

**ELECTRICAL SPECIFICATION**

Electrical installation shall be in accordance with the current edition of The Canadian Electrical Code, Provincial, Municipal and other codes, rules and regulations.

The Contract shall include the furnishing of labor, new material, equipment and services necessary and reasonably implied and/or incidental to the complete installation of the electrical work as shown on the plans and or specified. Supply and install all devices required for the complete approved system, operating to the complete satisfaction of the Contract Administrator.

Prepare and submit to the proper authorities all necessary permits and pay all fees. Provide responsible professional Contract Administrator a PDF copy of all electrical permits.

Upon completion and before final payment is made, present to Contract Administrator a Certificate of Approval for all electrical work from the inspection department having jurisdiction.

Electrical installation including electrical equipment supplied, installed or connected shall be tested in the presence of The City on completion of the work.

The Electrical Subcontractor shall visit the site and ascertain that all work indicated can be carried out without additional cost to The City.

The Electrical Subcontractor shall guarantee the satisfactory operation of all work and apparatus included and installed under this section of the specification for a period of twelve (12) calendar months after the final acceptance of the complete building.

The Electrical Subcontractor shall be responsible for any damage caused The City's or their Contractors by improperly carrying out this Contract.

The Electrical Subcontractor shall carefully examine all drawings and specifications relating to the work to be certain that the work under this Contract can be satisfactorily carried out and prior to the submission of his Bid, report at once to the Contract Administrator any defect, discrepancy, omission or interference affecting the work of this section or the guarantee of same.

Submit one set of "as-built" prints or PDF documents to the Contract Administrator.

Grounding shall be in accordance with the latest edition of The Canadian Electrical Code.

Panelboards, motor starters, disconnect switches, etc., shall be properly identified by means of engraved lamacoid nameplates.

Conduits shall be electric metallic tubing unless otherwise noted on drawings or unless prohibited by regulations. Conduits in direct contact with earth or in concrete shall be rigid PVC. Conduits shall be concealed unless otherwise noted on the drawings. Conduits shall not be exposed in any area where concealed work is required without prior written approval.

Outlet, junction and switch boxes shall be galvanized pressed steel of size and type to suit the requirements of each outlet. Outlet boxes shall be accessible.

All wiring shall be in conduit, except that armoured cable may be used in stud partitions and for drops to recessed luminaires (max. 4 luminaires per drop).

Wire and cable shall be copper of standard AWG sizes with 600V (90 Degree C) insulation. Insulation shall be XLPE Polyethylene unless otherwise noted on drawings or prohibited by regulations. Aluminum conductors will not be accepted. Minimum wire size shall be # 12 AWG.

Panelboards shall be factory-assembled custom made of size, type and arrangement as shown on drawing. Circuit breakers shall be bolt-in, moulded-case, thermal and magnetic trip. Trip values as shown on drawing. Two or three pole breakers shall have common trip units. Mount a typewritten directory behind a plastic shield on the inside of panelboard doors. All distribution equipment to be sprinkler-proof and c/w lockable door. Minimum fault rating of circuit breakers shall be 22KA S.C.I.C.

Wall-mounted flush switches shall be specification grade 15A, 125VAC. White handle, side or back wiring. Mount switches 1200mm above finished floor unless otherwise noted on the drawings.

Duplex receptacles shall be specification grade 15A, 125VAC, parallel slot, U-ground, white, side and back wiring. Mount receptacles 400mm above finished floor or 150mm above counter tops unless otherwise noted on the drawings.

Cover plates for flush-mounted receptacles and switches on concealed conduit system shall be stainless steel.

Mount surface mounted equipment such as panelboards, telephone cabinets and other electrical equipment on plywood mounting boards, c/w grey enamel finish.

Any cutting and patching in existing walls or floors required for the addition or relocation of electrical equipment shall be the responsibility of the Electrical Subcontractor.

Existing Work:  
The Electrical Subcontractor shall take into account items which he is responsible for due to the changes and alterations to the existing building and allow for such items that may occur in his Bided price.

The Electrical Subcontractor is to notify the supply utility of all load increases to existing service.

