO EQUIPMENT IS TO BE ORDERED WITHOUT THE ENGINEER'S REVIEW. SHOP DRAWINGS TO INCLUDE ALL INSTALLATION AND OPERATIONS LITERATURE FOR ALL SUPPLIED EQUIPMENT.
9. A FIRE ALARM VERIFICATION INSPECTION REPORT IS TO BE SUBMITTED TO THE RESPONSIBLE PROFESSIONAL ENGINEER AFTER FIRE ALARM IS INSTALLED AND VERIFIED BY A CERTIFIED VERIFIER.
10. A CERTIFICATE OF APPROVAL FROM THE AUTHORITY HAVING JURISDICTION FOR THE COMPLETE ELECTRICAL INSTALLATION IS TO BE SUBMITTED TO THE RESPONSIBLE PROFESSIONAL ENGINEER AFTER ALL WORK IS COMPLETE, BUT BEFORE FINAL PAYMENT HAS BEEN MADE.
11. ONE(1) HARD COPY SET OF CORRECTED "AS-BUILT" DRAWINGS IS TO BE SUBMITTED TO THE OWNER AT CLOSE OF PROJECT.
12. A GUARANTEE THAT ALL NEWLY INSTALLED OR MODIFIED ELECTRICAL IS TO OPERATE SATISFACTORILY FOR A PERIOD OF TWELVE(12) MONTHS AFTER FINAL ACCEPTANCE OF ALL BUILDING WORK.

RESPONSIBILITY:

13. THE ELECTRICAL CONTRACTOR IS TO VISIT SITE TO CONFIRM THAT ALL ELECTRICAL WORK INDICATED CAN BE COMPLETED WITHOUT ANY ADDITIONAL COST TO THE OWNER.
14. THE ELECTRICAL CONTRACTOR IS TO REVIEW ALL DRAWINGS AND SPECIFICATIONS (INCLUDING RELATED ELECTRICAL, MECHANICAL AND ARCHITECTURAL) TO CONFIRM THAT THE WORK REPRESENTED THEREIN CAN BE COMPLETED. ANY DEFECT, DISCREPANCY, OMISSION OR INTERFERENCE THAT IS DISCOVERED TO AFFECT THE SATISFACTORY COMPLETION OF THE WORK OR ITS WARRANTY IS TO BE REPORTED IMMEDIATELY TO THE RESPONSIBLE PROFESSIONAL ENGINEER.
15. THE ELECTRICAL CONTRACTOR IS TO BE RESPONSIBLE FOR ANY DAMAGE DONE BY PERFORMING THIS WORK IMPROPERLY.
16. THE ELECTRICAL CONTRACTOR IS TO COORDINATE WITH MECHANICAL TO OBTAIN SHOP DRAWINGS FOR ALL MECHANICAL EQUIPMENT, AND TO PROVIDE CIRCUIT BREAKERS AND WIRING IN ACCORDANCE WITH THESE SHOP DRAWINGS AT NO ADDITIONAL COST TO THE OWNER.

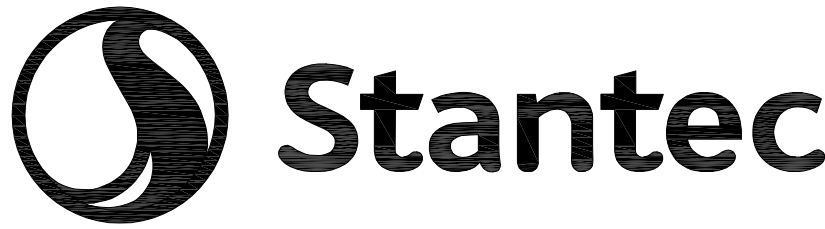
17. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR CORRECTING CONDUIT, SUPPORTS AND WIRING THAT IS NOT CODE COMPLIANT IN AREAS EXPOSED DURING THE PERFORMANCE OF WORK.
18. THE ELECTRICAL CONTRACTOR IS TO RELOCATE OUTLETS AT NO ADDITIONAL COST IF REQUESTED PRIOR TO ROUGH-IN.
19. THE ELECTRICAL CONTRACTOR IS TO TEST ALL SUPPLIED, INSTALLED, CONNECTED, OR MODIFIED ELECTRICAL IN THE PRESENCE OF THE OWNER UPON COMPLETION OF WORK, PRIOR TO FINAL PAYMENT.
20. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ANY CUTTING AND PATCHING REQUIRED TO ACCOMMODATE THE ADDITION OR RELOCATION OF ELECTRICAL.

