

GUIDELINES FOR MAINTAINING FIRE SAFETY DURING CONSTRUCTION IN EXISTING BUILDINGS

In coordination with the Ontario Ministry of Public Safety and Security, through the Office of the Fire Marshall, the following typical conditions usually arise during construction and could present serious unsafe conditions in case of a fire emergency.

1. Closing of Exits

All exits, including stairways and exterior doors to the outside, serving the existing building must be maintained. Where an exit is blocked off or deleted due to construction activities, an acceptable alternative exit must be provided. Where it is absolutely necessary for access to be gained through the construction area to an exit, the access must be clearly defined and protected so that it is separated from the construction area by a reasonable smoke tight fire separation equivalent to ¾ hour fire-resistance rating.

2. Intersecting Corridors – Existing Corridors on Occupied Floor Areas Exposed to New Corridors Under Construction

Temporary fire separations of steel studs and gypsum board construction equivalent to ¾-hour fire-resistance rating must be erected. Where access is desired, the opening must be protected by a door of solid core wood or hollow steel construction equipped with self-closing and latching hardware. Should such temporary fire separations cut off or eliminate required access to exits, alternative access must be provided.

3. Fire Department Access

The location of a building addition and the construction activities must not obstruct the access roadways designated for fire department equipment. If it is necessary that existing access be obstructed or deleted, alternative access, acceptable to the fire department, must be pre-planned and provided prior to commencement of construction. Sentence 3.2.5.6. of the Ontario Building Code provides the design criteria for required access routes.

4. Control of Combustible Materials

The stockpiling of construction materials adjacent to the existing building must be carefully controlled. Article 2.4.1.1. of the Fire Code prohibits such storage where the materials create a fire hazard to the existing building or its occupants. Materials stored and equipment used in portion of the building under construction could create a fire hazard; for instance, the storage of excessive amounts of foam plastic insulation or the placement of open flame portable heating appliances. The control of combustibles on a construction site is also regulated under the *Occupational Health and Safety Act*.

5. Exposure of Construction in Progress to Existing Occupied Areas

Existing exterior walls with windows of plain glazing when exposed to construction in progress must be protected by 5/8" type "X" gypsum board on suitable framing for the duration of the construction. Other openings in the existing exterior walls such as doors, louvers, etc. must be similarly protected or replaced with doors of solid core wood or hollow steel construction.

6. Openings Created Through Floors or Other Fire Separations

Openings in existing floor assemblies and vertical fire separations necessitated by installation of equipment systems or construction in general must be temporarily sealed with fire barrier materials such as mineral wool or other noncombustible insulation.

7. Modification and Extension to Existing Fire Alarm Systems

Maintaining the fire alarm system in operating condition during the construction of the addition will require careful planning especially when the extension to the fire alarm system is carried out in phases.

A technical representative from the fire alarm manufacturer should be assigned to the project to coordinate the different stages of the extension. Whenever a changeover time occurs, which is an outage time of at least a portion of the fire alarm system, the municipal fire department must be notified of the temporary shutdown and alternative measure must be devised.

8. Shutdown of Fire Protection Systems

Where temporary shutdown of sprinkler systems, standpipe systems or other fire protection systems is necessary due to alterations, repairs or extensions, the appropriate requirements in the Fire Code must be observed. See Article 1.1.1.2., Clause 2.8.2.1.(1)(g), Subsections 6.4.1 and 6.5.2.

9. Fire Safety Plan

Depending on the nature of the construction, it may become necessary to modify the fire emergency procedures required under the Fire Safety Plan, subsection 2.8.2 of the Fire Code. Such changes may be of a temporary nature to accommodate revised exits, modifications to the fire alarm system operation, etc. in which case, the procedures must be returned to the original format at the completion of the project. In some cases, permanent revisions to the emergency procedures are required when the construction is completed.

Materials and closures in the temporary fire separations noted above are suggested examples only. Other materials and designs acceptable to this Office may also be used, pending review and approval. Should there be questions arising from any of the above noted situations, this Office shall be informed and consulted to ensure that minimum life safety will be maintained. Partial occupancy of a building is regulated under Division C, Subsection 1.3.3. of the Ontario Building Code and comes under the authority of City of Kitchener Building Department.