

ELECTRIC VEHICLE TECHNICAL BULLETIN



Purpose

The purpose of this bulletin is to inform owners, applicants, designers and builders of new residential construction of the updated requirements for Electric Vehicle charging infrastructure as outlined in the Abbotsford Zoning Bylaw.

Background

On June 27, 2022, City Council adopted Bylaw No. 3249-2022, establishing electric vehicle (EV) charging infrastructure requirements for parking spaces in new residential buildings.

This bulletin includes:

- Requirements for complying with Abbotsford Zoning Bylaw, 2014, Amendment Bylaw No. 432
- Performance requirements for adequate delivery of electrical energy for EV charging
- Management guidelines for charging infrastructure

Applicability

These requirements apply to building permit applications for new Buildings submitted after the date of adoption of Bylaw No. 3249-2022, except as outlined in the [Zoning Bylaw Transition Bulletin](#). These requirements will not be triggered by a change of use to the non-residential portion of a mixed-use project, unless additional residential units are added to building space that was previously a non-residential use.

Compliance Procedures

Separate Private Parking Spaces

For new residential Principal Uses with separate private Parking Spaces, including Single Detached Dwellings or Townhouses, one Energized Outlet capable of providing Level 2 Charging or higher shall be provided for each Dwelling Unit. Energized Outlets are not required for new accessory residential units.



Common Parking Areas

For new residential Principal Uses with common parking areas, all required Parking Spaces for Dwelling Units are required to have raceways or conduit, with drawstrings capable of providing level 2 Charging or higher, including all electrical equipment. Additionally, all required Parking Spaces or one Space per Dwelling Unit, whichever is less, are required to have an adjacent Energized Outlet capable of providing Level 2 Charging or higher.



The EV infrastructure shall be designed such that it is scalable to provide for Energized Outlets to 100% of resident Parking Spaces. Additionally, a single BC Hydro meter shall be provided for Electric Vehicle Supply Equipment loads in the building (i.e. buildings feature a house meter, tenant meters, and an EVSE meter).

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Visitor Parking

In new residential Buildings with visitor parking, 20% of Parking Spaces, and no less than one space, are required to have an adjacent Energized Outlet capable of providing level 2 Charging or higher. Generally Energized Outlets shall be:

- Labelled with the intended use for Electric Vehicle charging; and
- Indicated on plans submitted for development permit and building permit applications

Charging Performance Requirements

It is optional to use an Electric Vehicle Energy Management System. These systems control Electric Vehicle's electrical load and can reduce the load for which the building electrical systems must be constructed.

When an Electric Vehicle Energy Management System is used, the following requirements must be met:

1. The electrical infrastructure shall include all communication equipment, control systems installation, licensing and permitting required to operate the Electric Vehicle Energy Management System.
2. In residential Buildings with common parking areas, plans showing all residential Parking Spaces, Energized Outlets and future Electric Vehicle Supply Equipment must be included with the building permit application.
3. Charging performance shall comply with the requirements in Table 1.

Table 1: Performance Requirements

Minimum Circuit Breaker Rating (AMPS)	Number of Charge Ports Per Circuit
30	1
40	3
50	4
60	5
70	7
80	9
90	10
100	12
125	16

Management Guidelines

Where an Electric Vehicle Energy Management System is implemented, provisions for management and maintenance are to be provided to the strata or Dwelling Unit owner. It is recommended that the following information is outlined in the strata rules or bylaws:

- The party (Strata or Dwelling Unit owner) responsible for Electric Vehicle Supply Equipment purchase and installation is clearly delineated, and appropriate permissions and procedures are outlined to ensure accessibility to Energized Outlets for the purposes of EV charging
- Electric Vehicle Supply Equipment ownership is established as a fixture, chattel or lease
- Billing rules and procedures are established for apportioning of energy costs associated with EV charging
- Designation that where an Electric Vehicle Energy Management System is implemented, the Electric Vehicle Supply Equipment must be compatible with that Electric Vehicle Energy Management System

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Definitions

The definitions below are included in Section 120 of the City of Abbotsford Zoning Bylaw, 2014.

“**Electric Vehicle**” means a vehicle that uses electricity for propulsion, and that can use an external source of electricity to charge the vehicle’s batteries.

“**Electric Vehicle Energy Management System**” means a system to control Electric Vehicle Supply Equipment electrical loads comprised of monitor(s), communications equipment, controller(s), timer(s) and other applicable devices.

“**Electric Vehicle Supply Equipment**” means a complete assembly consisting of conductors, connectors, devices, apparatus, and fittings installed specifically for the purpose of power transfer and information exchange between a branch electric circuit and an Electric Vehicle.

“**Energized Outlet**” means a connected point in an electrical wiring installation at which current is taken to supply utilization equipment.

“**Level 2 Charging**” means Level 2 Electric Vehicle charging level as defined by SAE International’s J1772 standard and includes variable rate charging that is controlled by an Electric Vehicle Energy Management System.



Figure 1: Example of Electric Vehicle Supply Equipment



Figure 2: Example of Energized Outlets: outlet box with cover (left) and electric receptacle (6-50 R) (right)

Building Permit Application

Building Permit Applicants shall include in their submission:

- Plans showing all residential Parking Spaces, Energized Outlets, and future Electric Vehicle Supply Equipment. Where an electrical engineer has prepared the plans and an Electric Vehicle Energy Management System is proposed, confirmation that the design complies with the City of Abbotsford’s Zoning Bylaw, 2014 for Electrical Vehicle charging is required to be shown on the plans.

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