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 responsible professional Engineer.

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

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

Electrical work shall be completed in conformance with, and subject to, all cautionary notes available to the reader including those available on the websites of the manufacturers and contract administrators.

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

The Electrical Contractor 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 Contractor shall be responsible for any damage caused to the City or their contractors by improperly carrying out this contract.

The Electrical Contractor 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 tender, 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 engineer.

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.

Supply and install all motor controls unless noted otherwise on the drawings. Refer to Mechanical drawings for exact location of motors and mechanical equipment. Unless otherwise specified and/or shown on the drawings, supply and install the following motor control equipment:
- Manual motor starters.
- Magnetic motor starters which are not part of package equipment. Refer to Mechanical drawings and specifications.
- Pushbutton stations.
- Hand-off-auto selector switches.
- Motor disconnect switches.
- Interlock contacts as required for starters.
- Enclosures.
- Starter heater elements as required for starters.
- Contactors.
- Time clocks, time switches and photoelectric relays.
- Pilot lights for all starters, switches and pushbutton stations.

Mechanical and electrical contractors are responsible for the mutual coordination of all electrical requirements of mechanical equipment. Coordination is to include the communication of all final electrical nameplate information from the mechanical contractor to the electrical contractor, the communication of the detailed control information as well as any ancillary information required for the final systems to operate as intended by the responsible professional engineer. The coordination is to occur prior to the ordering of equipment by either trade. No extra compensation will be allowed due to failure to carry out this coordination. Report at once to the contract administrator any defect, discrepancy, omission or interference affecting the satisfactory completion of work.

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. PVC conduit exposed to the extremes of outdoor temperatures shall not be used without prior approval from the responsible engineer. 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). Armoured cable drops (including any daisy chain) shall not exceed 9m in total length.

Wire and cable shall be copper of standard AWG sizes with 600V (90 Degree C) insulation. Insulation shall be X-Link Polyethylene unless otherwise noted on drawings or prohibited by regulations. Aluminum conductors will not be accepted, unless otherwise indicated. 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. All top entry of conduits or cables must utilize rain-tight wiring methods. 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 (to top of box) 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 450mm 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. Cover plates for voice/data and A/V outlets to be nylon.

Telephone raceway system shall be in separate and independent conduit system. Empty conduits shall be complete with a #12 AWG pull wire. Install as shown on drawings. Complete entire installation to local telephone utility requirements and satisfaction.

Mount surface mounted equipment such as panelboards, telephone cabinets and other electrical equipment on fireguard 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 Contractor.

Existing Work:
The Electrical Contractor 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 tendered price.

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 engineer.

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

Electrical installation shall be in conformance with the barrier free requirements applicable in the latest edition of the National Building Code of Canada. Electrical controls shall be mounted at 1200mm to top of box, unless otherwise specified.

Where luminaires are recessed into insulated ceilings, the electrical contractor is responsible for providing luminaires suitable for that use.

Supply and install all indicated electric heaters, standard watt density to be Ouellet, Dimplex, Stelpro or approved equal. Thermostats to be calibrated in degrees Celsius.

Equipment and material shall be installed as specified. Requests for equal status shall be submitted to Engineer 7 days prior to tender 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.