Existing conduits, wire and outlets which are in good repair and sized to meet all code requirements, may be reused. All equipment to be reused must be approved by the local inspection department and the Contract Administrator.

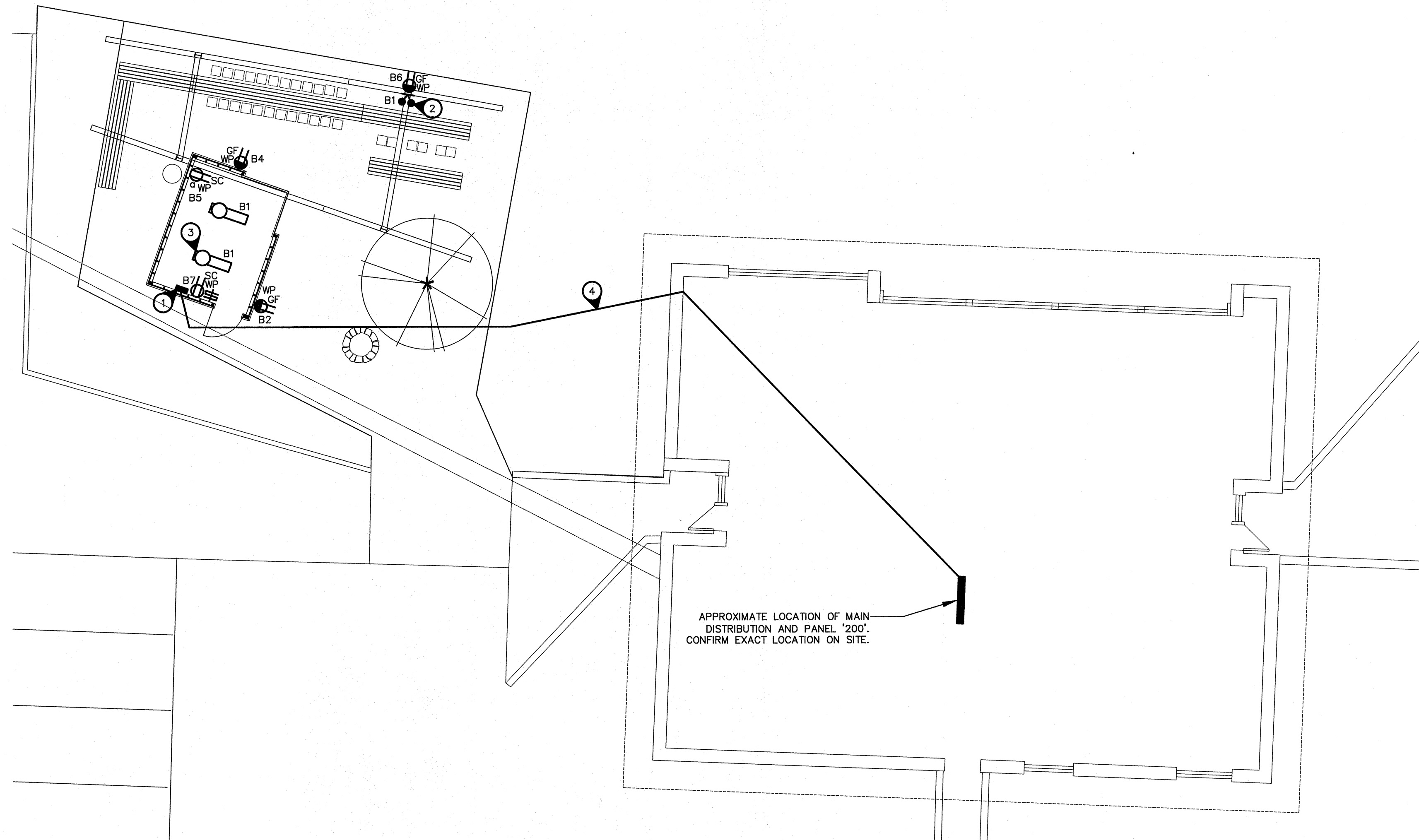
The Electrical Subcontractor shall relocate outlets at no additional charge if requested prior to roughing in. The Electrical Subcontractor shall relocate outlets at no additional charge if requested by the local authority having jurisdiction.

