

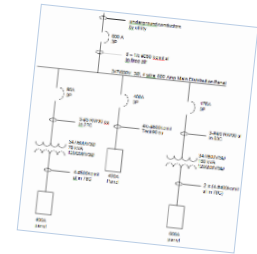
## Information Bulletin

# Electrical Drawing Requirements for New Construction of Commercial Buildings

In order to process building permit applications for the construction of new buildings, the plans must be drawn to scale and must indicate the nature and extent of the work in sufficient detail to establish that, when completed, the work and the proposed occupancy will conform to applicable Codes. Although this guide outlines the minimum level of detail expected for most new commercial buildings, it is not intended to cover every possible situation that may be encountered.

## 1. Service, Distribution, Power, and Lighting

1. A single line drawing shall be provided for all service and distribution equipment including:
  - a. Overcurrent devices,
  - b. Conductor sizes, types and installation methods,
  - c. Ground electrodes,
  - d. Grounding conductor sizes (including those for transformer secondaries),
  - e. Amp and Voltage ratings for service boxes, overcurrent devices, switches, distributions, CDP's, splitters, and panelboards, etc.,
  - f. Transformer ratings (KVA, Voltages, etc.),
  - g. Interrupting ratings for equipment required to interrupt fault currents in excess of 10,000 Amps.
2. The electrical drawings shall include:
  - a. A site plan indicating the customer service point, route of the service conductors, location of the service box and all other site electrical equipment such as parking receptacles, light standards, exterior panelboards, etc.
  - b. A circuited layout of all equipment including the service, panelboards, lighting and outlets. The proposed wiring method(s) shall be indicated.



## 2. Emergency Lighting (when required)

1. The locations of all emergency lighting shall be shown on the drawings.
2. The capacity of the emergency lighting power supply shall be specified in minutes or hours.
3. The panelboard and branch circuit number(s) supplying the emergency lighting shall be shown.
4. The wiring methods for the emergency lighting shall be indicated.



### 3. Exit Signs (when required)

1. The locations of all exit signs complete with directional arrows as needed shall be shown on the drawings.
2. For internally illuminated exit signs:
  - a. The branch circuits supplying the exit signs shall be shown.
  - b. The AC or DC circuits supplying emergency power to exit signs shall be shown.
3. For externally illuminated exit signs:
  - a. The normal and emergency external lighting for the exit signs shall be shown and circuited.
4. The capacity of the emergency power supply for exit sign illumination shall be shown in minutes or hours.
5. Where photoluminescent exit signs are being installed, the permit submission package must include a completed Photoluminescent Exit Signs Checklist.



### 4. Fire Alarm System (when required)

1. The location of all fire alarm system components shall be shown and shall comply with the requirements of the currently enforced editions of the Manitoba Building Code and ULC Standard S524. The components shall include:
  - a. Heat detectors,
  - b. Smoke detectors,
  - c. Duct type smoke detectors,
  - d. Manual pull stations,
  - e. Audible and visual signal devices, and
  - f. Annunciator(s) and control unit(s).
2. The specification for the fire alarm system shall include:
  - a. The type of fire alarm system (single or two stage; conventional or addressable),
  - b. An alarm and supervisory zone schedule as applicable,
  - c. The type and capacity of the emergency power supply,
  - d. A complete sequence of operation including the operation of all ancillary devices/functions such as door hold open devices, electromagnetic locks, central vacuum shut down, etc.,
  - e. Initial settings for functions such as automatic silencing, inhibits, etc., as applicable,
  - f. Provision for transmitting signals to the Fire Department or 911 cards, as applicable,
  - g. Where sprinklers are used for fire detection, provision for a separate latching type supervisory zone for applicable function listed in the Manitoba Building Code,
  - h. Wiring methods for the fire alarm system, indicating compliance with Winnipeg Electrical By-law Section 32, and
  - i. A statement that the fire alarm system shall be installed in accordance with the currently enforced edition of ULC Standard S524, “Standard for the installation of fire alarm systems” and verified in accordance with the currently enforced edition of ULC Standard S537, “Standard for the verification of fire alarm systems.”