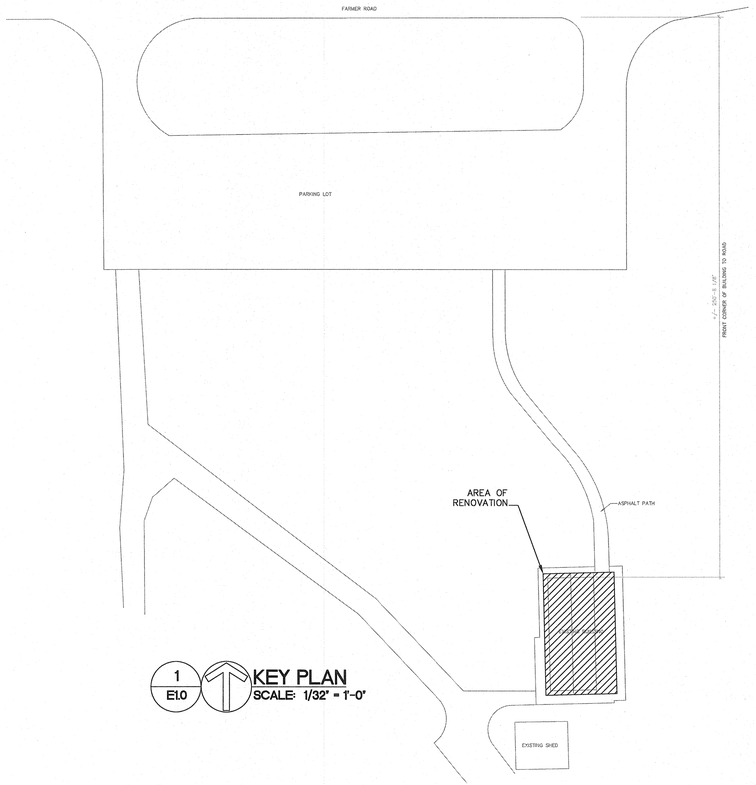
Electrical contractor shall submit shop drawings to Engineer for review prior to ordering equipment. At the request of the engineer, the successful electrical contractor shall submit a completed C-1 form (form available from Engineer).

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).

Final connection to all mechanical equipment to be flexible. Obtain and refer to mechanical shop drawings of mechanical equipment for circuit breaker and wire size. Adjust circuit breaker and wire size without additional cost to the city.

All existing and new city equipment is to be wired and connected. Supply and install, wire and connect matching receptacle for portable equipment complete with cord and cap. Refer to equipment name plate rating for electrical characteristics prior to rough-in. All the citys equipment which is non-portable, shall be directly connected via cab tyre cord matching electrical characteristics as determined by nameplate ratings of equipment. Confirm nameplate characteristics prior to rough-in.

The City is responsible for the supply & installation of all communication wiring, unless otherwise noted.

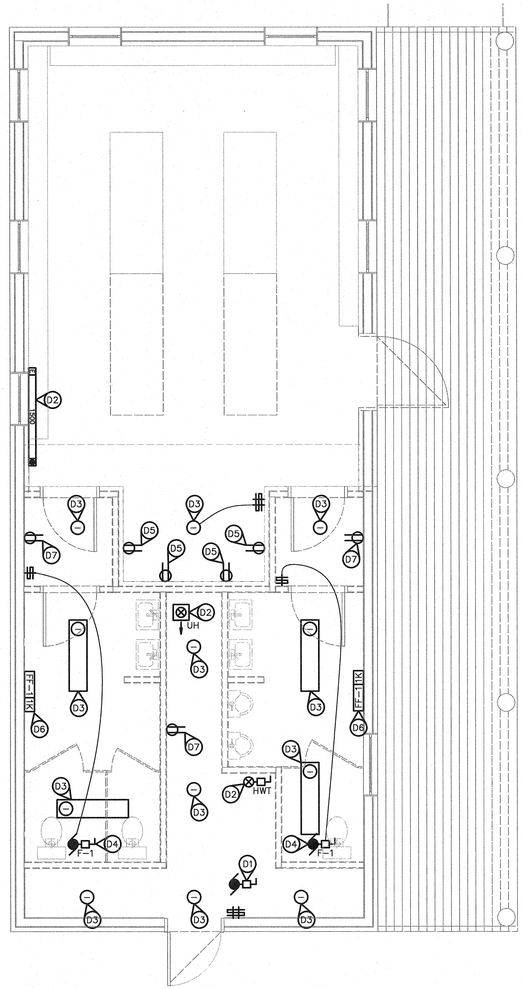


1 / E1.0 KEY PLAN
SCALE: 1/32" = 1'-0"