Equipment and material shall be installed as specified. Requests for equal status shall be submitted to Contract Administrator 7 days prior to Bid submission. No requests will be accepted past the 7 day deadline. Only one request will be considered from each supplier. If rejected for any reason, no substitutes from the same supplier will be reviewed.

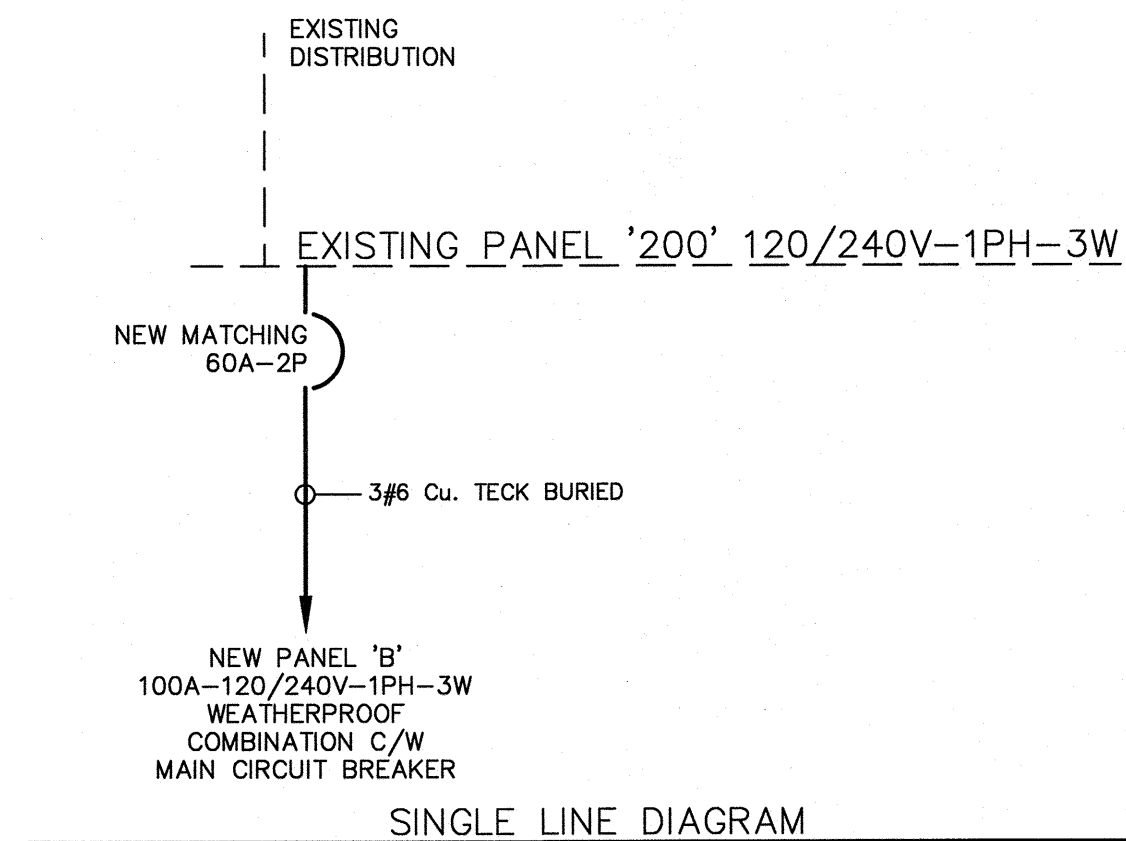
Electrical Subcontractor shall submit shop drawings to Contract Administrator for review prior to ordering equipment. At the request of the Contract Administrator, the successful Electrical Subcontractor shall submit a completed C-1 form (form available from Contract Administrator).

Supply and install, wire and connect all luminaires (to be complete with lamps) as indicated. All luminaires exceeding 150V shall be complete with an integral disconnecting means that will simultaneously open all circuit conductors and conductors supplying the ballast(s). All luminaires exceeding 150V shall be marked in a conspicuous, legible, and permanent manner adjacent to the disconnecting means, identifying the specific purpose. Refer to Canadian Electrical Code rule 30-308(4).

