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## **ELECTRICAL PLAN REVIEW**

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This bulletin clarifies the electrical plan review process and requirements. This bulletin replaces Bulletin 2000-026-EL and Bulletin 2000-048-EL.

### **Background**

The Canadian Electrical Code, Part I, Rule 2-014 requires that the owners or their agents to submit plans and specifications for acceptance by the inspection department before work is commenced. Section 5.5 of the Electrical By-law No. 5563 mandates that as a condition precedent to the issuance of any permit, the City Electrician may require that any plans, specifications or drawings required by this By-law be approved by the City Electrician.

### **Building permit submission**

Where the submission of electrical plans is required during the application for a building permit, an applicant for a building permit needs to provide sealed and signed electrical plans together with the corresponding Letter of Assurance (Schedule B) and a completed Electrical Plan Examiner's Transmittal Form (see the attachment of this bulletin). Bulletin 2018-004-BU/EL provides additional information for the requirements of building permit and electrical permit submissions.

### **Electrical permit submission**

Two sets of complete electrical plans and specifications intended for construction purposes shall be submitted by an electrical contractor to Trades Permits Counter of the Services Centre for the application intake for an electrical permit. These plans shall be sealed and signed by the Registered Professional of Record. Where the building permit is under a CP program, plans and specifications shall be provided with the CP stamp as well.

### **Electrical permit, plan review process and requirements**

Where the submitted plans have not yet been approved, the City Electrician may issue a permit separate from the application for a main permit for a limited period of time described as an "interim permit" subject to such terms and conditions as deemed appropriate; the fee for an interim permit shall be based the flat-fee, and the fee for the main permit shall be based on the cost of work including materials and labour, as set out in Schedule A of the Electrical By-law No.5563.

During the permit application intake and review process, in the case of any circumstance where the City Electrician considers it is necessary or desirable, the City Electrician may allow an electrical contractor to pay the following fees; when the building permit for a site development/project issuing with its spin-off building permits for the construction of a complex comprised of multiple buildings above an underground parking:

- a) the fee for the main electrical permit related to the main/site building permit to be based on the total installation value including materials and labour for the entire complex/project, and

- b) the fee for each electrical permit related to the spin-off building permits to be based on \$250; as set out in Schedule A of the Electrical By-law.

In cases of multi-staged CP based construction projects where complete electrical drawings have not been submitted for a full electrical plan review, an electrical contractor may apply for an interim permit in addition to the main permit to perform a limited scope of work; such an application for an interim permit shall be accompanied with the necessary plans and documents corresponding to the scope of the intended work, the referenced plans and documents shall be signed and sealed by the Registered Professional of Record.

Upon completion of the plan review, one set of drawings stamped by the electrical plan checker will be returned to the permit holder, these drawings are to be used as field construction drawings and shall be kept on site and made available for review by the City's electrical inspection staff, the second set to be used by the district electrical inspector retained for City records. If the electrical contractor deviates from the accepted drawings during the installation, a project change notice from the Registered Professional of Record shall be submitted to the City by the electrical contractor along with the applicable re-inspection fee. All essential deviations must be accompanied by two new sets of drawings submitted to City. Resubmission of the amended drawings for further evaluation by the plan checker is subject to the fees based on time actually spent on the additional plan review as set out in Schedule A of the Electrical By-law.

**Requirements for plans submittal where the electrical installation involves (General):**

1. Wiring installations of new public buildings, industrial establishments, factories, and other new buildings in which public safety is involved - CE Code Rule 2-014, Section 5.5 of Electrical By-law.
2. High voltage installation - any voltage exceeding 750V - Bulletin 2005-004-EL.  
The following information must be provided with the permit application for a special event that includes a portable unit substation utilized for the event's power supply:
  - a) Electrical Registered Professional's letter stating his responsibility for the installation.
  - b) Data regarding short circuit interrupting capacity on primary and secondary, step and touch voltage.
  - c) Details of system grounding - conductor size, ground rods, etc.
  - d) Warning signs, physical separation of HV station fencing - grounding of the fence if it is metal.
  - e) Approval of electrical equipment - Rule 2-024.
  - f) A single line diagram indicating the extent of field installation on the secondary side (what the supplied number of buildings, tents or other structures is, and service panels in these structures, transformers, grounding of each service, etc.).
  - g) Wiring methods - underground, or covered by acceptable means.
3. Installation of electrical equipment in hazardous locations (i.e. gasoline dispensing and service stations, propane dispensing, container filling and storage, compressed natural gas refuelling stations and compressors and storage facilities, commercial repair garages, finishing processes (spray booth), distilleries, sewage lift and treatment plants).
4. Installation of electrical wiring and equipment within patient care areas of health care facilities.
5. Modification or upgrade of fire alarm system (FAS), or installation of new FAS or DDRS in existing building triggered by automatic elevators applied with Firefighters' Emergency Operation that Phase I Emergency Recall Operation initiated by fire detectors - Bulletin 2018-004-BU/EL.