SYMBOL SCHEDULE

B1-a	Linear luminaire, 'B1-a' denotes panel circuit # and switch.
	Ceiling mounted luminaire.
	Single pole switch.
	Single pole switches in multiple.
OC	Single pole switch c/w occupancy sensor control. Auto on/off unless otherwise indicated. Sensorswitch.
	Duplex receptacle.
WP	Duplex receptacle weather proof.
GF	Ground fault duplex receptacle.
	20A T-slot duplex receptacle.
	Motor. Refer to mechanical for exact location. For roof mounted equipment, supply and install wire and connect a separate circuit GFI receptacle in accordance with C.E.C. rule 26-704.
	Fusible disconnect switch to suit application. By electrical contractor.
	Junction box.
	Door actuator.
FF-44K	Electric force flow heater c/w built in thermostat unless otherwise indicated. 'FF-4' denotes type. '4K' denotes wattage. See heating schedule for details.
C 1000	Electric heater, "C" denotes type, see electric heating schedule. "1000" denotes watts. ● denotes heater c/w built in thermostat. ○ denotes heater controlled by remote thermostat. Provide low voltage relays if required. Refer to mechanical for details.

NOTE: 'E' indicates existing to remain.
'R' indicates devices to be relocated as shown. Extend/reroute wiring as required.



2 / E1.0 ELECTRICAL DEMOLITION LAYOUT
SCALE: 1/4" = 1'-0"

ELECTRICAL SPECIAL-PURPOSE NOTES

D1 DISCONNECT EXISTING WATER PUMP TO BE DEMOLISHED TO ACCOMMODATE CONNECTION TO WATER LINE. COORDINATE WITH MECHANICAL CONTRACTOR ON SITE.

D2 DISCONNECT EXISTING ELECTRICAL DEVICE TO BE RELOCATED. REFER TO ELECTRICAL RENOVATION DRAWING ON E2.0.

D3 DEMOLISH EXISTING LIGHTING AND ASSOCIATED SWITCHING. TURN LIGHT FIXTURE OVER TO OWNER. DISPOSE OF IF REQUESTED.

D4 DISCONNECT EXISTING WASHROOM EXHAUST FAN AND ASSOCIATED CONTROLS TO BE DEMOLISHED.

D5 DISCONNECT EXISTING RECEPTACLE. MARK CIRCUIT BREAKER AS SPARE. (TYPICAL)

D6 DISCONNECT EXISTING FORCEFLOW HEATER TO BE DEMOLISHED.

D7 DISCONNECT AND REMOVE EXISTING RECEPTACLE.

GENERAL ELECTRICAL NOTES

1. ALL ITEMS REQUIRED TO BE DEMOLISHED ARE NOT NECESSARILY SHOWN. THOSE INDICATED ARE FOR REFERENCE ONLY. ALL ITEMS INTERFERING WITH NEW CONSTRUCTION SHALL BE REMOVED AT NO ADDITIONAL COST.

NOTE:
ALL DIMENSIONS TAKEN TO FACE OF STUD UNLESS OTHERWISE NOTED

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Revisions

Date	Revision
19/07/29	Issued for Tender, Permit, and Construction

Northern Sky Architecture Inc.
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Stamp
APEGM
Certificate of Authorization
Nova 3 Engineering Ltd.
No. 962 Date: 2019.07.29

Stamp
PROVINCE OF MANITOBA
SWINTAK
Member
36427
REGISTERED ENGINEER

Project City of Winnipeg

Little Mountain Park
Washroom/Change Building

64093 Klimpke Road
Winnipeg, Manitoba

drawing title	ELECTRICAL KEY PLAN AND DEMOLITION LAYOUT		
scale	as noted	designed by	ITS
date	2019-07-29	drawn by	CL
project no.	19.166	reviewed by	DZ
reference no.		sheet E1.0	REV.