Provide trenching and backfilling as required.



**1**  
**E-1**  
**ELECTRICAL LAYOUT**  
SCALE: 1/100



**SINGLE LINE DIAGRAM**  
N.T.S.  
NOTE: DASHED INDICATES EXISTING.

PANEL 'B'		VOLTAGE		120/240V-1PH-3W	
MOUNTING SURFACE		MAIN BUS		100A	
LOCATION SHED		REMARKS		WEATHERPROOF/COMBINATION C/W 100A-2P MAIN C.B.	
DESCRIPTION	BKR	CIRCUIT	BKR	DESCRIPTION	
LIGHTING	15	1	2	15	GF RECEPTACLE
SPARE	15	3	4	15	GF RECEPTACLE
SC RECEPTACLE	15	5	6	15	GF RECEPTACLE
SC RECEPTACLE	15	7	8	15	SPARE
SPARE	15	9	10	15	SPARE
SPARE	15	11	12	15	SPARE

- SYMBOL SCHEDULE**
- Fluorescent luminaire.
  - Motion sensor luminaire.
  - Single pole switch.
  - Duplex receptacle.
  - Duplex receptacle mounted above counter level. (See architectural elevations.)
  - Duplex receptacle weather proof.
  - Ground fault duplex receptacle.
  - Duplex receptacle on separate circuit. Provide lamacoid label indicating "SC".

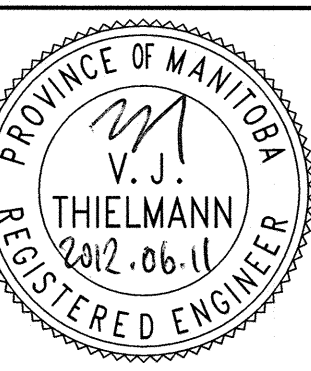
**SPECIFIC ELECTRICAL NOTES**

- 1 NEW 60A-120/240V-1PH-3W 12 CCT SURFACE MOUNTED PANEL FEED FROM A NEW MATCHING 60A-2P CIRCUIT BREAKER IN EXISTING PANEL '200' WITH 3#6 RW90 Cu. TECK.
- 2 NEW DOUBLE HEAD WEATHERPROOF MOTION SENSOR CONTROLLED LUMINAIRE MOUNTED ON I-BEAM. CONFIRM EXACT LOCATION ON SITE PRIOR TO ROUGH-IN. SPEC# LITHONIA OFLR-6LC-120-MO-BZ.
- 3 1'x4' FLUORESCENT LUMINAIRE WEATHERPROOF (TYPICAL OF TWO(2)). SPEC# LITHONIA DMW-232-MVOLT-GEBOIS-CSA
- 4 RUN FEEDER THROUGH ATTIC AND OUT NORTH WEST CORNER OF BUILDING. ROUTE FEEDER AROUND FUTURE TREE. CONFIRM ROUTING OF PANEL FEEDER ON SITE. EXAMINE ALL CONDITIONS TO DETERMINE COMPLETE SCOPE OF WORK.

**GENERAL ELECTRICAL NOTES**

1. ALL EXPOSED CONDUIT, CONNECTORS, ETC. TO BE PAINTED BLACK. CONFIRM REQUIREMENTS ON SITE.

**NOVA 3 ENGINEERING LTD.**  
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Project:  
**LIVING PRAIRIE MUSEUM MULTI-USE STRUCTURE**  
2795 Ness Ave,  
Winnipeg, MB  
Project Number: 2011-182

Drawing Title:  
**ELECTRICAL**

#	Issue/Revision	Date
1	33% DESIGN REVIEW	JAN. 16, 2012
2	66% DESIGN REVIEW	MAR. 19, 2012
3	99% DESIGN REVIEW	MAY 31, 2012
4	ISSUED FOR TENDER	JUNE 5, 2012

Sheet No:  
**E-1**  
The drawing is property of the Contract Administrator and shall remain their property. The contractor is responsible for printing and making a true and correct copy of the drawing and shall be liable for any errors or omissions on the drawing.