MATERIALS AND EQUIPMENT:

21. PROVIDE IDENTIFICATION OF ALL PROVIDED ELECTRICAL EQUIPMENT, INCLUDING PANELBOARDS, DISCONNECT SWITCHES, SPLITTERS, MOTOR STARTERS, ETC.. IDENTIFICATION IS TO BE PROVIDED BY MEANS OF ENGRAVED LAMACOID LABELS FASTENED SECURELY TO THE EQUIPMENT.
22. PANELBOARDS ARE TO BE CUSTOM-MADE AND FACTORY ASSEMBLED TO SUIT THE SIZE, TYPE AND ARRANGEMENT INDICATED. CIRCUIT BREAKERS ARE TO BE BOLT-IN, MOULDED CASE, AND THERMAL AND MAGNETIC TRIP TYPE. TRIP VALUES ARE TO BE AS INDICATED. EACH TWO- OR THREE-POLE BREAKER SHALL HAVE A SINGLE TRIP UNIT. PROVIDE A TYPEWRITTEN DIRECTORY C/W A CLEAR PLASTIC SHIELD, AFFIXED TO THE INSIDE OF THE PANEL DOOR.
23. REFER TO MECHANICAL FOR EXACT LOCATION AND REQUIREMENTS OF ALL MECHANICAL EQUIPMENT. PROVIDE ALL DISCONNECT SWITCHES, MANUAL MOTOR STARTERS, MAGNETIC MOTOR STARTERS (UNLESS PACKAGED WITH EQUIPMENT; REFER TO MECHANICAL), PUSHBUTTON STATIONS, HAND/OFF/AUTO SELECTOR SWITCHES, INTERLOCK CONTACTS REQUIRED FOR STARTERS, STARTER HEATER ELEMENTS REQUIRED FOR STARTER CONTACTORS, TIME CLOCKS, TIME SWITCHES, AND PHOTO-ELECTRIC RELAYS AS REQUIRED. PROVIDE PILOT LIGHTS FOR ALL STARTERS, PUSHBUTTON STATIONS AND SWITCHES. FINAL CONNECTION TO ALL MECHANICAL EQUIPMENT IS TO BE FLEXIBLE.
24. CONDUITS ARE TO BE ELECTRIC METALLIC TUBING (EMT) UNLESS OTHERWISE INDICATED OR PROHIBITED BY THE AUTHORITY HAVING JURISDICTION. CONCEAL ALL CONDUITS UNLESS OTHERWISE INDICATED. CONDUITS ARE UNDER NO CIRCUMSTANCE TO BE INSTALLED EXPOSED IN AREAS REQUIRING CONCEALMENT WITHOUT FIRST RECEIVING WRITTEN APPROVAL. MINIMUM CONDUIT SIZE: 21mm (3/4").
25. WIRING IS TO BE IN CONDUIT, UNLESS OTHERWISE INDICATED. ARMoured CABLE MAY BE USED FOR DROPS TO RECESSED LUMINAIRES AND TO DEVICES IN STUD PARTITIONS.
26. WIRE AND CABLE ARE TO BE STANDARD AWG COPPER WITH X-LINK POLYETHYLENE INSULATION RATED TO 600V AND 90°C, UNLESS OTHERWISE INDICATED OR PROHIBITED. ALUMINUM CONDUCTORS WILL BE ACCEPTED ONLY UPON APPROVAL. CONDUCTOR SIZES INDICATED ARE FOR COPPER, UNLESS OTHERWISE INDICATED. MINIMUM WIRE SIZE: #12 AWG.
27. JUNCTION BOXES, OUTLET BOXES AND SWITCH BOXES ARE TO BE GALVANIZED PRESSED STEEL, OF SIZE AND TYPE TO SUIT, AND ARE TO REMAIN ACCESSIBLE.
28. FLUSH-MOUNTED SWITCHES ARE TO BE SPECIFICATION GRADE, RATED FOR 15A, 125VAC, WHITE HANDLE AND C/W STAINLESS STEEL COVER PLATE. MOUNT AT 1200mm (4'-0") A.F.F. UNLESS OTHERWISE INDICATED.
29. DUPLEX RECEPTACLES ARE TO BE SPECIFICATION GRADE, NEMA 5-15R, WHITE AND C/W STAINLESS STEEL COVER PLATE. MOUNT AT 400mm (16") A.F.F. OR 150mm (6") ABOVE COUNTER TOP, UNLESS OTHERWISE INDICATED.