6. Installation of service or feeder - 3  $\phi \geq 800$  Amp and 1  $\phi \geq 800$  Amp.
7. Installation of transformers equal or greater than 225 kVA.
8. Installation of solar photovoltaic system with an equipment rating in excess of 10 kW.
9. Installation of emergency electrical power supply system, power-generating equipment, renewable energy system, storage batteries and etc.
10. Installation of electric vehicle energy management system - Bulletin 2019-006-BU/EL.
11. Other installations as may be prescribed by the City Electrician.

(Original signed by)

(Original signed by)

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P. Ryan, M.Sc., P.Eng.  
Chief Building Official  
Director, Building Code and Policy

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W. White  
Deputy City Electrician  
Manager, Electrical Inspection Branch

## ELECTRICAL PLAN EXAMINER'S TRANSMITTAL FORM

(To be completed by a CP / Electrical Engineer and submitted to the Electrical Plan Examiner with Electrical Plans)

Address: \_\_\_\_\_ Building Permit No.: \_\_\_\_\_

Major Occupancy Classification: \_\_\_\_\_ Construction Article: \_\_\_\_\_

New Construction:  Addition:  Alteration:

Please check the appropriate boxes accordingly.

Attachment to Bulletin 2001-008-BU/EL

Revised March 6, 2020

Yes <input type="checkbox"/>	No <input type="checkbox"/>	Schedule B provided – VBBL Division C 2.2.7.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Building is required to be of non-combustible construction – VBBL Subsection 3.2.2.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	High building – VBBL Subsection 3.2.6.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Building on designated flood plain - Needs to protect electrical equipment – VBBL Division C 2.2.9.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Electrical equipment and wiring in plenum spaces – VBBL Article 3.6.4.3.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Smoke alarms are required – VBBL Article 3.2.4.20.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Permanently connected carbon monoxide (CO) alarms are required – VBBL Article 6.9.3.1.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Fire alarm system is required – VBBL Subsection 3.2.4.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	2-stage fire alarm system is provided – VBBL Sentence 3.2.4.3.(1).
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Voice communication is required – VBBL Articles 3.2.4.22., 3.2.6.8.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Radio antenna system is required – VBBL Article 3.2.5.20. (See Note A-3.2.5.20.)
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Strobe lights (visible signal devices) are provided – VBBL Article 3.2.4.19.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Audible signal devices are provided for persons on roof deck or balcony – VBBL Sentence 3.2.4.18.(13).
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Indicator lamps for separate zone indications are provided for annunciator – VBBL Article 3.2.4.8.(11).
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Signal to fire department is required – VBBL Article 3.2.4.7.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Electrical supervision is provided for fire alarm system. A trouble signal indicating the nature of the trouble in accordance with Sentence (3) and (5) will be transmitted to a Fire Signal Receiving Centre – VBBL Article 3.2.4.9.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Electromagnetic door locks – VBBL Article 3.4.6.16.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Door Holders (Hold-Open Devices) and Door Closers - VBBL Article 3.1.8.14., CAN/ULC-S524.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Manual switches for smoke control & smoke venting equipment at the CACF - VBBL Articles 3.2.6.2.; 3.2.6.7.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Emergency Lighting is required – VBBL Article 3.2.7.3.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Exit signs are required – VBBL Article 3.4.5.1.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Protection of emergency conductors is required – VBBL Article 3.2.7.10.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Emergency generator is required – VBBL Article 3.2.7.9.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	By-pass isolation in a transfer switch is required – CSA C282
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Sprinklers are required – VBBL Article 3.2.5.12.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Listed heat tracing system for sprinkler system is required – <a href="#">Bulletin 2020-003-BU/EL/SP</a>
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Standpipe system is required – trouble signal is provided on annunciator – VBBL Sentence 3.2.4.9.(2).
Yes <input type="checkbox"/>	No <input type="checkbox"/>	VBBL Alternative Solution related to the life safety system
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Electric motor-driven fire pump is required – VBBL Sentence 3.2.5.18.(1).
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Residential fire warning system is provided or required – VBBL Sentence 3.2.4.21.(1) / 9.10.19.8.(1)
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Dwelling units contain pre-wired outlet boxes for Enhanced Accessibility – VBBL Subclause 3.8.3.1.(2)(f)(ii)
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Dwelling units provided with special outlet boxes to allow operation of strobe lights – VBBL Sentence 3.8.2.12.(5)
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Controls, switches, outlets, receptacles are provided in conformance with VBBL Articles 3.8.2.6.; 3.8.5.7.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Parking spaces are provided with an energized outlet for Level 2 EV charging – <a href="#">Bulletin 2019-006-BU/EL</a>
Yes <input type="checkbox"/>	No <input type="checkbox"/>	EVEMS is implemented; 12 kWh / EVSE performance level is provided – <a href="#">Bulletin 2019-006-BU/EL</a>
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Building is electrically designed to meet the energy efficiency requirements – VBBL Section 10.2.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	High voltage installation – CE Code Section 36
Yes <input type="checkbox"/>	No <input type="checkbox"/>	CE Code Section 64 - Renewable energy systems:      Solar photovoltaic systems <input type="checkbox"/> Storage batteries <input type="checkbox"/>
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Owner is advised that an annual permit must be obtained – <a href="#">Electrical By-law No.5563</a> . <a href="#">Bulletin 2019-003-EL</a>

CP/Electrical Engineer: \_\_\_\_\_ Date: \_\_\_\_\_

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