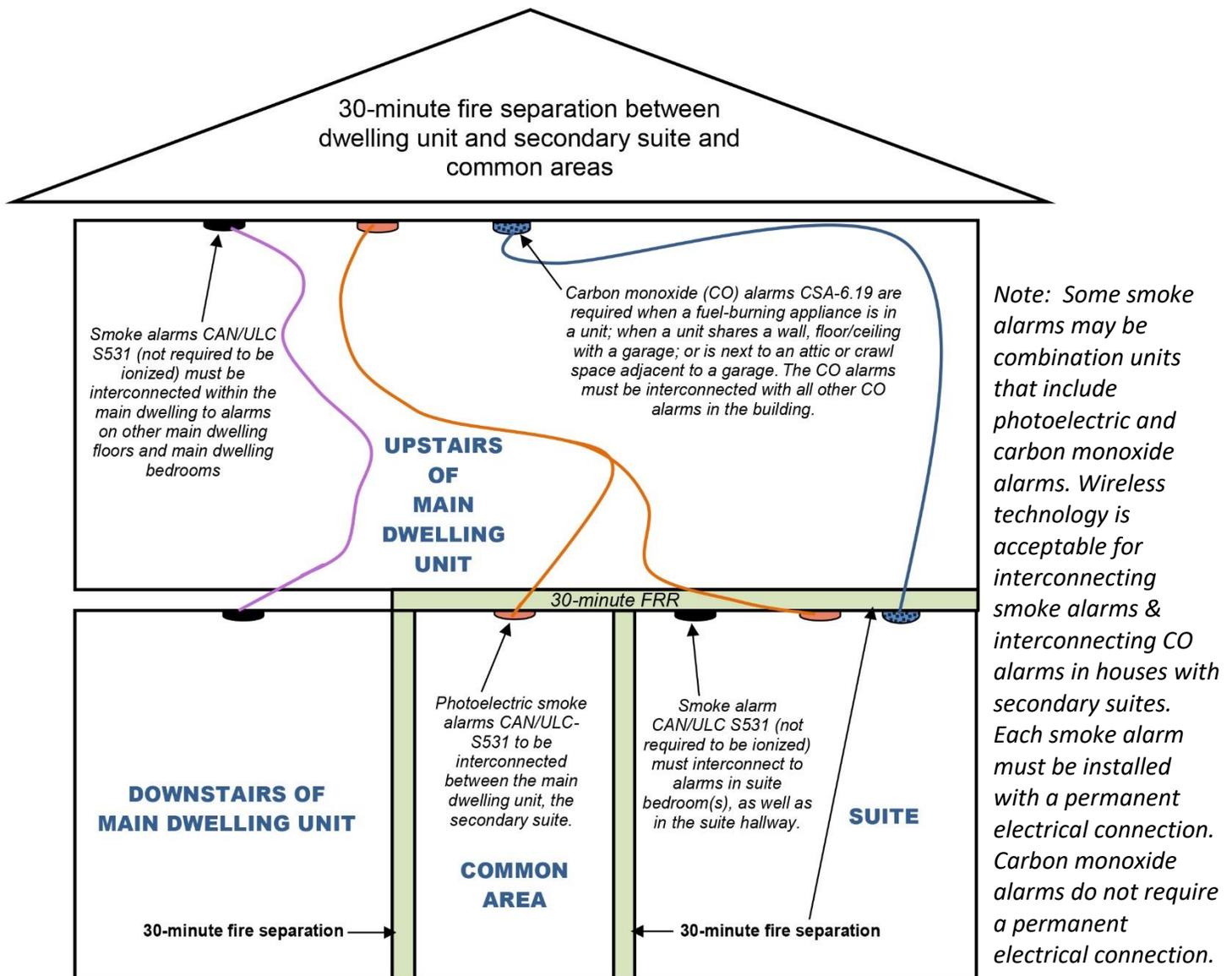


Secondary Suite/Main Dwelling Alarms Installation Guide

OVERVIEW

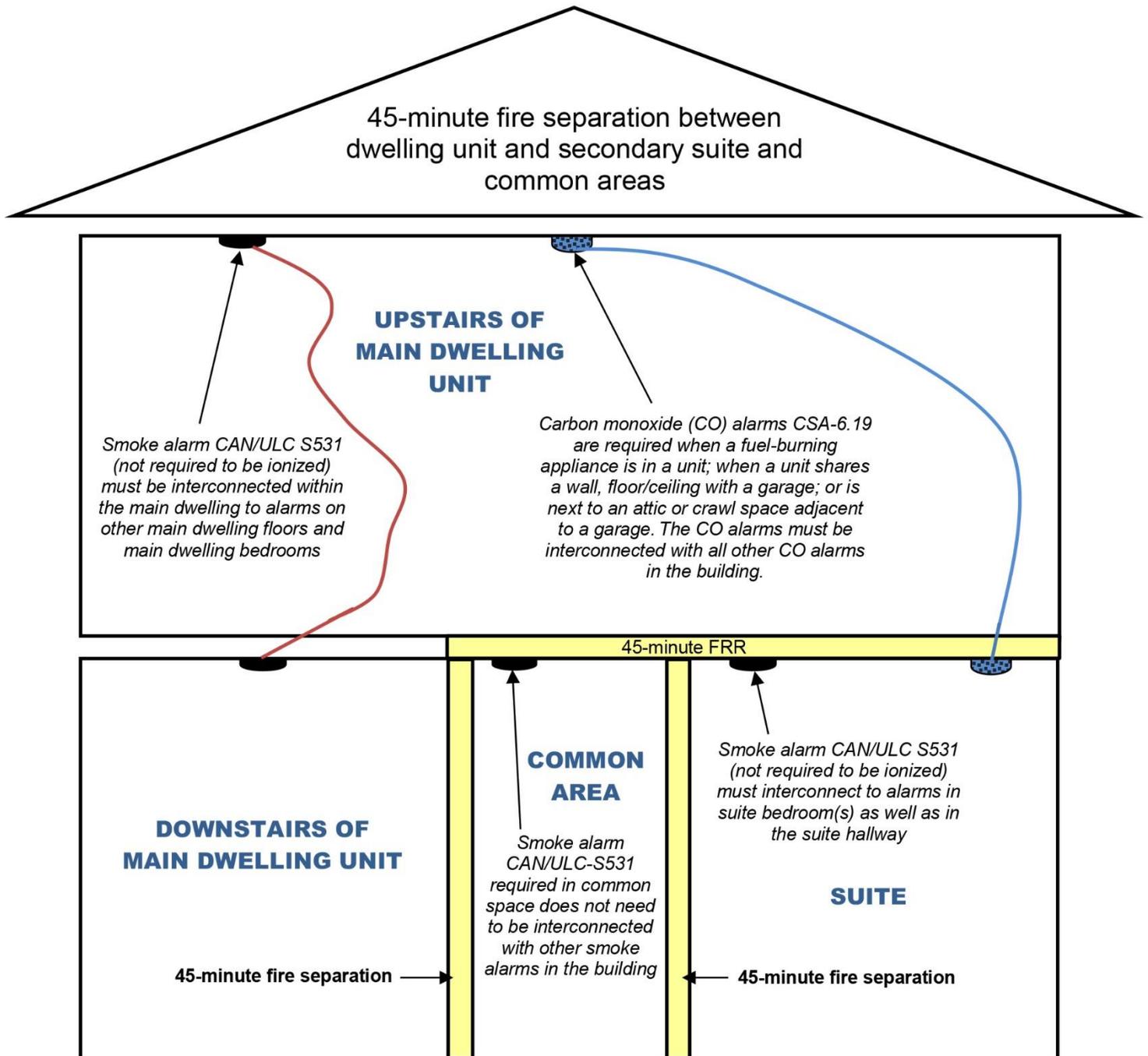
This guide provides illustrations of the smoke alarms and interconnection required based on the fire-resistance rating (FRR) provided between a secondary suite and the main dwelling unit and common spaces. The requirements differ for a 15-minute, 30-minute, 45-minute FRR and for buildings with a fire suppression system. The following illustrations demonstrate the smoke alarm requirements for a 30-minute and 45-minute FRR. Carbon monoxide alarms are also included in the illustrations. The 2024 British Columbia Building Code references follow the illustrations. For examples of secondary suite fire separations, see our guide [Fire/Sound Separation for Secondary Suites](#).

A Proposed 30-Minute Fire-Resistance Rating (FRR)



Secondary Suite/Main Dwelling Alarms Installation Guide

A Proposed 45-Minute Fire-Resistance Rating (FRR)



Note: Some smoke alarms may be combination units that include carbon monoxide alarm. Wireless technology is acceptable for interconnecting smoke alarms & interconnecting CO alarms in houses with secondary suites. Each smoke alarm must be installed with a permanent electrical connection. Carbon monoxide alarms do not require a permanent electrical connection.

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BC BUILDING CODE REQUIREMENTS

Required Smoke Alarms – 9.10.19.1.

- 1) Except as permitted by Article 9.10.19.8. (*buildings with fire alarm system*), smoke alarms conforming to CAN/ULC-S531, "Standard for Smoke Alarms" shall be installed in
 - a) each dwelling unit;
 - b) each sleeping room not within a dwelling unit; and,
 - c) ancillary spaces and common spaces not in dwelling units in a house with a secondary suite.

Location of Smoke Alarms – 9.10.19.3.