RESPONSIBILITY IN EXISTING BUILDINGS:

30. EXAMINE THE SITE TO DETERMINE ALL INFORMATION REQUIRED TO COMPLETE THE ELECTRICAL INSTALLATION. NO COMPENSATION WILL BE PROVIDED FOR ADDITIONAL WORK DUE TO FAILURE TO PERFORM THIS EXAMINATION.
31. RELOCATE, EXTEND OR REFEED EXISTING WIRING AS REQUIRED TO ACCOMMODATE NEW CONSTRUCTION OR RENOVATION, TO THE SATISFACTION OF THE RESPONSIBLE PROFESSIONAL ENGINEER.
32. ANY ELECTRICAL DEVICES OR WIRING IN EXISTING WALLS, CEILINGS, ETC. THAT ARE AFFECTED BY NEW CONSTRUCTION OR RENOVATION ARE TO BE RELOCATED AS REQUIRED. EXTEND OR REFEED WIRING AS REQUIRED. ENSURE THAT ORIGINAL ELECTRICAL CHARACTERISTICS OF EXISTING WIRING ARE MAINTAINED TO THE SATISFACTION OF THE RESPONSIBLE PROFESSIONAL ENGINEER.
33. THE ELECTRICAL CONTRACTOR MAY REUSE EXISTING CONDUITS, WIRING AND DEVICES THAT ARE CODE CONFORMING AND IN GOOD REPAIR UPON APPROVAL OF THE RESPONSIBLE PROFESSIONAL ENGINEER AND THE LOCAL INSPECTION DEPARTMENT.
34. NOTIFY THE OWNER IMMEDIATELY OF ANY EXISTING WIRING THAT IS FOUND TO BE SUBSTANDARD OR DOES NOT OTHERWISE MEET THE PROJECT REQUIREMENTS.
35. UPDATE PANEL DIRECTORIES OF ALL PANELBOARDS WITH NEW OR MODIFIED CIRCUITS (TYPEWRITTEN).



Stantec Consulting Ltd.
Suite 500, 311 Portage Avenue
Winnipeg MB Canada R3B 2B9
Tel. 204.489.5900 Fax. 204.453.9012
www.stantec.com

Copyright Reserved

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultants

Legend

Revision	By	Appd.	YY.MM.DD
ISSUED FOR CONSTRUCTION	CB	AA	25.06.04
Issued	By	Appd.	YY.MM.DD
File Name:			
	Dwn.	Chkd.	Dsgn. YY.MM.DD

Permit-Seal



**ENGINEERS
GEOSCIENTISTS
MANITOBA**
Certificate of Authorization
Stantec Consulting Ltd.
No. 1301

Client/Project

WINNIPEG TRANSIT MAINTENANCE FACILITY
OFFICE REDEVELOPMENT

421 OSBORNE ST. SOUTH, WINNIPEG, MB

Title

ELECTRICAL SPECIFICATION

Project No. 115421006	Scale 1/8"=1'-0"	
Drawing No. E-305	Sheet 17 of 18	Revision 0