

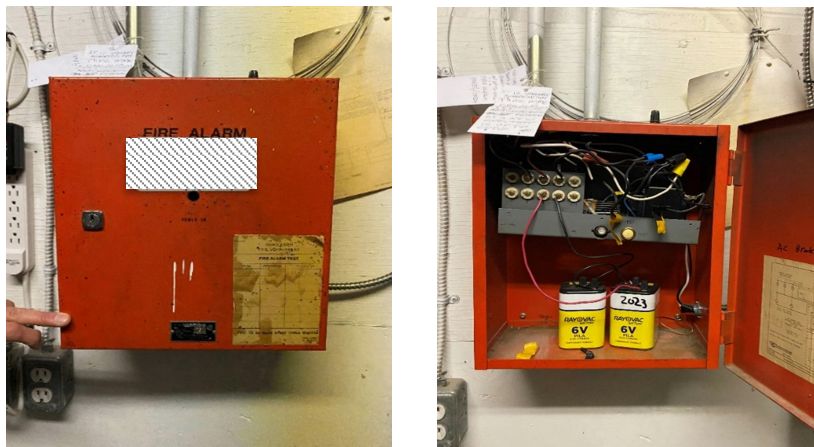
March 18, 2026

IMPORTANT NOTICE

Replacing Outdated Fire Alarm Systems

The Vancouver Fire Rescue Services department is advising building owners and managers to review the current state of their fire alarm system and to budget for its replacement as soon as possible since outdated fire alarm systems can fail at any time and cause unnecessary additional cost and expenses.

Many fire alarm systems in buildings that were constructed prior to 1980 are outdated. Known as “3-wire” systems, they consist of only manually activated pull stations and several but often an insufficient number of bells throughout a building. Critically important life saving devices such as smoke detectors in the common hallways cannot be provided to warn residents of a fire in their building.



The most significant risk of a 3-wire fire alarm system is the inability of the system to supervise the integrity of its own wiring. If any wiring is damaged, cut or has a loose connection, there will be no warning that the fire alarm system is not functioning, and no way for the building management to determine this. If any fire breaks out in the building, the fire alarm system will not work. The lack of supervised wiring significantly increases the risk to life for the building’s residents and occupants.

3-wire systems, usually listed by CSA in Canada, are no longer supported by their manufacturers. The CSA standard has been obsolete for many years, replaced by ULC standards. Proper replacement parts are scarce. 3-wire fire alarm systems are increasingly failing the required annual test and inspections and therefore must be replaced with a new fire alarm system as quickly as possible.

DISCUSSION

For an existing building, the Fire By-law requires that all fire protection systems, including a fire alarm system, be maintained in operable condition to the standard referenced by the Building By-law that was in effect on the day of installation. The Fire By-law does not require a fire protection system to be upgraded each time a new Building By-law comes into effect.

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Due to the increasing concerns about the reliability of 3-wire systems, some jurisdictions in Canada have mandated the replacement of all existing 3-wire fire alarm systems with new fire alarm systems that comply with the current standard.

Except for certain provisions, the new replacement fire alarm system must comply with the current Building By-law. The Building By-law stipulates locations that require heat and smoke detectors, and manual pull stations; the Building By-law stipulates minimum sound levels for an alarm throughout the building.

For example, in an existing residential building which currently does not have smoke detection in the public corridors, smoke detectors will be required to be added that will significantly raise the level of life safety for residents. Additional bells may have to be installed to provide the minimum sound level in all areas of the building.

In recognition of the significant cost of replacing a fire alarm system and installation of new wiring and devices, VFRS is recommending building owners review their current fire alarm system to determine if it is an outdated fire alarm system and budget for its replacement.

The cost of replacing a fire alarm system could be significant, depending on of the size, age and type of building; preparatory work such as removal or containment of asbestos on the existing floors, walls, and ceilings may need to be included.

Existing 3-wire systems will eventually need replacement since parts are largely unavailable to service these systems. However, it should be noted that once a fire alarm system has failed inspections and tests and cannot be repaired properly, the building must be provided a 24-hour fire watch by designated personnel (see City of Vancouver website for more information on the requirements for a fire watch).

Proper planning and budgeting for replacing an existing fire alarm system could facilitate competitive pricing compared to unplanned situations.

PERMIT REQUIREMENTS

Designers of the replacement fire alarm system are advised to consult with the authorities having jurisdiction (the Building Department, the Electrical Inspections Department and the Fire Department) on the requirements for building and electrical permits. Also to be discussed is the extent of applying the current Vancouver Building By-law provisions to the new fire alarm system, such as:

- Offsite central station monitoring of the fire alarm system
- Elevator recall functions in accordance with the Elevator Safety Regulations
- Fire detectors and smoke detectors

The considerations identified above does not take precedence over the upgrade requirements described in Part 11 of the Building By-law for any building renovation or alteration.

The building will require a new fire safety plan to be prepared for the new fire alarm system.

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