- 1) Within each dwelling unit, sufficient smoke alarms shall be installed:
 - a) so that at least one smoke alarm is installed on each storey, including the basement; and,
 - b) on any storey with a sleeping room, a smoke alarm is to be installed in each sleeping room:
 - in a location between the sleeping rooms and the remainder of the storey; and,
 - if the sleeping rooms are served by a hallway, the smoke alarm shall be located in the hallway.
- 2) Smoke alarms shall be installed in conformance with CAN/ULC-S553.
- 3) Smoke alarms shall be installed on or near the ceiling.

Power Supply – 9.10.19.4.(1)

- a) Smoke alarms are to be installed with permanent electrical connections,
- b) have no disconnect switch between the overcurrent device and the smoke alarm and
- c) be provided with a battery alternative power source.

Interconnection of Smoke Alarms – 9.10.19.5.

- 1) Where more than one smoke alarm is required within a dwelling unit, the smoke alarms shall be interconnected so that the actuation of any one alarm causes all alarms within the dwelling unit to sound.
- 2) Except as provided in Sentence (3), in a house with a secondary suite including their common spaces:
 - a) all smoke alarms shall be of photoelectric type and interconnected so that the actuation of any one smoke alarm causes all smoke alarms within the house with a secondary suite including their common spaces to sound **when the fire separations** described in Articles 9.9.4.2., 9.10.9.16. and 9.10.9.17. **have a fire-resistance rating not less than 15 minutes** (see also Sentence 9.10.3.1.(2));
or,
 - b) an additional smoke alarm of photoelectric type shall be installed in each dwelling unit and common space and be interconnected so that the actuation of one smoke alarm will cause the additional smoke alarms in the other dwelling unit, dwelling units or common spaces to sound **when the fire separations** described in Articles 9.9.4.2., 9.10.9.16. and 9.10.9.17. **have a fire-resistance rating not less than 30 minutes** (see also Sentence 9.10.3.1.(3)).
- 3) Additional smoke alarms and interconnection of smoke alarms between dwelling units and common spaces in a house with a secondary suite is not required if:
 - a) **the fire separations** described in Articles 9.10.9.16. and 9.10.9.17. **have a fire-resistance rating not less than 45 minutes**, or
 - b) **the building is sprinklered**.

Secondary Suite/Main Dwelling Alarms Installation Guide

BC BUILDING CODE REQUIREMENTS cont'd

Carbon Monoxide (CO) Alarm – 9.32.4.2.

- 1) This Article applies to every building that contains a residential occupancy , a business and personal services occupancy, or a mercantile occupancy and that:
 - a) is served by or contains a fuel-burning appliance, or,
 - b) contains a storage garage.
- 2) Carbon monoxide (CO) alarms installed in a residential occupancy required by this Article shall
 - a) conform to CSA 6.19, "Residential carbon monoxide alarming devices";
 - b) be equipped with an integral alarm that satisfies the audibility requirements of CSA 6.19, "Residential carbon monoxide alarming devices";
 - c) have no disconnect switch between the overcurrent device and the CO alarm, where the CO alarm is powered by the dwelling unit's electrical system; and,
 - d) be installed as recommended by the manufacturer.
- 3) Where a room in a residential occupancy contains a solid-fuel-burning appliance, a CO alarm conforming to CSA 6.19, "Residential carbon monoxide alarming devices" shall be mechanically fixed:
 - a) installed as recommended by the manufacturer where these instructions specifically mention solid-fuel-burning appliances; or,
 - b) in the absence of specific instructions related to solid-fuel-burning appliances, on or near the ceiling.
- 4) Where a **fuel-burning appliance** is installed in a suite of residential occupancy, a CO alarm shall be installed:
 - a) inside each bedroom; or,
 - b) **outside each bedroom, within 5 m of each bedroom door**, measured following corridors and doorways.
- 5) Where a **fuel-burning appliance** serves a residential occupancy and is installed in a service room that is **not in a suite** of residential occupancy, a CO alarm shall be installed:
 - a) either inside each bedroom, or if outside, **within 5 m of each bedroom door**, measured following corridors and doorways, in every suite of residential occupancy that shares a wall or floor/ceiling assembly with the service room; and,
 - b) in the service room.
- 6) For each suite of residential occupancy that **shares a wall or floor/ceiling assembly with a storage garage or that is adjacent to an attic or crawl space to which the storage garage is also adjacent**, a CO alarm shall be installed:
 - a) inside each bedroom; or,
 - b) outside each bedroom, **within 5 m of each bedroom door**, measured following corridors and doorways.
- 7) Where CO alarms are installed in a house with a secondary suite including their common spaces, the **CO alarms shall be interconnected so that the activation of any one CO alarm causes all CO alarms within the house with a secondary suite including their common spaces to sound.**

*If you have any questions or require clarification, please contact Building Inspections at 250-755-4429.
This guide should not be used as a substitute for existing building codes and other regulations.
The building owner is responsible for compliance with all codes, bylaws, and other regulations.*